International Publications Awards
Cairo University

Issue II

December 2007

Dear colleagues,

For the second year in succession, our university is ranked among the top 500 universities in the academic ranking of world universities (ARWU).

We would like to congratulate you on this remarkable achievement knowing that your work has significantly contributed to this noteworthy success.

The purpose of issuing this newsletter is mainly to introduce your work to the academic community and to demonstrate the different research abilities of Cairo University staff members.

As part of our future plan, we aspire to build on our current success; as the weightier challenge is still to come. So in order to keep our rank in its high level we are compelled to increase the number of high quality publications by 10%.

Furthermore, weare likely to increment 100 positions higher in the rank if we are able to increase our international publications by 40%.

We would like to assure you that the administration will spare no effort to support and reinforce these goals. We congratulate all the colleagues who were granted the awards for their international publications of the year 2006 and wish them all the best for their future endeavors.

We are also pleased to inform you that this policy will continue to be in effect for the year 2007.

Prof. Hossam Kamel	**Prof. Ali Abdel Rahman**
Vice – President for graduate studies and research	**President**
Cairo university	**Cairo university**

Table of Contents

Faculty of Science

Name : **Prof . Abdel Gawad Ali Fahmi**

Dep. : **Chemistry**

Title : **Effects of N-Glycan Processing Inhibitors on Signaling Events and Induction of Apoptosis in Galectin-1-Stimulated Jurkat T Lymphocytes**

Hermann Walzel, Abdelgawad A. Fahmi, Mohamed A. Eldesouky, Ehab F. Abou-Eladab, Grit Waitz, Josef Brock and Markus Tiedge

Journal : **Glycobiology 16 No 12 1262-1271 (2006)**

ISSN : 0959-6658 **Impact Factor :** 3.51

Abstract :

To elucidate the role of N-linked glycans in triggering T-cell functions, the effects of the N-glycan processing inhibitors 1-15 deoxymannojirimycin (1-DMM) and swainsonine (SW) were investigated on signaling events and induction of apoptosis in galectin-1 (gal-1)-stimulated Jurkat T lymphocytes. The treatment of Jurkat E6.1 cells with 1-DMM and SW strongly reduced the cell binding of gal-1–biotin, conjugate 20 binding to cell lysate glycoproteins, and to cluster of differen- tiation (CD)3 immunoprecipitates on blots as well as the binding of CD2 and CD3 to immobilized gal-1. The mannosi- dase inhibitors efficiently decreased gal-1-induced calcium mobilization. Both phases originated from a transient Ca2+ 25 release of internal stores, and the sustained influx across the plasma membrane was found to be involved. Both inhibitors suppressed in transiently transfected Jurkat T lymphocytes the gal-1-induced expression of the luciferase (luc) reporter gene constructs pNFAT-TA-Luc and pAP1(phorbol-12-30 myristate-13-acetate [PMA])-TA-Luc. The data provide evi- dence that gal-1 triggers through binding to N-linked glycans a Ca2+-sensitive apoptotic pathway.

Key Words :

Apoptosis; Galectin-1; Jurkat T Lymphocytes;N-Glycan Processing; Signaling.

Name : **Prof . Ahmad Kamel Hegazy**

Dep. : **Botany**

Title : **Anatomical Significance of the Hygrochastic Movement in Anastatica hierochuntica**

Ahmad K. Hegazy , H. N. Barakat and H. F. Kabiel

Journal : **Annals of Botany 97 47–55 (2006)**

ISSN : 0305-7364 **Impact Factor :** 2.665

Abstract :

Background and Aims Unlike the dispersal mechanisms of many desert plants, the whole dead skeleton of Anastatica hierochuntica is involved in seed dispersal and preservation. This process depends on the hygrochastic nature of the lignified conducting tissue that bends when dry and straightens under wet conditions. An anatomical interpretation of this mechanical movement was investigated.

Methods An anatomical study of the stem was conducted on the juvenile plants raised under different water treatments and on the branch-orders of adult A. hierochuntica size-classes.

Key Results In the juvenile stem of A. hierochuntica, the area of cortex, conducting tissue and pith increased with water availability. However, the hydraulic conductance decreased, resulting in a better withdrawal of water in water- stressed plants. The anatomical investigation of the hygrochastic mechanism revealed an asymmetric distribution of the cortical tissues, with the conducting tissues of the stem of juvenile and adult plants being larger in the lower side. The hydraulic conductance was better in the basal and middle branch-orders than the terminal ones, permitting better conductance of water to the subsequent branch-orders.

Conclusions The lignified conducting tissue of the whole stem, having a hygrochastic nature, controls the movement of the branches. The greater amount of conducting tissue associated with a higher density of wide xylem vessels was observed in the lower side of the stem as compared with the upper side. Consequently, the conducting tissue in the lower side of the stem was suggested to be more effective in the opening process of the curled dry branches through better and more rapid conductance of water. Alternatively, due to the few narrow xylem vessels in the upper side of the stem, it was likely that the conducting tissue in the upper side is more effective in the closing process by providing more rapid drying. The mechanical rise of water and the related hygrochastic efficiency were maximized in the basal and middle branch-orders that are mostly involved in the mechanical movement.

Key Words :

Anatomy, hygrochasy, seed dispersal, hydraulic conductance, Anastatica hierochuntica.

Name : **Prof . Ahmad Mahmoud Farag**

Dep. : **Chemistry**

Title : **Convenient Synthesis of some New Substituted Pyrazolyl-l,3,4-oxadiazoles and Pyrazolyl-l,2,4-Triazoles**

Yehya M. Elkholy, Korany A. Ali and Ahmad M. Farag

Journal : **Letters in Organic Chemistry 3 195-200 (2006)**

ISSN : 1570-1786 **Impact Factor :** 1.121

Abstract :

A simple and versatile method for the synthesis of pyrazol-3-yl-l,3,4-oxadiazole, pyrazol-3-yl-l,2,4-triazole, (l,5-diphenylpyrazol-3-yl)-(3,5-dimethyl-l-carbonyl) pyrazole and (l,5-diphenylpyrazol-3-yl)-(5-hydroxy-3-metheyl-l-carbonyl) pyrazole derivatives from l,5-diphenylpyrazole-3-carboxylic acid hydrazide has been developed.

Key Words :

Pyrazolyl-1,3,4-oxadiazoles; Pyrazolyl-l,2,4-triazoles; Pyrazole-3-carboxylic acid hydrazide.

Name : **Prof . Ahmed Ahmed Soliman**

Dep. : **Chemistry**

Title : **Spectral and thermal study of the ternary complexes of nickel with sulfasalazine and some amino acids**

Ahmed A. Soliman

Journal : **Spectrochim. Acta 65 A 1180-1185 (2006)**

ISSN : 1386-1425 **Impact Factor :** 1.29

Abstract :

The ternary complexes of Ni(II) with sulfasalazine (H3SS) as a primary ligand and alanine (ala), aspartic acid (asp), histidene (hist), methionine (meth) and serine (ser) amino acids as secondary ligands have been synthesized. Characterization of the complexes was based on elemental analyses, IR, UV–vis, mass spectra, magnetic moment and thermal analysis (TG). The isolated complexes were found to have the general formula [M(HSS)(AA)]4H2O (AA = ala, asp, hist, meth, or ser amino acid) where nickel is tetra-coordinated. The thermal stability of the complexes was studied and the weight losses for the decomposition of the complexes were calculated and correlated with the mass fragmentation pattern. In most cases, the amino acid moiety is removed along with the Schiff base moiety leaving NiO as a metallic residue. The metallic residue was confirmed by powder XRD measurements.

Key Words :

Nickel; Schiff base; Amino acids; Ternary complexes; Thermal study

Name : **Prof . Ahmed El Kammar**

Dep. : **Geology**

Title : **Petrology of Nile River sands (Ethiopia and Sudan): Sediment budgets and erosion patterns**

Eduardo Garzanti , Sergio Andò , Giovanni Vezzoli , Ada Ali Abdel Megid and Ahmed El Kammar

Journal : **Earth and Planetary Science Letters 252 327–341 (2006)**

ISSN : 0012-821X **Impact Factor :** 3.434

Abstract :

Detrital modes of modern Nile sands, together with estimates of sediment volumes trapped in Sudanese reservoirs, allow us to calculate sediment loads of major tributaries (Blue Nile, White Nile, Atbara) and erosion rates in the Nile catchment. A tridimensional array of high-resolution bulk-petrography and heavy-mineral data was obtained on both levee (suspended load) and bar (bedload) deposits, analysed separately for each grain-size subclass at 0.5Φ intervals. From available information on sediments stored in the Roseires, Khashm el Girba and Lake Nasser reservoirs between 1964 and 1990, the total Nile load is reassessed at 230±20 106 t/a, an estimate two to four times higher than figures reported so far, on which previous estimates of sediment yields and erosion rates were based. Of such huge amount of detritus, 82±10 106 t/a are contributed by River Atbara, which carries more volcanic rock fragments, brown augite and olivine from basaltic rocks, and 140±20 106 t/a by the Blue Nile, which carries more K-feldspar and hornblende from amphibolite-facies basement rocks. The additional ≤107 t/a of almost purely quartzose sediments supplied by the rest of the Nile catchment, corresponding to insignificant average yields and erosion rates, represent the stable residue which survived extreme subequatorial weathering in southern Sudan swamps (White Nile, Bahr ez Zeraf, and Sobat sands) or fluvial and eolian recycling of ancient quartzarenites in hyperarid climates (Nubian sands). Sediment production is thus markedly focused on Ethiopian rift highlands, where rainfall is concentrated in a single July–August peak. High average yields and erosion rates (800±150 t/km2 a, 0.29±0.05 mm/a) partly reflect anthropically-accelerated erosion caused by deforestation and intensive land use, and cannot be extrapolated far in the past. Erosion patterns may have changed repeatedly during Quaternary climatic oscillations, and possibly also in the longer term during the multistage rift-related events which, since impingement of the Afar plume and eruption of flood basalts in the Oligocene, caused elevated topography and monsoonal climate in Ethiopia.

Key Words :

bulk petrography; heavy minerals; grain size; sediment flux; hydraulic sorting; Rifted-Margin Provenance; Blue Nile; Atbara; White Nile

Name : **Prof . Ahmed Galal Helmy**

Dep. : **Chemistry**

Title : **Electrolytic Treatment of Azo Dye Wastewaters: Impact of Matrix Chloride Content**

Margaret J. Kupferle, Ahmed Galal and Paul L. Bishop

Journal : **Environmental Engineering-ASCE 132:5 514-518 (2006)**

ISSN : 0733-9372 **Impact Factor :** 0.94

Abstract :

Direct Red 83 (10μM) was electrolytically treated with a graphite anode paired with a stainless steel cathode at 0.05mA/mm2. Electrolyte composition was varied from 0 to 0.05 N sodium chloride in increments of 0.01 N, using sodium sulfate as a make up salt to keep the total electrolyte strength at 0.05 N. Fraction of dye remaining was plotted versus time, and first order curves were fitted to the data. Apparent first order rate constants ranged from 3.96 x 10-5 to 1.24 x 10-3 s-1. Both direct oxidation by applied current and indirect oxidation by electrolytically formed chemical species were responsible for color removal. The rate of indirect oxidation was slower than the rate of chlorinated oxidizing species production above 0.01 N sodium chloride concentration. Decolorization rate increased with increasing chloride concentration to a rate-limited point occurring at 0.04 N sodium chloride in the system studied

Key Words :

Chlorides; Color; Dyes; Electrical conductivity; Oxidation; Waste water management.

Name : **Prof . Ahmed Galal Helmy**

Dep. : **Chemistry**

Title : **Characterization of Conducting Poly(3-methylthiophene) Films Prepared Under Sono-Electrochemical Conditions**

Ahmed Galal

Journal : **Applied Polymer Science 102 2416-2425 (2006)**

ISSN : 0021-8995 **Impact Factor :** 1.07

Abstract :

Poly(3-methlthiophene) films were prepared under ‘‘silent’’ and ‘‘sono-electrochemical’’ potentiostatic (SEP) conditions. A three-electrode one-compartment sono-cell was used with a working platinum disc electrode. The sono-electrochemically formed polymer films were deposited with different working electrode-to-horn distances. The composition, electrochemical, spectroscopic, and morphological characteristics of the resulting polymer films were determined. Elemental analysis, FTIR-spectra, and X-ray photoelectron spectroscopy (XPS) data proved that the polymer films prepared under SEP conditions have predominant α-α-couplings between the 3MT units, and the aromatic ring integrity is maintained in the film. Scanning electron microscopy showed that those films are more compact and less porous compared to the films prepared under silent conditions. The use of sonoirradiation during electropolymerization enhanced the diffusion of the monomer units towards the electrode surface and resulted in relatively less doped polymers with less conductivity. Electrochemical impedance spectroscopy (EIS) data for films prepared under silent and SEP conditionswere collected in a monomer-free solution. The results show that the impedance of SEP films is relatively higher than those prepared under silent conditions, and a combination of charge transfer kinetics with diffusion-controlled conduction mechanism within the films. The diffusion was found to be a function of the porosity of the film. Conductivity measurements are in good agreement with EIS, elemental analysis, and XPS data.

Key Words :

Electropolymerization; Poly(3-methylthiophene); Sono-electrochemistry; EIS; SEM; XPS.

Name : **Prof . Ahmed Hady**

Dep. : **Astronomy**

Title : **Kelvin-Helmholtz instability in magnetohydrodynamic flows**

A. H. Khater , D. K. Callebaut , A. R. Seadawy and A. Hady

Journal : **IAU SYMP 233 49 (2006)**

ISSN : 0074-1809 **Impact Factor :** 0.411

Abstract :

The Rayleigh-Taylor instability (RTI) of a continuously stratified fluid has implications on the stability of solar and planetary interiors. A nonlinear stage of the two-dimensional RTI is studied by including various effects. By using the multiple scale method, we derived a nonlinear Schrödinger equation (NLSE) in 2+1 dimensions. We show the general soliton solutions of the NLSE and this allows to discuss their stability.

Key Words :

MHD; Rayleigh-Taylor instability; solar wind; planetary interiors.

Name : **Prof . Ahmed Hady**

Dep. : **Astronomy**

Title : **Studying the great solar proton events during the solar cycle 23**

S.W. Samwel, A.A. Hady , Makram Ibrahim and Yousry. S. Hanna

Journal : **IAU SYMP 233 287 (2006)**

ISSN : 0074-1809 **Impact Factor :** 0.411

Abstract :

The present work concerns the study of the great solar proton events during the solar cycle 23. For this purpose, the temporal behavior of six solar indices during these great events will be studied. These indices are the radio flux (10.7cm) intensity, the sunspot no., the sunspot area, the GEOS X-ray background flux intensity, and the intensity of the X-ray flares and optical flares.

Key Words :

Great proton events; Radio Flux; sunspot number; sunspot area; flare intensity.

Name : **Prof . Ahmed Hady**

Dep. : **Astronomy**

Title : **On general transformations and variational principles of three-dimensional incompressible gravitating flows in ideal MHD**

A. H. Khater , D. K. Callebaut , T. N. Abdelhameed and A. Hady

Journal : **IAU SYMP 233 136 (2006)**

ISSN : 0074-1809 **Impact Factor :** 0.411

Abstract :

In this paper, we apply the general theory of Arnold (1965, 1966) and Moffatt et al. (1997). We search sufficient conditions for the linear stability of steady three-dimensional incompressible gravitating flows in ideal magnetohydrodynamics (MHD). The results suggest that the solar and the stellar convection zones must be sensitive to the density stratification.

Key Words :

magnetohydrodynamics; gravitating fluid; stability; stars: interiors; sun: interior.

Name : **Prof . Ahmed Hady**

Dep. : **Astronomy**

Title : **Polarization properties of the June 21, 2001 solar corona**

N. G. Kapanadze , V. I. Kulijanishvili and Ahmed A. Hady

Journal : **IAU SYMP 233 255 (2006)**

ISSN : 0074-1809 **Impact Factor :** 0.411

Abstract :

Five series of coronal images have been obtained by V.Kulijanishvili during the total solar eclipse of the June 21, 2001, in Zambia, Lusaka. A photographic mirror-lens coronagraph-polarimeter (D= 100 mm, F=1000 mm) was used. The absolute brightness, polarization and direction of polarization of the inner corona were measured. Standard techniques are used for the separation of the F- and K-coronas and for determination of coronal electron densities and temperatures. The background skylight polarization and intensity are calculated.

Key Words :

Corona; Eclipses; Polarimeters; Hydrodynamics.

Name : **Prof . Ahmed Hady**

Dep. : **Astronomy**

Title : **On The Status Of Solar Wind During The Present – Era Of Weak Solar Cycles**

Shahinaz Yousef and Amhed Hady

Journal : **IAU SYMP 233 (2006)**

ISSN : 0074-1809 **Impact Factor :** 0.411

Abstract :

It is suggested that we are already in the weak solar cycles series since the start of cycle 23. The interplanetary magnetic filed and the solar wind speed and density are expected to drop considerably during the approaching second weak cycle number 24 and the following ones leading to inflation of the magnetosphere. The corona is also expected to cool down relative to normal cycles corona. A daily background coronal index is proposed. The mechanism of production of weak cycles is tied to the rapid rotation of the photospheric layer which is deeply rooted in the bottom of the convection zone. This rapid surface and subsurface rotation implies slower rotation of the tachocline. Slower dynamo rotation leads to reduction of the strength of the magnetic cycle. One of the very important sequences of the weak cycles, is the expected cooling of the Earths air and sea surface temperatures which would have negative effects on agriculture with increased drought-flood hazards. The reduction of solar UV flux can lead to the closure of the ozone hole on the long run.

Key Words :

Solar wind; solar cycle; interplanetary magnetic field; coronal index; solar UV flux.

Name : **Prof . Ahmed Hady**

Dep. : **Astronomy**

Title : **Large-scale unipolar regions generated from undeep magnetic fields**

D. K. Callebaut , A. A. Hady , G. K. Karugila and A. H. Khater

Journal : **IAU SYMP 233 57 (2006)**

ISSN : 0074-1809 **Impact Factor :** 0.411

Abstract :

We explain the generation of the large-scale unipolar magnetic field regions (global magnetic regions) by the same dynamo action as for the generation of the sunspots and the polar faculae butterfly diagrams as given by Callebaut (2006). The previous global magnetic regions through meridional circulation now serve as the main seed fields (flux-transport dynamo for the global field regions), possibly supplemented by leftovers from the sunspots and some weak fields generated at the tachocline.

Key Words :

dynamo; global magnetic regions; sunspots; polar faculae.

Name : **Prof . Ahmed Hady**

Dep. : **Astronomy**

Title : **Preliminary Results from the March 29, 2006 Total Eclipse Observations in Egypt**

S. Koutchmy , J-Y. Daniel , J. Mouette. , J. Vilinga, J-C. No¨ens, L. Dam´e , M. Faurobert , H. Dara , A. Hady , M. Semeida , M. Sabry , A. Domenech , J-M. Munier , R. Jimenez , Th. Legault , Ch. Viladrich, S. Kuzin, A. Pertsov and the O.A. Team

Journal : **Astrophysics and Astronomy (2006)**

ISSN : 0250-6335 **Impact Factor :** 0.699

Abstract :

A coordinated effort has been carried in the framework of the French-Egyptian scientific cooperation to permit joined simultaneous eclipse observations of the solar corona during the total solar eclipse of March 29, 2006. Spaceborne EIT and Lasco (SoHO) observations were also planned at the same time and were successfully collected. Scientists from other countries collaborated on different experiments. The synthetic image showing the magnetic coronal structure of this quasi-minimum corona seen in W-L is given. Some preliminary results are presented; a White Light (W.L.) movie has been also taken during the totality.

Name : **Prof . Ahmed Helmy Elwahy**

Dep. : **Chemistry**

Title : **Synthesis and Characterization of Novel Oligoazulenes with Mixed Ethynyl and Butadiynyl Bridges**

Ahmed H. M. Elwahy and Klaus Hafner

Journal : **European Journal of Organic Chemistry 3910-3916 (2006)**

ISSN : 1434-193X **Impact Factor :** 2.548

Abstract :

The new oligoazulenes 10–14 with mixed ethynyl and butadiynyl bridges weres ynthesized by oxidative Eglinton coupling from the readily accessible ethynylazulenes 3,4, 7, 9 and 15 as well as by Pd/Cu-catalyzed cross-coupling reactions with the appropriate iodoazulenes 5, 6 and 8.

Key Words :

Ethynyl(iodo)azulenes / Oligoazulenes / Oxidative coupling / Cross-coupling

Name : **Prof . Ahmed Helmy Elwahy**

Dep. : **Chemistry**

Title : **Synthesis of the first tris (crown formazan)**

Ahmed H. M. Elwahy and Ashraf A. Abbas

Journal : **Tetrahedron Letters 47 1303-1306 (2006)**

ISSN : 0040-4039 **Impact Factor :** 2.48

Abstract :

A synthesis of tris(crown formazan) 2 from the corresponding hexakis(aceta midophenoxymethyl)benzene 11 by hydrol- ysis with an ethanolic solution containing hydrochloric acid followed by diazotization and subsequent coupling with cyanoacetic acid in pyridine containing CuSO4 is described.

Key Words :

Alkylation; Diazotization; Coupling; Macrocyclic formazan.

Name : **Prof . Ahmed Helmy Elwahy**

Dep. : **Chemistry**

Title : **Ethynylazulenes − Building Blocks for Novel Oligoazulenes with Ethynyl and Butadiynyl Bridges**

Kai H. H. Fabian, Ahmed H. M. Elwahy, and Klaus Hafner

Journal : **Org. Chem 791-802 (2006)**

ISSN : 1434-193X **Impact Factor :** 2.55

Abstract :

The azulenes 3a,b, 6a,b, 9, 12 and 15 ethynylated in the five- membered ring were prepared by Pd-catalysed cross-coup- ling of the corresponding iodoazulenes 1a,b, 4a,b, 7, 10 and 13, respectively, with trimethylsilylacetylene and subsequent desilylation. The synthesis of some acyclic oligomers 23–30, 32–36 and 38–40 from these ethynylazulenes could be ac- complished by oxidative Eglinton coupling as well as Pd/Cu- catalysed cross-coupling reactions with the appropriate iodoazulenes 1a,b, 4b, 31 and 34. The UV/Vis spectra of the novel oligomers 32, 35 and 36 allow an estimation of the bandgap (Eg) of poly (1,3-azulenylethynylene)s lower than2 eV.

Key Words :

Azulenes ; Cross-coupling ; Oligoazulenes ; Oxidative coupling ; Palladium

Name : Prof. Alaa El-Deen Hamza

Dept. : Mathematics

Title : On the recursive sequence $x_{n+1} = a + \frac{x_{n-1}}{x_n}$

Alaa E. Hamza

Journal : Mathematical analysis and applications322 668-674(2006)

ISSN : 0022-247X **Impact Factor :** 0.579

Abstract :

In the paper we study the global stability, the permanence, and the oscillation character of the recursive sequence

$$x_{n+1} = a + \frac{x_{n-1}}{x_n} \quad , n=0,1,\ldots,$$

Where α is a negative number and the initial conditions x_{-1}, x_0 are negative numbers.

.

Key Words :

Difference equations; Oscillation; Stability

Name : **Prof . Fakiha El-Taieb Heakal**

Dep. : **Chemistry**

Title : **Electrochemical Behavior of Sn-Ag Alloys in Sodium Fluoride Solutions**

M.A. Ameer, A.A. Ghoneim, A.M. Fekry, F. El-Taib Heakal

Journal : **Mat.-wiss. u. Werkst 37 N 7 589-596 (2006)**

ISSN : 0933-5137 **Impact Factor :** 0.263

Abstract :

Passivation and corrosion behavior on Ag, Sn and Sn-Ag alloys were studied using various electrochemical techniques, i.e. open- circuit, potentiodynamic polarization and impedance measure- ments. The specimens were polarized between –1000 and 500 mV vs. saturated calomel electrode (SCE) in naturally oxyge- nated NaF solution of different concentrations. The results of po- tentiodynamic polarization showed that each of icorr and ic increases with increasing either Sn% or F- concentration. EIS measurements under open circuit conditions confirmed well this behavior. The effect of temperature was also studied in 0.5M NaF at temperature range of 291K to 333K. The corrosion current icorr was observed to increase with temperature for the same electrode. The activation energy was calculated according to Arrhenius equation and its value was found to decrease considerably with increasing the Sn content in the alloy.
fect of temperature was also studied in 0.5M NaF at temperature range of 291K to 333K. The corrosion current icorr was observed to increase with temperature for the same electrode. The activation energy was calculated according to Arrhenius equation and its value was found to decrease considerably with increasing the Sn content in the alloy.

Key Words :

Corrosion; Electrochemical impedance spectroscopy; Polarization; Tin-silver alloys.

Name : **Prof . Fathi Mohamed Abdel Razek**

Dep. : **Chemistry**

Title : **New Data Aboyt the Reaction of Benzyolacetonitrile with Malononitrile and Its Self-condensation**

Fathy M. Abdelrazek and Farid A. Michael

Journal : **Heterocyclic Chemistry 43 7-10 (2006)**

ISSN : 0022-152X **Impact Factor :** 0.74

Abstract :

the reactions of benzoylacetonitrile with malononitrile in refluxing pyridine and its self condensation under fusion conditions in the presence of ammonium acetate and in refluxing pyridine were reinvestigated. New data were found and plausible mechanisms to account for the formation of the products are suggested.

Key Words :

Benzoylacetonitrile; pyran; pyridine

Name : **Prof . Fathi Mohamed Abdel Razek**

Dep. : **Chemistry**

Title : **Synthesis and Molluscicidal Activity of New Cinnoline and Pyrano [2,3- c] pyrazole Derivatives**

Fathy M. Abdelrazek , Peter Metz , Nadia H. Metwally and Sherif F. El-Mahrouky

Journal : **Archiv Der Pharmazie 339 456–460 (2006)**

ISSN : 0365-6233 **Impact Factor :** 1.13

Abstract :

2-(3-Hydroxy-5,5-dimethylcyclohexylidene)malononitrile 5 undergoes an azo coupling reaction with aryldiazonium salts to afford 3-amino-2-aryl-6,6-dimethyl-8-oxo-2,6,7,8-tetrahydrocinnoline-4-carbonitriles 7. Upon reflux in acetic acid, these compounds were acetylated to give the cinnoline derivatives 9. The pyrazolones 10a, b react with 3-furfurylidene- and 3-thienylidene-malononitrile derivatives 11a, b to afford the pyrano[2,3-c]pyrazole derivatives 13a–d. These newly synthesized compounds show generally a moderate molluscicidal activity to Biomphalaria alexandrinasnails.

Key Words :

Cinnolines; Molluscicidal activity; Pyrano[2,3-c]pyrazoles; Pyrazolones .

International Publications Awards
Cairo University

Name : **Prof . Fathi Mohamed Abdel Razek**

Dep. : **Chemistry**

Title : **Synthesis and Molluscicidal Activity of Some 1,3,4- Triaryl- 5- chloropyrazole, Pyrano[2,3-c] pyrazole, Pyrazolylphthalazine and Pyrano[2,3- d] thiazole Derivatives.**

Fathy M. Abdelrazek , Farid A. Michael and Alaa E. Mohamed

Journal : **Archiv Der Pharmazie 339, 305–312 (2006)**

ISSN : 0365-6233 **Impact Factor :** 1.13

Abstract :

2-(5-Chloro-1,3-diphenyl-1H-pyrazol-4-ylmethylene)-malononitrile 1a reacts with the arylidenes of malononitrile 2a–d to afford the triaryl-5-chloropyrazoles 3a–d, respectively. 1a reacts with the active methylene pyrazolinones 5a, b and 12a, b to afford different products 8, 9, 10, 11, and 14a, b – depending on the substitution in the pyrazole ring. Compound 1a reacts also with the pyridazinone derivative 15 to afford the phthalazinone 16, and with the thiazolinones 17a–c to afford the pyrano[2,3-d]thiazoles 20a–c, respectively. It reacts also with the malononitrile dimer 21a and with ethyl cyanoacetate dimer 21b to yield the pyrazolyl pyridines 22a, b, respectively. The synthesized compounds showed a moderate molluscicidal activity towards Biomphalaria alexandrina snails.

Key Words :

Pyrazolin-3-ones; Cinnamonitriles; Triaryl-5-chloropyrazoles; Pyrano[2,3-c]pyrazoles; Pyrano[2,3-d]thiazoles.

Name : **Prof . Fawzi Hamed Abd-El Kader**

Dep. : **Physics**

Title : **Differential Scanning Calorimetry and Dielectric Properties of Methyl-2-Hydroxyethyl Cellulose Doped with Erbium Nitrate Salt**

Gamal Sobhai Said, Fawazy Hamed Abd-El Kader, Mohamed Mahross El Naggar and Badawi Ali Anees

Journal : **Carbohydrate Polymers 65 253-262 (2006)**

ISSN : 0144-8617 **Impact Factor :** 1.582

Abstract :

Cast technique was used to prepare thin films of pure methyl-2-hydroxyethyl cellulose (MHEC) and composite samples containing erbium trinitrate [Er(NO3)3] films with concentrations 0.5, 1, 2, 5, 7, and 10 wt%. Differential scanning calorimetry (DSC) was performed on pure materials [MHEC and Er(NO3)3] and their composites of 2 and 10 wt% Er(NO3)3. The new exothermic phase transitions induced in DSC thermograms may be attributed to structural phase transitions. The dielectric constant (e0), dielectric loss (e00), and ac-conduc- tivity rac were studied for MHEC and Er(NO3)3 doped MHEC samples as a function of temperature and frequency. The activation energies for both a and r-relaxation processes observed in e 0 and e00 for the samples under investigation were calculated. It was found that the value of activation energy calculated for of r-relaxation process is consistent with that of dc-conductivity for all doped samples in the same temperature range. In addition, the correlated barrier hopping mechanism of the electrons appeared to be the most suitable mech- anism to describe the ac conduction behavior in different compositions of the present system.

Key Words :

Methyl-2-hydroxyethyl cellulose; Er(NO3)3; Dielectric properties; Correlated barrier hopping; Relaxation processes.

Name : **Prof . Fawzi Hamed Abd-El Kader**

Dep. : **Physics**

Title : **Characterization and Electrical Properties of Methyl2-hydroxyethyl Cellulose Doped with Erbium Nitrate Salt**

F. H. Abd-EI Kader G. Said, M. M. EI-Naggar and B. A. Anees

Journal : **Carbohy Drate Polymers 23 2352-2361 (2006)**

ISSN : 0021-8995 **Impact Factor :** 1.072

Abstract :

: X-ray diffraction, infrared (lR), and electrical properties for pure and Er (N03h-doped methyl2-hydroxyethyl cellulose (MHEC) with concentrations of 0.5, 1, 2, 5, 7, and 10 wt % were studied. X-ray analysis indicates that the addition of Er (N03h, which is a crystalline material, to MHEC at concentrations 10 and 13 wt % leads to the formation of crystalline phases in the amorphous polymeric matrix. The appearance of the bending mode V2 and the combination mode (Vl + v~) of Er (N03h in the IR spectra of composite samples indicates the coordination of nitro group in the chains of MHEC. From the I-V characteristics, it was found that the charge transport mechanism in MHEC appears to be essentially space charge limited conduction, while the predominant mechanism in the composite samples is Poole-Frenkel. Values of both drift mobility () l) and the charge carrier density (11) has been reported. The temperature dependence conductivity data has been analyzed in terms of the Arrhenius and Matt's variable range hopping models. Different Matt's parameters such as the density of states, N(EF), hopping distance (R), and average hopping energy (W) have been evaluated

Key Words :

lR spectroscopy; Methyl-Z-Hydroxyethyl Cellulose; Rare Earth Metal Salt; Transient Currents; Electrical Conductivity.

Name : **Prof . Gamal Abdel-Nasr**

Dep. : **Physics**

Title : **Optical properties of modified grafted polypropylene**

Magda M I Khalil, G M Nasr and Naeem M El-Sawy

Journal : **Physics D-Applied Physics 39 5305-5309 (2006)**

ISSN : 0022-3727 **Impact Factor :** 1.96

Abstract :

The optical properties of PP thin films of radiation-graft copolymerization of N-vinyl-2-pyrrlidone and the modification of grafted polymer by α, β-unsaturated nitrile are investigated in the UV–visible region. The absorption coefficient (α) is calculated as a function of the degree of grafting and modification copolymerization. The values of the optical band gap (Eg) have been obtained from the indirect allowed transitions in k-space. The width of the tails of localized states in the band gap (Eu) was evaluated from Urbach edges. Both the parameters (Eg) and (Eu) vary with the degree of grafting and the modification of grafting copolymers for irradiated and unirradiated samples.

Name : **Prof . Gehad Genidy Mohamed**

Dep. : **Chemistry**

Title : **Synthesis, characterization and biological activity of bis(phenylimine) Schiff base ligands and their metal complexes.**

Gehad G. Mohamed

Journal : **Spectrochimica Acta Part A-Molecular and Biomolecular Spectroscopy 64 188–195 (2006)**

ISSN : 1386-1425 **Impact Factor :** 1.289

Abstract :

Metal complexes derived from 2,6-pyridinedicarboxaldehydebis(p-hydroxy-phenylimine); L1, 2,6-pyridinedicarboxaldehydebis(o-hydroxyphenylimine); L2, are reported and characterized based on elemental analyses, IR, solid reflectance, magnetic moment, molar conductance and thermal analysis (TGA). The complexes are found to have the formulae [MX2(L1 or L2)]•nH2O, where M= Fe(II), Co(II), Ni(II), Cu(II) and Zn(II), X=Cl in case of Fe(II), Co(II), Ni(II), Cu(II) complexes and Br in case of Zn(II) complexes and n = 0–2.5. The molar conductance data reveal that the chelates are non-electrolytes. IR spectra show that the Schiff bases are coordinated to the metal ions in a terdentate manner with NNN donor sites of the pyridine-N and two azomethine-N. From the magnetic and solid reflectance spectra, it is found that the geometrical structure of these complexes are trigonal bipyramidal (in case of Co(II), Ni(II), Cu(II) and Zn(II) complexes) and octahedral (in case of Fe(II) complexes). The thermal behaviour of these chelates shows that the hydrated complexes losses water molecules of hydration in the first step followed immediately by decomposition of the coordinated water, anions and ligands (L1 and L2) in the subsequent steps. The activation thermodynamic parameters, such as, E*, ΔH*, ΔS* and ΔG* are calculated from the TG curves using Coats–Redfern method. The synthesized ligands, in comparison to their metal complexes also were screened for their antibacterial activity against bacterial species, Escherichia coli, Pseudomonas aeruginosa, Staphylococcus aureus and Fungi (Candida). The activity data show that the metal complexes to be more potent/antibacterial than the parent organic ligands against one or more bacterial species.

Key Words :

Bis(phenylimine) Schiffbase ligands; Transition metal complexes; IR; Conductance; Solid reflectance; Magnetic moment; Thermal analysis; Biological activity

Name : **Prof . Gehad Genidy Mohamed**

Dep. : **Chemistry**

Title : **Interplay of hydrogen bonding and TT-TT interactions in the molecular complex of 2,6-lutidine N-oxide and wate**

Jose Giner Planas , Gehad G. Mohameda, Reijo Sillanpaa , Raikko Kivekas , Francese Teixidor, Clara Vinas

Journal : **Molecular Structure 787 121-126 (2006)**

ISSN : 0022-2860 **Impact Factor :** 1.440

Abstract :

The crystal and molecular structure of 2,6-lutidine N-oxide monohydrate (1) has been determined by X-ray diffraction analysis. Each water molecule is acting as bridging ligand between the N -> 0 moieties of two 2,6-1utidine N-oxide molecules through moderate strong intermolecular hydrogen bonding (O-H000O O000O distances are 2.787(2) and 2.832 (2) A) giving rise to a one-dimensional (lD) polymeric helical chain. A twodimensional (2D) layered network is then formed by self-assembly of ID helical chains via strong T[-'IT interactions of the aromatic rings (interplanar distances 3.385 A). The molecular structure of 1 is compared with that for the already reported molecular structures of2-acetylamino6-methylpyridine N-oxide monohydrate and pyridine trihydrate. Finally, on the basis of the present studies a possible explanation for the i'('if;I~lior. of the molecular comp;exes IS proposed and discussed.

Key Words :

Hydrogen bond ; TT-TT interactions; Aromatic N-oxides

International Publications Awards
Cairo University

Name : Prof. Gehad G. Mohamed

Dept. : Chemistry

Title : Transition Metal Complexes Of Heterocyclic Schiff Base. Biological Activity, Spectroscopic And Thermal Characterization.

Gehad G. Mohamed

Journal : Thermal Analysis and Calorimetry 86 315-325(2006)

ISSN : 1388-6150 **Impact Factor :** 1.424

Abstract :

Metal Complexes Of Schiff Base Derived From 2-Furancarboxaldehyde And 2-Aminobenzoic Acid (Hl) Are Reported And Characterized Based On Elemental Analyses, Ir, 1h Nmr, Uv-Vis, Solid Reflectance, Magnetic Moment, Molar Conductance And Thermal Analysis. The Ligand Dissociation As Well As The Metal-Ligand Stability Constants Have Been Calculated Ph-Metrically At 25 °C And Ionic Strength μ = 0.1 (1 M Nacl). The Complexes Are Found To Have The Formulae [M(Hl)2](X)N·Yh2o (Where M = Fe(Iii) (X = Cl, N = 3, Y = 4), Co(Ii) (X = Cl, N = Y = 2), Ni(Ii) (X = Cl, N = Y =2), Cu(Ii) (X = Cl, N = Y = 2) And Zn(Ii) (X = Aco, N = Y = 2)) And [Uo2(L)2]·2h2o. The Thermal Behaviour Of These Chelates Is Studied And The Activation Thermodynamic Parameters Are Calculated Using Coats-Redfern Method. The Ligand And Its Metal Complexes Show A Biological Activity Against Some Bacterial Species.

Key Words :

Biological Activity; Metal Complexes; Spectroscopic Studies; Stability Constants; Thermal Analysis

International Publications Awards
Cairo University

Name : **Prof . Gehad Genidy Mohamed**

Dep. : **Chemistry**

Title : **Synthesis of heterocyclic carbene ligands via 1,2,3-diheterocyclization of allenylidene complexes with dinucleophiles**

Normen Szesni, Christiane Hohberger, Gehad Genidy Mohamed , Nicolai Burzlaff , Bernhard Weibert, Helmut Fischer

Journal : **Organometallic Chemistry 691 5753-5766 (2006)**

ISSN : 0022-328X **Impact Factor :** 2.025

Abstract :

Heterocyclic carbene complexes are accessible from p-donor-substituted allenylidene complexes, [(CO)5Cr@C@C@C(NMe2)Ph] (1) and [(CO)5Cr@C@C@C(O-endo-Bornyl)Oet] (4), and various dinucleophiles by 1,2,3-diheterocyclization. The reaction of 1 with 1,2- dimethylhydrazine gives the 1,2-dimethylpyrazolylidene complex [(CO)5Cr=C-C(H)=C(Ph)-Nme-Nme] (2) in high yield in addition to small amounts of the a,b-unsaturated carbene complex [(CO)5Cr@C(NMe2)–C(H)@C(NMe2)Ph] (3). The analogous reaction of 4 with 1,2-dimethylhydrazine affords the 1,2-dimethylpyrazolylidene complex [(CO)5Cr=C-C(H)= C(O-endo-Bornyl)-Nme-Nme] (5) and, via dis- placement of the Cc-bound ethoxy substituent, the hydrazinoallenylidene complex [(CO)5Cr@C@C@C(O-endo-Bornyl){Nme-N(H)Me}] (6). Treatment of 6 with catalytic amounts of acids induces cyclization to 5. On addition of 1,1-dimethylhydrazine to 1 the zwitterionic pyrazolium-5-ylidene complex [(CO)5Cr-C= C(H)-C(Ph)=N-NMe2] (7) is formed. The reaction of 1 with 1,2-diaminocyclohexane affords a octahydro-benzo[1,4]diazepinylidene complex (10) and, via intermolecular substitution, a binuclear bisallenylidene complex (11). Thia- zepinylidene complexes (12–14), containing 7-membered N/S-heterocyclic carbene ligands, are formed highly selectively in the reaction of 1 with 2-aminoethanethiol or related cysteine derivatives by a substitution/cyclization sequence. The analogous reaction of 1 with homo- cysteine methylester yields a thiazocanylidene complex (15). All new heterocyclic carbene ligands are strong donors exhibiting r-donor/ p-acceptor ratios similar to those of the known imidazolylidene complexes. On photolysis of 2 and 12 in the presence of triphenylphos- phine, the corresponding cis-carbene tetracarbonyl triphenylphosphine complexes (16 and 17) are formed. The solid state structure of complexes 2, 7, 14, 15, and 16 is established by X-ray structural analysis

Key Words :

Allenylidene complexes; Chromium; Pyrazolylidene complexes; Cyclization; Heterocyclic carbene ligands

Name : **Prof . Hassan Abdel-Tawab**

Dep. : **Mathematics**

Title : **Polynomial representations of the Lucas logarithm**

Hassan Aly and Arne Winterhof

Journal : **Finite Fields and Their Applications 12 413-424 (2006)**

ISSN : 1071-5797 **Impact Factor :** 0.34

Abstract :

We deduce exact formulas for polynomial representing the Lucas logarithm and prove lower bounds on the degree of interpolation polynomials of the Lucas logarithm for subsets of given data.

Key Words :

Polynomials;Weight; Lucas degree; Logarithm; Dickson polynomials; Interpolation Cryptography.

Name : **Prof . Hassan Abdel-Tawab**

Dep. : **Mathematics**

Title : **On the k-error linear complexity over Fp of Legendre and Sidelnikov sequences**

Hassan Aly and Arne Winterhof

Journal : **Designs Codes and Cryptography 40 369-374 (2006)**

ISSN : 0925-1022 **Impact Factor :** 0.66

Abstract :

We determine exact values for the k-error linear complexity Lk over the finite filed Ifp of the Legendre sequences L of period p and the Sidelnikov sequences T of period pm.

Key Words :

linear complexity; Legendre sequence; Sidelnikov sequence; Cryptography.

Name : **Prof . Hassan Abdel-Tawab**

Dep. : **Mathematics**

Title : **On the Linear Complexity Profile of Nonlinear Congruential Pseudorandom Number Generators with Dickson Polynomials**

Hassan Aly and Arne Winterhof

Journal : **Designs Codes and Cryptography 39 155-162 (2006)**

ISSN : 0925-1022 **Impact Factor :** 0.66

Abstract :

Linear complexity and linear complexity profile are important characteristics of a sequence for applications in cryptography and Monte-Carlo Methods. The nonlinear congruential method is an attractive alternative to the classical linear congruential method for pseodurandom number generation. Recently, a weak lower bound on the linear complexity profile of a general nonlinear congurential pseudorandom number was proven by Gutierrez, Shparlinski, and the first author. For the most nonlinear generators a much stronger lower bound is expected. Here, we obtain a much stronger lower bound on the linear complexity profile of nonlinear congruential pseudorandom number generators with Dickson polynomials.

Key Words :

Linear complexity profile; Nonlinear congruential generators; Dickson Polynomials; Cryptography.

Name : **Prof . Hosam El-Deen Hassan**

Dep. : **Physics**

Title : **The physical properties of pressure sensitive rubber composites**

M.H. El Eraki , A.M.Y. El Lawindy , H.H. Hassan b and W.E. Mahmoud

Journal : **Polymer Degradation and Stability 91 1417-1423 (2006)**

ISSN : 0141-3910 **Impact Factor :** 1.749

Abstract :

Nitrile butadiene rubber, NBR, structural foam of different apparent densities was obtained by using different concentrations of foaming agent, azodicarbonamide, ADC/K. The true stressestrain characteristics, in case of compression, of foamed samples after the application of cyclic stressestrain were measured. The effect of the cyclic stressestrain on strain energy density of ADC/K foaming agent-filled NBR rubber composites was studied. The mechanical parameters were found to depend on the foaming agent concentration and on the pre-cyclic fatigue number. Results also indicated that the strain energy decreased with filler concentration.

The effects of the cyclic stressestrain on the conductivity of ADC/K foaming agent-filled NBR rubber composites were studied. The electrical properties were found to depend on the foaming agent concentration, the strain amplitude and the number of stressestrain cycles of prestrain.

This study was assisted by the currentevoltage characteristics which were measured under the effect of different compression ratios: 0%, 5%, 10%, 15%, 20%, 25% and 30%. The free current carrier mobility and the equilibrium concentration of charge carriers in the conduction band were produced as functions of compressive strain. Results also indicate that there is a linear variation between pressure and conductivity for all samples, which means that these samples can be used as a pressure sensor.

Key Words :

Foam; Hysteresis loss; Pre-strain; Pressure sensor

Name : **Prof . Hosam El-Deen Hassan**

Dep. : **Physics**

Title : **A novel application of ADC/K-foaming agent-loaded NBR rubber composites as pressure sensor**

W E Mahmoud , M H I El-Eraki , A M Y El-Lawindy and H H Hassan

Journal : **Phys. D: Appl. Phys. 39 541-546 (2006)**

ISSN : 0022-3727 **Impact Factor :** 1.957

Abstract :

Nitrile butadiene rubber (NBR) structure foam of different apparent densities was obtained by using different concentrations of foaming agent, azodicarbonamide, ADC/K. The true stress–strain characteristics, in case of compression, of foamed samples were measured. It was found that the theoretical values predicted from the simple blending model are in more agreement with the experimental results than those from the square-relationship model. The effect of cyclic loading–unloading and dissipation energy of rubber foams was studied. The results also indicated that foams with low density exhibited a small hysteresis. The electrical properties were found dependent on the foaming agent concentration. This study was assisted by Mott and Gurney equation. The effect of compressive strain on the electrical conductivity of rubber foams was studied. The free current carrier mobility and the equilibrium concentration of charge carrier in the conduction band were produced as functions of compressive strain. The results also indicate that there is a linear variation between pressure and conductivity for all samples, which means that these samples can be used as a pressure sensor. At a certain concentration of foaming agent (7.5 phr) a change of electrical conductivity by more than three orders is observed at 20% compression strain.

Name : **Prof . Hosam El-Deen Hassan**

Dep. : **Physics**

Title : **The mechanical behaviour of NBR/FEF under compressive cyclic stress–strain**

W E Mahmoud , M H I El-Eraki , A M Y El-Lawindy and H H Hassan

Journal : **Phys. D: Appl. Phys. 39 2427-2432 (2006)**

ISSN : 0022-3727 **Impact Factor :** 1.957

Abstract :

Acrylonitrile butadiene rubber compounds filled with different concentrations of fast extrusion furnace (FEF) carbon black were experimentally investigated. The stress–strain curves of the composites were studied, which suggest good filler–matrix adhesion. The large reinforcement effect of the filler followed the Guth model for non-spherical particles. The effect of FEF carbon black on the cyclic fatigue and hysteresis was also examined. The loading and unloading stress–strain relationships for any cycle were described by applying Ogden's model for rubber samples. The dissipation energy that indicates the vibration damping capacity for all samples was determined. A simple model was proposed, to investigate the relation between maximum stress and the number of cyclic fatigue.

Name : **Prof . Kamal Mohamed Dawood**

Dep. : **Chemistry**

Title : **A Convenient Access to Functionalized Pyrazole, Pyrazolyl-azole, and Pyrazolo[3,4-d]pyridazine Derivatives**

Kamal M. Dawood, Ahmad M. Farag and Hatem A. Abdel-Aziz

Journal : **The Chinese Chemical Society 53 873-880 (2006)**

ISSN : 0009-4536 **Impact Factor :** 0.616

Abstract :

3-(2-Furyl)-3-oxopropanitrile reacts with keto and ester-hydrazonyl chlorides to afford the corresponding acetyl- and ester-pyrazole derivatives. The latter pyrazoles reacted with hydrazine and gave either the pyrazolo[3,4-d]pyridazines or pyrazolylhydrazides. Treatment of the latter hydrazides with phenylisothiocyanate and with phenylisocyanate resulted in the formation of the pyrazolylthiadiazole and pyrazolyloxadiazole derivatives, respectively.

Key Words :

3-(2-Furyl)-3-oxopropanitrile; Hydrazonoyl chlorides; Pyrazoles; Oxadiazoles; Thiadiazoles.

Name : **Prof . Kamal Mohamed Dawood**

Dep. : **Chemistry**

Title : **Synthesis, Anticonvulsant, and Anti-inflammatory Activities of Some New Benzofuran-Based Heterocycles**

KamalM. Dawood, Hassan Abdel-Gawad, Mohey Ellithey, Hanan A. Mohamed, Bahira Hegazi

Journal : **Archiv Der Pharmazie 339 133-140 (2006)**

ISSN : 0365-6233 **Impact Factor :** 1.128

Abstract :

Treatment of 2-bromoacetylbenzofuran (2) with pyridine afforded its corresponding pyridinium bromide 3. The latter salt reacted with some activated alkenes and acetylenes to give the corresponding indolizine derivatives. Treatment of the salt 3 with benzylidenemalononitriles 9 afforded polysubstituted aniline derivatives, however with arylidenecyanothioacetamides 15 it gave the corresponding 4,5-dihydrothiophenes. Bromide 3 also coupled with p chlorobenzenediazonium salt followed by ammonium acetate to give the corresponding 1,2,4,5-tetrazine derivative. The biological activity of the newly synthesized compounds was examined and some of them were found to possess anticonvulsant and anti-inflammatory activities.

Key Words :

Benzofuran; Indolizine; Dihydrothiophene; Anticonvulsant; Anti-inflammatory activities

Name : **Prof . Kamal Mohamed Dawood**

Dep. : **Chemistry**

Title : **Synthesis, anticonvulsant, and anti-inflammatory evaluation of some new benzotriazole and benzofuran-based heterocycles**

Kamal M. Dawood, Hassan Abdel-Gawad, Eman A. Rageb, Mohey Ellitheyand Hanan A. Mohamed

Journal : **Bioorganic & Medicinal Chemistry 14 3672-3680 (2006)**

ISSN : 0968-0896 **Impact Factor :** 2.286

Abstract :

Treatment of 2-bromoacetylbenzofuran with 1H-benzotriazole afforded 1-(benz ofuran-2-yl)-2-(benzotriazol-1-yl)ethanone which reacted with phenylisothiocyanate to give the corresponding thioacetanilide derivatives. Treatment of the latter ethanone and thioacetanilide derivatives with hydrazonoyl chlorides afforded the corresponding pyrazole and 1,3,4-thiadiazole derivatives. The thioacetanilide derivative reacted with a-haloketones and a-halodiketones to afford thiophene and thiazole derivatives, respectively. The newly synthesized compounds were found to possess anticonvulsant and anti-inflammatory activities with the same mechanism of action of selective COX-2 inhibitors.

Key Words :

Benzotriazoles; Benzofurans; 1,3,4-thiadiazoles; Thiophenes; Anticonvulsant and anti-inflammatory activities.

International Publications Awards
Cairo University

Name : **Prof . Magdi Naoum**

Dep. : **Chemistry**

Title : **Effect of Steric Factor on Mesomorphic Stability. II. Binary Mixtures of Homologues of 4-(4'-Substituted Phenylazo)-1-Naphthyl-4''-Alkoxybenzoates**

Sayed Z. Mohamady, Refaat I. Nessim, Ola R. Shehab and Magdi M. Naoum

Journal : **Molecular Crystals and Liquid Crystals 451 53-64 (2006)**

ISSN : 1542-1406 **Impact Factor :** 0.47

Abstract :

Sixteen mesomorphic derivatives of the title compound have been investigated for their phase behaviour. These compounds constitute four homologous series that differ from each other by the substituent X. The latter varies between CH3O, CH3, Cl, and NO2, and the number (n) of carbons in the alkoxy chain varies, within a homologous series, between 8, 10, 12, and 14. All possible binary mixtures made from any two homologues were prepared and characterized for their mesophase behaviour by differential scanning calorimetry (DSC) and polarized light microscopy (PLM). Phase diagrams for the 24 binary combinations were constructed to investigate the effect of inclusion of the 1,4-naphthalene moiety, as well as the variation in the alkoxy chain length, on the mesomorphic properties in mixed systems.

Key Words :

Sreric factor; Binary mixtures; 4-(4'-substituted phenylazo)-1-naphthyl-4"-alkoxybenzoates

International Publications Awards
Cairo University

Name : **Prof . Magdi Naoum**

Dep. : **Chemistry**

Title : **Phase Behaviour of the Binary Mixtures of Substituted Analogues of LC Compounds of the Type 4-(4•-Substituted Phenylazo)-1-Naphthyl-4••-Alkoxybenzoates**

Refaat I. Nessim, Sayed Z. Mohamady, Ola R. Shehab and Magdi M. Naoum

Journal : **Thermochimica Acta 449 61-66 (2006)**

ISSN : 0040-6031 **Impact Factor :** 1.23

Abstract :

Binary mixtures made from components of the four series of the molecular structure 4-Cn H2n+1 O–C6 H4 –COO–C10 H6 –N N–C6 H4 –X, in which both components bear the same alkoxy group (n = 8, 10, 12, or 14) but of different substituent (X = CH3 O, CH3 , Cl, or NO2), were prepared and characterized for their phase behaviour. Transition temperatures of mixtures were measured by differential scanning calorimetry and identified by polarized-light microscopy. The dependence of the phase behaviour of mixed systems upon differences in the electronic nature of the terminal group, X, attached to both components as well as the length of the alkoxy group, was investigated from the phase diagrams constructed for the various binary combinations. The nematic order parameters are in accordance with the conclusions drawn.

Key Words :

4-(4• -Substituted phenylazo)-1-naphthyl-4•• -alkoxybenzoates; Phase diagrams; Nematic phase

Name : **Prof . Magdy Sabaa**

Dep. : **Chemistry**

Title : **Organic Thermal Stabilizers for Rigid Poly (Vinyl Chloride) Part XI: Anthraquinone Derivatives**

Magdy W. Sabaa , Emad H. Oraby , Abir S. Abdel Naby and Riham R. Mohamed

Journal : **Polymer Degradation and Stability 91 242-254 (2006)**

ISSN : 0141-3910 **Impact Factor :** 1.75

Abstract :

Anthraquinone and 1-aminoanthraquinone derivatives have been examined as thermal stabilizers or co-stabilizers for rigid PVC in air, at 180 oC . Their high stabilizing efficiency is detected by their high induction period values (Ts) when compared with some of the common reference stabilizers used industrially such as dibasic lead carbonate, calcium-zinc soap and octyl tin mercaptide. Blending these organic stabilizers with some of the reference stabilizers in different ratios had synergistic effect on both the induction period and the dehydrochlorination rate. A probable mechanism for the stabilizing mode of these derivatives has been proposed. The stabilizing efficiency is attributed partially to the stabilizer's ability to intervene in the radical degradation process of PVC and to the replacement of the labile chlorine atoms on PVC chains by a relatively more stable moiety of the organic stabilizer.

Key Words :

Poly (vinyl chloride); Induction period (Ts); Degradation; Thermal stability; Extent of discoloration; Blends

Name : **Prof . Magdy Sabaa**

Dep. : **Chemistry**

Title : **Organic Thermal Stabilizers for Rigid Poly (Vinyl Chloride).Part-XII: N-Phenyl-3-Substituted-5-Pyrazolone Derivatives**

Magdy W. Sabaa , Emad H. Oraby , Abir S. Abdel Naby and Riham R. Mohamed

Journal : **Polymer Degradation and Stability 91 911-923 (2005)**

ISSN : 0141-3910 **Impact Factor :** 1.75

Abstract :

N-phenyl-3-substituted-5-pyrazolone derivatives have been examined as thermal stabilizers or co-stabilizers for rigid PVC in air, at 180oC. Their high stabilizing efficiency is detected by their high induction period values (Ts) when compared with some of the common reference stabilizers used industrially, such as dibasic lead carbonate, calcium-zinc soap and n-octyl tin mercaptide. Blending these derivatives with some of the reference stabilizers in different ratios had a synergistic effect on both the induction period and the dehydrochlorination rate. A probable mechanism for the stabilizing mode of N-phenyl-3-substituted-5-pyrazolone derivatives has been proposed. The stabilizing efficiency is attributed at least partially to the ability of the organic stabilizer to be incorporated in the polymeric chains, thus disrupting the chain degradation.

Key Words :

Poly (Vinyl Chloride); Stabilizer; Induction Period (Ts); Degradation; Dehydrochlorination Rate

Name : **Prof . Magdy Sabaa**

Dep. : **Chemistry**

Title : **Thermal and Mechanical Behaviour of Flexible Poly (Vinyl Chloride) Mixed with some Saturated Polyesters**

Soheir Y. Tawfik , Jeanette N. Saad and Magdy W. Sabaa

Journal : **Polymer Degradation and Stability 91 385-392 (2006)**

ISSN : 0141-3910 **Impact Factor :** 1.75

Abstract :

Four saturated polyesters poly (hexamethylne adipate), poly(ethylene adipate), poly (hexamethylene terephthalate) and poly (ethylene tertephthalate) were prepared. The resulting materials were characterized by IR and 1H NMR, end group analysis and gel permeation chromatography. The effect of blending these polyesters (5 and 10%) with poly(vinyl chloride) (PVC) in the melt was investigated in terms of changes in the thermal behaviour of PVC by studying the weight loss after 50 min at 180oC, colour changes of the blend before and after aging for one week at 90oC, the variation in the glass transition temperature and the initial decomposition temperature. The results gave proof for the stabilizing role played by the investigated polyesters against the thermal degradation of PVC. The best results are obtained when PVC is mixed with 5% aliphatic polyesters rather than with aromatic ones. This is well illustrated not only from the increase in the initial decomposition temperature (IDT), but also from the decrease of % weight loss and from the lower extent of discolouration of PVC, which is a demand for the application of the polymer. It was also found that blending PVC with 5% of the four investigated polyesters before and after aging for one week at 90oC gave better mechanical properties even than that of the unaged blank.

Name : **Prof . Maha Anwar Ali**

Dep. : **Physics**

Title : **Effect of Fast Green Dye on some Biophysical Properties of Thymocytes and Splenocytes of Albino Mice**

M. A. ALI and S. A. BASHIER

Journal : **Food Additives and Contaminants 23 (5) 452-461 (2006)**

ISSN : 0265-203X **Impact Factor :** 1.610

Abstract :

Although fast green (FG) is widely used as food colorant by the cosmetics and drug industries, there is no evidence about whether FG affects leukocytes. The aim was to investigate the effect of FG on leukocytes. Male albino mice were subdivided into five equal groups: four of them were given 125, 250, 375 and 500 mg kg 1 bw day 1 FG in drinking water for 44 days. The fifth (control group) was given pure water only. During the experimental period changes in body weight, lymphoid organs weight (absolute and relative) as well as the total count and viability of lymphoid cells for the treated groups showed that FG was an immunotoxic agent. The structural effects induced by FG on thymocytes and splenocytes were investigated through measurements of their dielectric spectra in the frequency range 20–100 000 Hz. The estimated dielectric parameters of the treated groups reflected the changes occurring to lymphocytes by FG administration and indicated that FG dye is an immunotoxic agent. It is shown that the dielectric methodology can be used for the identification of lymphocyte modification induced by food colorants.

Name : **Prof . Maher Zaki El Sabee**

Dep. : **Chemistry**

Title : **Homogeneous and Heterogeneous Grafting of 4-Vinylpyridine onto Chitosan**

Said S.Elkholy Khalid D.Khalid and Maher Z. Elsabee

Journal : **Applied Polymer Science 99 3308-3317 (2006)**

ISSN : 0021-8995 **Impact Factor :** 1.07

Abstract :

Modification of chitosan by grafting with 4-vinylpyridine (VP) was carried out both in homogeneous and heterogeneous phases, using potassium persulfate (K2S2O8) and sodium bisulfite (NaHSO3) as redox initiators. The effect of monomer concentration, initiator concentration and redox ratio, time and temperature on the extent of grafting (G%), homopolymer formation, and the efficiency of grafting were studied. Values of grafting percentages up to 96% were reached in heterogeneous conditions and up to 130% in homogeneous conditions (in 5% acetic acid). The grafting was confirmed by FTIR and 1H NMR spectroscopy. The grafted samples were characterized by scanning electron microscopy, X-ray diffraction, and thermogravimetric analysis. The crystallinity of the used chitosan was not affected by grafting, it even increased slightly. Dye uptake of the grafted samples towards the different types of dyes (acidic and basic) was investigated and was found to improve profoundly over the native chitosan with a higher uptake for the acidic dye. The grafted samples showed an increased swelling in water, which increased further upon quaternization of the graft copolymers. The extent of swelling is higher in acidic and basic media more than in neutral pH. The grafted copolymers are soluble with difficulty in warm acetic acid solution. The quaternized graft copolymer was found to be soluble in water. The biological activity of the quaternized graft copolymers (G = 130 and 80%) was investigated and was found to have an inhibition effect on both the Azotobacter fungus and the bacterium Fusarium oxysporium. The effect on the micro organisms is proportional to the amount of VP in the graft copolymer.

Key Words :

Chitosan; 4-Vinylpyridine; Graft copolymer;Swelling behavior; Dye uptake; Quaternization

Name : **Prof . Maher Zaki El Sabee**

Dep. : **Chemistry**

Title : **Antifungal efficacy of chitosan and its thiourea derivatives upon the growth of some sugar-beet pathogens**

M. Eweis, S. S.Elkhol and M. Z. Elsabee

Journal : **Power Sources 83 1-8 (2006)**

ISSN : 0141-8130 **Impact Factor :** 1.68

Abstract :

Chitosan (CS) was modified by reaction with benzoyl thiocyanate to give a thiourea derivative (TUCS). The antifungal behavior of chitosan and its thiourea derivative was investigated in vitro on the mycelial growth, sporulation and germination of conidia or sclerotia of the following sugar-beet: Beta vulgaris pathogens isolated in Egypt, Rhizoctonia solani Kühn (AG2-2) Sclerotium rolfsii Sacc. and Fusarium solani (Mart.) Sacc. All the prepared thiourea derivatives had a significant inhibiting effect on the different stages of development on the germination of conidia or sclerotia of all the investigated fungi in the polymer concentration range of 5–1000 μg ml−1. In the absence of chitosan and its derivative, R. solani exhibited the fastest growth of the fungi studied. However, growth tolerance of the modified chitosan was highest for F. solani and lowest for R. solani. The most sensitive to the modified chitosan stress with regard to their germination and number produced were the sclerotia of S. rolfsii. It has been found that the TUCS is a much better fungicidal agent (about 60 times more) than the pure CS against most of the fungal strains tested. The molecular weight and the degree of deacetylation were found to have an important effect on the growth activities of the pathogens.

Key Words :

Chitosan; Modified chitosan; Growth activity; Sugar-beet; Rhizoctonia solani; Sclerotium rolfsii; Fusarium solani.

International Publications Awards
Cairo University

Name : **Prof . Mahmoud Mohamed Saleh**

Dep. : **Chemistry**

Title : **Inhibition of Mild Steel Corrosion by Hexadecylpyridinium Bromide in 0.5 M H2SO4**

Mahmoud M. Saleh

Journal : **Materials Chemistry and Physics 98 83-89 (2006)**

ISSN : 0254-0584 **Impact Factor :** 1.14

Abstract :

The inhibiting action of hexadecylpyridinium bromide, HDPB on mild steel in 0.5 M H2SO4 solution in the temperature range 30-60 oC was studied using potentiodynamic technique and weight loss measurements. The collected polarization curves were used to study the effects of the inhibitor concentration and temperature on the corrosion behavior of mild steel. The inhibitor was found to be a mixed-type inhibitor. Maximum range of protection efficiency of HDPB was obtained at its cmc. Weight loss measurements confirmed the above results. The inhibitor showed stronger influence on the anodic branch by shifting the free corrosion potential to more positive values. The surface coverage values were found to fit with Bockris-Swinkels isotherm with molecular ratio equal to 3. The apparent activation energy of corrosion, Ea is lower in presence than in absence of the inhibitor. Also higher negative values of the free energy of adsorption, ΔGoads and higher positive value of the enthalpy of adsorption, ΔHoads were obtained. The above results helped us to predict the mode and extent of adsorption of HDPB on the iron surface.

Key Words :

Corrosion inhibitor; Steel; Hexadecyl; Pyridinium.

International Publications Awards
Cairo University

Name : **Prof . Mahmoud Mohamed Saleh**

Dep. : **Chemistry**

Title : **On the Removal of Cationic Surfactants from Dilute Streams by Granular Charcoal**

Mahmoud M. Saleh

Journal : **Water research 40 1052-1060 (2006)**

ISSN : 0043-1354 **Impact Factor :** 3.02

Abstract :

Adsorption of a cationic surfactant; cetylpyridinium chloride (CPyCl) on granular charcoal (GC) was used to remove the surfactant from dilute solutions. The removal process was performed using both batch and continuous processes. On the batch process, the effects of different operating parameters on the removal efficiency were studied. The granular charcoal was found to be efficient and removal efficiencies up to ~ 98% were obtained at certain conditions. The removal efficiency was found to increase with the amount of charcoal, shaking speed and temperature. It increased with the surfactant concentration and reaches quickly to maximum constant ranges but it decreases at higher concentrations near the cmc of the surfactant. The resistance for further decreases in the removal efficiency was dependent of the operating conditions. Adsorption of CPyCl on GC was found to follow the kinetics of a first order reaction. Activation energy of adsorption and SEM images suggested that diffusion inside the porous matrix could be a controlling step. Modified Frumkin isotherm was applied to the collected data at different temperatures. The results of removal of CPyCl using packed-bed of GC at flowing conditions were also studied. Higher values of the conversion efficiency, □ were obtained at low flow rates and thicker beds. The results were discussed on the light of a dimensionless conversion factor, □ = υr2/2DL□, which includes important structural and hydrodynamic parameters. The experimental data showed a satisfactory agreement with the theoretical trends.

Key Words :

Cetylpyridinium; Charcoal; Granular; Removal; Porous.

Name : **Prof . Mahmoud Yehia Ismail**

Dep. : **Physics**

Title : **Study of Coulomb Interaction for Two Diffuse Spherical–Deformed Nuclei**

M. Ismail, W.M. Seif, H.Abou-Shady, and A. Bakry

Journal : **Physics of Atomic Nuclei 69 1463–1471 (2006)**

ISSN : 1063-7788 **Impact Factor :** 0.914

Abstract :

TheCoulomb interaction for a spherical–deformed interacting pair is derived assuming realistic nuclear charge distributions. The effect of a finite diffuseness parameter is described either by the folding product of spherical or deformed sharp-surface distribution and a spherical short-range function or by using a Fermi two-parameter distribution function. The approximate solutions obtained using these categories
of charge distributions are then compared to the numerical solution obtained within the framework of the double-folding model.We found that the finite surface diffuseness parameter affects slightly the inner region of the total Coulomb potential, while it produces large errors in calculating the Coulomb form factors used frequently in nuclear reactions and fusion numerical codes.

Name : **Prof . Mamdouh Abdel Rahim**

Dep. : **Chemistry**

Title : **A Systematic Study on the Effect of OH- and Ni2+ Ions on the Electro-Catalytic Oxidation of Methanol at Ni-S-1 Electrode**

M.A. Abdel Rahim, Hanaa B. Hassan and R.M. Abdel Hamid

Journal : **Power Sources 154 59-65 (2006)**

ISSN : 0378-7753 **Impact Factor :** 2.77

Abstract :

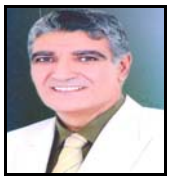
The effect of varying nickel ions as well as OH− ions concentration on the electrochemical oxidation of methanol on nickel impregnated silicalite-1 (Ni-S-1) electrodes was investigated. The study of nickel ions concentration effect was carried out in two different ways: by varying the soaking time in one and the same concentration of NiSO4 solution, or by fixing the soaking time in different concentrations of NiSO4 solution. The results showed that for electrodes pre-soaked in 1.0M NiSO4 solution for 90 s, increasing the OH− ions concentration results in increasing the oxidation current density of methanol. On the basis of this result, high concentration of KOH is preferable as a medium for methanol oxidation at the Ni-S-1 electrode in presence of nickel ions. On the other hand, at a certain OH− ions concentration, the peak height of methanol oxidation increases with increasing Ni ions concentration up to a certain value after which no effect was observed. A first order reaction kinetics with respect to both nickel ions and OH− ions was estimated for the oxidation of methanol.

Key Words :

Nickel-zeolite; Impregnated silicalite-1; Electro-catalyst; Methanol oxidation; Alkaline solution.

Name : **Prof . Mohamed Ali Ahmed**

Dep. : **Physics**



Title : **Extraordinary Role of Ca2+ Ions on the Magnetization of LaFeO3 Orthoferrite**

M.A.Ahmed and S.I.El-Dek

Journal : **Materials Science and Engineering 128 30-33 (2006)**

ISSN : 0921-5107 **Impact Factor :** 1.281

Abstract :

Samples of La1−xCaxFeO3 were synthesized in air for 0.05≤x≤0.55. X-ray powder diffraction analysis showed that the samples were formed in a single phased orthorhombic structure (Pbnm) where the lattice parameters were calculated and reported. The dc magnetic susceptibility was measured using Faraday's method from room temperature up to about 850K at five different magnetic field intensities. The obtained results showed that the samples were antiferromagnetic with slight canting of the Fe3+ spins. The substitution of La3+ by Ca2+ ions lowers the N´eel temperature. The calculated values of the effective magnetic moment as a function of the Ca2+ concentration were in good agreement with the reported data. The results were interpreted on the basis of the charge difference and the ionic radii of the La3+ and Ca2+ ions.

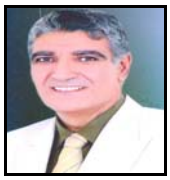
Key Words :

Orthoferrite; Structural distortion; Magnetization

International Publications Awards
Cairo University

Name : **Prof . Mohamed Ali Ahmed**

Dep. : **Physics**



Title : **Electrical Transport Properties of Barium- Titanium Ferrite with a Hollandite Structure**

M.A.Ahmed, N.Okasha and M.A.Gabal

Journal : **Materials Chemistry and Physics 99 197-201 (2006)**

ISSN : 0254-0584 **Impact Factor :** 1.136

Abstract :

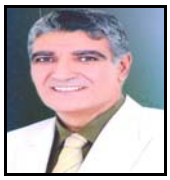
A series of barium titanium oxide with various Ba/Ti ratios having a hollandite structure was obtained by ceramic technique. It was shown that barium titanium hollandites may adopt both oxygen excess and oxygen deficient stoichiometries within the structure. As a limiting case the barium titanium hollandites with only tetravalent titanium ions were obtained. Results of investigation samples in the general formula BaxTi4−2xFe2xO8; 0.1≤x≤1 were measured at different temperatures from room temperature up to 800K as a function of frequency ranging from 400 kHz to 5 MHz. The dielectric constant (ε/) indicated that the increase of its value with increasing temperature is due to presence of more than one type of polarization act in cooperation with each other. The values of activation energy were calculated from the resistivity data. The calculated values of activation energy at low temperature (ferrimagnetic region E1) are less than those in the high temperature (paramagnetic region E11) which are frequency independent part. This is because in the monoclinic hollandite under investigation has Ba ions which occupy the center of the tunnel surrounded by TiO2 and Fe2O3 octahedral in spite of the large size of Ba2+ ions (1.35 A°). Peak in the dielectric loss tangent versus frequency curves are observed in some concentration and the possible mechanisms are discussed.

Key Words :

Inorganic compounds; Hollandite structure; Electrical properties of Ba–Ti ferrites

Name : **Prof . Mohamed Ali Ahmed**

Dep. : **Physics**



Title : **Optimizing the physical characterizations of orthoferrites to be used as pressure and gamma sensor**

M.A. Ahmed and S.I. El-Dek

Journal : **Materials Letters 60 1437-1446 (2006)**

ISSN : 0167-577X **Impact Factor :** 1.299

Abstract :

The magnetic and electrical properties of a series of orthoferrites: R0.7Ca0.3FeO3, R=La, Dy, Y, Er and Gd, were investigated from room temperature up to about 800 K. All samples were antiferromagnetic with a weak ferromagnetic component due to small canting of the Fe3+ moments. The correlation between magnetic transition and structural distortion is discussed on the basis of the variation of the Néel temperature as a function of the tolerance factor. The ac resistivity data at different frequencies from 100 kHz to 5 MHz is presented and discussed in view of structural characterization. The effect of γ-irradiation on both ac resistivity and magnetic susceptibility is investigated. Also, the influence of mechanical pressure on the dc resistivity was studied.

Key Words :

Orthoferrite; Antiferromagnet; gamma irradiation; ac resistivity; Pressure sensor

International Publications Awards
Cairo University

Name : **Prof . Mohamed Amin Soliman**

Dep. : **Physics**

Title : **Optical properties and DC electrical conductivity of Ge28 xSe72Sb thin film**

H.M. Hosni , S.A. Fayek , S.M. El-Sayed , M. Roushdy and M.A. Soliman

Journal : **Vacuum 81 54-58 (2006)**

ISSN : 0042-207X **Impact Factor :** 0.91

Abstract :

Thin films of Ge28 xSe72Sbx (x ¼ 0, 8, 16, 24 at%) with thickness of 200 nm are prepared by thermal evaporation onto glass substrates under vacuum of 5.310 5 mbar. Optical reflectance and transmittance of these films are measured at room temperature in the light wavelength region from 200 to 1100 nm. The estimated optical energy gap, Eg, is found to decrease from 2 eV (0 at% Sb) to 1.5 eV
(24 at% Sb), whereas the band tail width, Ee, increases from 0.062 to 0.077 eV, respectively. The refractive index, n, and extinction coefficient, k, are determined as functions of wavelength. The DC electrical conductivity, s, of films is measured as a function of temperature in the range from 300 to 360 K. The extracted value of activation energy, DE, is found to decrease from 0.95 eV (0 at% Sb) to
0.74 eV (24 at% Sb). Optical and electrical behavior of films can be explained in terms of cohesive energy (CE) and Se–Se defect bonds.

Key Words :

Chalcogenide semiconductors; Thin films; Optical and electrical properties

International Publications Awards
Cairo University

Name : **Prof . Mohamed Atef Helal**

Dep. : **Mathematics**

Title : **A comparison between two different methods for solving KdV– Burgers equation**

M.A. Helal,and M.S. Mehanna

Journal : **Chaos Solitons & Fractals 28 320-326 (2006)**

ISSN : 0960-0779 **Impact Factor :** 1.937

Abstract :

This paper presents two methods for finding the soliton solutions to the nonlinear dispersive and dissipative KdV– Burgers equation. The first method is a numerical one,namely the finite differences with variable mesh. The stability of the numerical scheme is discussed. The second method is the semi-analytic Adomian decomposition method. Test exam- ple is given. A comparison between the two methods is carried out to illustrate the pertinent feature of the proposed algorithm.

Name : **Prof . Mohamed Atef Helal**

Dep. : **Mathematics**

Title : **Variational method for the nonlinear dynamics of an elliptic magnetic stagnation line**

A.H. Khater, D.K. Callebaut, M.A. Helal, and A.R. Seadawy

Journal : **European Physical Journal D 39 237-245 (2006)**

ISSN : 1434-6060 **Impact Factor :** 1.514

Abstract :

The nonlinear evolution of the kink instability of a plasma with an elliptic magnetic stagnation line is studied by means of an amplitude expansion of the ideal magnetohydrodynamic equations. Wahlberg et al. [12] have shown that, near marginal stability, the nonlinear evolution of the stability can be described in terms of a two-dimensional potential U (X, Y), where X and Y represent the amplitudes of the perturbations with positive and negative helical polarization. The potential U (X, Y) is found to be non- linearly stabilizing for all values of the polarization. In our paper a Lagrangian and an invariant variational principle for two coupled nonlinear ordinal differential equations describing the nonlinear evolution of the stagnation line instability with arbitrary polarization are given. Using a trial function in a rectangular box we find the functional integral. The general case for the two box potential can be obtained on the basis of a different ansatz where we approximate the Jost function by polynomials of order n instead of a piecewise linear function. An example for the second order is given to illustrate the general case. Some considerations concerning solar filaments and filament bands (circular or straight) are indicated as possible applications besides laboratory experiments with cusp geometry corresponding to quadripolar cusp geometries for some clouds and thunderstorms.

International Publications Awards
Cairo University

Name : Prof. Mohamed Lamei El-Mallah

Dept. : Mathematics

Title : Absolute Valued Algebras Having A Local Unit Element

Mohamed Lamei El-Mallah

Journal : Communication in Algebra 34 857-861 (2006)

ISSN : 0092-7872 **Impact Factor :** 0.303

Abstract :

Let A be an absolute valued algebra over the reals satisfying Property (I): For each $x \in A$ there exists an element $e(x) \in A$ (not necessarily an idempotent) such that $e(x)\, x = x\, e(x) = x$.

As trivial examples of A, we have R,C H and D since each of these algebras has a unit element. A more interesting example is C* since it has no unit. Consequently, H* and D* also satisfy Property (I) since the subalgebra generated by any nonzero element of these algebras is isomorphic to R or C*.

In the present article, we show that R, C*, H, H*, D, and D* are the only absolute valued algebras with an involution satisfying Property (I). We also show that if A is an inner product space or finite dimensional and e(x) is an idempotent for each $x \in A$, then A is isomorphic to R,C, H, or D.

Key Words :

Absolute valued; Algebra; Involution

Name : **Prof . Mohamed Lamei El-Mallah**

Dep. : **Mathematics**

Title : **On absolute valued algebras with involution**

Mohamed Lamei El-Mallah, Hader Elgendy, Abdellatif Rochdi, and Ángel Rodríguez Palacios

Journal : **Linear Algebra and Its Applications 414 295-303 (2006)**

ISSN : 0024-3795 **Impact Factor :** 0.589

Abstract :

Let A be an absolute valued algebra with involution, in the sense of Urbanik [K. Urbanik, Absolute valued algebras with an involution, Fund. Math. 49 (1961) 247–258]. We prove that A is finite-dimensional if and only if the algebra obtained by symmetrizing the product of A is simple, if and only if e As = As, where e denotes the unique nonzero self-adjoint idempotent of A, and As stands for the set of all skew elements of A. We determine the idempotents of A, and show that A is the linear hull of the set of its idempotents if and only if A is equal to either McClay's algebra [A.A. Albert, A note of correction, Bull. Amer. Math. Soc. 55 (1949) 1191], the para-quaternion algebra, or the para-octonion algebra. We also prove that, if A is infinite-dimensional, then it can be enlarged to an absolute valued algebra with involution having a nonzero idempotent different from the unique nonzero self-adjoint idempotent.

Key Words :

Absolute valued algebra; Involution; Normed space; Hilbert space

Name : **Prof . Mohamed Roushdy**

Dep. : **Physics**

Title : **Optical Behavior and Related Properties of the Binary Mixture 5CB/8CB Liquid Crystals**

M. Roushdy

Journal : **Mol. Cryst. Liq. Cryst 457 151-160 (2006)**

ISSN : 1542-1406 **Impact Factor :** 0.47

Abstract :

The index of refraction in the isotropic phase, n, and in the mesophase, no, for pure 5CB and 8CB liquid crystals, as well as their binary mixtures, were measured as a function of temperature. The related parameters, namely the orientational order parameter (S), relative polarizability anisotropy ((), and molecular length-to¬breadth ratio (k), were calculated and compared for the mesophase of the con¬sidered samples. The order parameter and the relative polarizability anisotropy had maximum values for the binary mixture that had a eutectic composition. The low values observed for the (k), either for pure or mixed states, suggest the arrangement of parallel molecules within the nematic phase persists in group "swarms. "

Key Words :

Binary mixtures; Index of refraction; Liquid crystals; Polarizability.

Name : **Prof . Mohamed Shoukry**

Dep. : **Chemistry**

Title : **Tripropyltin(Iv) Complexes with some Selected Bioligands in 50% V/V Dioxane/Water Mixture**

Abdul Aziz Al-NAJJAR , Mahmoud M. A. Mohamed , Mohamed R. SHEHATA and Mohamed M. Shoukry

Journal : **Annali di Chimica 96 97-107 (2006)**

ISSN : 0003-4592 **Impact Factor :** 0.40

Abstract :

The interaction of the tri-n-propyltin(IV) (TPT) with some selected bioligands having a variety of model functional groups were investigated using potentiometric technique at 25°C and 0.1 M ionic strength in 50% v/v dioxane/water mixture. TPT is hydrolyzed to give [(C3H7)3SnOH], [(C3H7)3Sn(OH)2]-, and [((C3H7)3Sn)2OH]+. Amino acids and DNA constituents form 1:1 and 1:2 complexes. Peptides form 1:1 complexes and the corresponding deprotonated amide species. The protonated complexes are formed with amino acids, peptides and some DNA constituents. The hydrolysis constants and the stepwise formation constants of the complexes formed in solution were calculated using the nonlinear least-square program MINIQUAD-75. The participation of different ligand functional groups in binding to organotin is discussed. The speciation diagrams of the various complex species were evaluated as a function of pH.

International Publications Awards
Cairo University

Name : **Prof . Mohamed Shoukry**

Dep. : **Chemistry**

Title : **Binary and Ternary Complexes of Copper(II) Invoving N,N,N',N'-tetramethylethylenediamine (Me4en) and Various Biologically Relevant Ligands**

Azza A. Shoukry ,Mahmoud M. A and Mohamed M. Shoukry

Journal : **Solution Chem 35 853-868 (2006)**

ISSN : 0095-9782 **Impact Factor :** 0.98

Abstract :

Binary and ternary complexes of copper(II) invoving N,N,N',N'-tetramethyethylenediamine (Me4en) and various biologically relevant ligands containing different functional groups are investigated. The ligands (L) used are dicarboxylic acids, amino acids, peptides and DNA unit constituents. The ternary complexes of amino acids, dicarboxylic acids or peptides are formed by simultaneous reactions. The results showed the formation of Cu(Me4en)(L) complexes with amino acids and dicarboxylic acids . The effect of chelate ring size of the dicarboxylic acid complexes on their stability constants was examined. Peptides form both Cu(Me4en)(L) complexes and the corresponding deprotonated amide species Cu(Me4en)(LH-1). The ternary complexes of copper(II) with (Me4en) and DNA are formed in a stepwise process, whereby binding of copper(II) to (Me4en) is followed by ligation of the DNA components. DNA constituents form both 1:1 and 1:2 complexes with Cu(Me4en)2+. The concentration distribution of the complexes in solution was evaluated. [Cu(Me4en)(CBDCA)] and [Cu(Me4en)(malonate)] are isolated and characterized by elemental analysis and infrared measurements.

Key Words :

Copper(II) • N,N,N ,N –tetramethylethylenediamine; Amino acids; Peptides; DNA constituents; Stability constant.

International Publications Awards
Cairo University

Name : **Prof . Mohamed Shoukry**

Dep. : **Chemistry**

Title : **Equilibrium Invesigation of Complex Formation Reactions Involving Copper(II), Nitrilo-Tris(Methyl Phosphonic Acid) and Amino Acids, Peptides or DNA Constitutents. The Kinetics, Mechanism and Correlation of Rates with Complex Stability for Metal Ion Promoted Hydrolysis of Glycine Methyl Ester.**

Ahmed A. EL-Sherif and Mohamed M. Shoukry

Journal : **Coordination Chemistry 59 No 14 1541-1556 (2006)**

ISSN : 0095-8972 **Impact Factor :** 1.00

Abstract :

The complex formation reactions of [Cu(NTP)(OH2)]4- (NTP = nitrilo-tris(methyl phosphonic acid)) with some selected bio-relevant ligands containing different functional groups, are investigated. Stoichiometry and stability constants for the complexes formed are reported . The results show that the ternary complexes are formed in a stepwise mechanism whereby NTP binds to copper(II), then followed by coordination of amino acid, peptide or DNA. Copper(II) is found to form Cu(NTP)Hn species while n = 0, 1, 2 or 3. The concentration distribution of the various complex species has been evaluated. The kinetics of base hydrolysis of glycine methyl ester in presence of copper(II)-NTP complex is studied in aqueous solution at different temperatures. It is proposed that the catalysis of GlyOMe ester occurs by attack of OH- ion on the uncoordinated carbonyl carbon atom of the ester group. Activation parameters for the base hydrolysis of the complex *Corresponding author [Cu(NTP)NH2CH2CO2Me]4- are, ΔH± = 9.5 ± 0.3 kJ mol-1 and ΔS± = -179.3 ± 0.9 J K-1 mol-1. These show that catalysis is due to a substantial lowering of ΔH±.

Key Words :

Copper (II); Nitrilo-tris(methyl phosphonic acid); Amino acids; Peptides; DNA; Amino acid ester hydrolysis

Name : **Prof . Mohamed Shoukry**

Dep. : **Chemistry**

Title : **Kinetics of Base Hydrolysis of □-Amino Acid Esters Catalyzed by the Copper(II) Complex of N,N,N',N'-Tetramethylethylenediamine (Me4en)**

Mahmoud M. A. Mohamed Azza A. Shoukry and Mohamed M. Shoukry

Journal : **International Journal of Chemical Kinetics 38 737-745 (2006)**

ISSN : 0538-8066 **Impact Factor :** 1.19

Abstract :

The kinetics of base hydrolysis of glycine-, histidine-, and methionine methyl esters in presence of [Cu-Me4en]2+ complex is studied in aqueous solutions at different temperatures, and in dioxane-water solutions of different compositions at T = 25□C, and I = 0.1 mol dm-1. The kinetic data fits assuming that the hydrolysis proceeds in one step. The activation parameters for the base hydrolysis of the complexes are evaluated

International Publications Awards
Cairo University

Name : **Prof . Mohamed Shoukry**

Dep. : **Chemistry**

Title : **Interaction of Dipropyltin(IV) with Amino Acids, Peptides, Dicarboxylic Acids and DNA Constituents**

Abdul Aziz Al-Najjar , Mahmoud M. A. Mohamed and Mohamed M. Shoukry

Journal : **Coordination Chemistry 59 193-206 (2006)**

ISSN : 0095-8972 **Impact Factor :** 1.00

Abstract :

The interaction of the dipropyltin(IV) with some selected amino acids, peptides, dicarboxylic acids or DNA constituents were investigated using potentiometric techniques. Amino acids form 1:1 and 1:2 complexes and, in some cases protonated complexes . The amino acid is bound to dipropyltin(IV) by the amino and carboxylic groups. Serine is complexed to dipropyltin(IV) and ionization of the alcoholic group is detected. A relationship exists between the acid dissociation constant of the amino acids and the formation constants of the corresponding complexes. Dicarboxylic acids form both 1:1 and 1:2 complexes. The diacids forming 5- and 6-membered chelate rings are the most stable. Peptides form complexes with stoichiometric coefficients 111(MLH), 110 (ML) and 11-1(MLH-1)(tin: peptide: H+). The mode of coordination is discussed based on the existing data and previous investigations. DNA constituents as inosine, adenosine, uracil, uridine, thymine form 1:1 and 1:2 complexes and the binding sites are assigned. Inosine 5`-monophosphate, guanosine 5`-monophosphate, adenosine 5`-monophosphate and adenine form protonated species in addition to 1:1 and 1:2 complexes. The protonation sites and tin-binding sites were elucidated. Cytosine and cytidine do not form complexes with dipropyltin(IV) due to low basicity of the donor sites.
The stepwise formation constants of the complexes formed in solution were calculated using the non linear least-square program MINIQUAD-75. The concentration distribution of the various complex species was evaluated as a function of pH.

Key Words :

Stability constant; Dipropyltin(IV); Amino acids; Peptides; Dicarboxylic acids; DNA constituents

Name : Prof. Mohga Fareed Mostafa

Dept. : Physics

Title : Phase Transition and Electric Properties of Lung Chain Cd(II) Layered Porovskites.

Mohga F. Mostafa and Arafa Hassen

Journal : Phase Transitions 97 305-321(2006)

ISSN : 141-1594 **Impact Factor :** 0.67

Abstract : 603

The new layered perovskite $[(CH_2)_{12}(NH_3)_2]CdCl_4$ material exhibits a second order phase transition at T_{1p}=376.8K (? $S_1 \cong 12.5$ JK^{-1} mol^{-1}) of the order–disorder type. The dielectric permittivity has been studied in the temperature range 300–400K and frequency range 0.1–100 kHz, on heating and cooling. The ac conductivity is thermally activated with different activation energies in the range of ionic conduction. The variation of ac conductivity with frequency follows the power law:

$$\sigma(\omega) = A_0\omega^0 + A_1\omega^{S1} + A_2\omega^{S2}, \text{ where } 0<S_1<1 \text{ and } 1<S_2<2.$$

Proton hopping and localised reorientational motion, ionic hopping of chlorine vacancies and large polarons are possible conduction mechanisms in the different temperature ranges. Comparison with other isomorphous transition metal perovskites is discussed.

Keywords:

Phase transition; Transport properties; Conduction in layered perovskites; Permittivity studies

Name : **Prof . Mostafa Hussien Kamel**

Dep. : **Geophysics**

Title : **Effective Porosity Determination in Clean/Shaly Formations from Acoustic Logs with Applications**

Mostafa H. Kamel and Mohamed M. Mohamed

Journal : **Petroleum Science and Engineering 51 267-274 (2006)**

ISSN : 0920-4105 **Impact Factor :** 0.57

Abstract :

Reliable evaluation of porosity in clean and/or shaly formations requires knowledge of matrix (type and nature), fluid, shale volume and shale transit time affecting the determination of such parameter. If all are linked together in a compatible and quantitative way, good results for porosity are obtained. However, the objective assigned to this paper is to introduce an equation for estimating effective porosity in clean/shaly formations from sonic logs. This is considered as an acoustic-Vsh model that
represents a few advantages over the other equations. In addition to being a simpler expression, it treats the shale effect as a correction term subtracted from the clean–sand term (i.e., the equation clearly points out the practical aspect of the shale effect and its correction.). Also, it gives reliable and acceptable values for porosity with Δt ranging between 70 to 110μs/ft and Δtsh from 70 to 95μs/ft (i.e., good results could be achieved with variable shale transit time). After being tested among a wide variety of samples representing different lithologies, the equation gives acceptable values of porosity with reasonable accuracy specifically where no porosity tools other than sonic logs are available. Successful application to real field data in the Gulf of Suez Basin of Egypt and Williston Basin in the USA, is also demonstrated.

Key Words :

Acoustic porosity determination; Acoustic-Vsh model; Log-derived effective porosity; Porosity–velocity–matrix relationship; Quick look approach for φS estimation; The determination of φ.

Name : **Prof . Nadia Ahmed Mohamed**

Dep. : **Chemistry**

Title : **Thermal Stability and Degradation Behavior of Novel Wholly Aromatic Azopolyamide-Hydrazides**

Refah Farhan Al-Ghamdi, Mona Mohamed Fahmiand Nadia Ahmed Mohamed

Journal : **Polymer Degradation and Stability 91 1530-1544 (2006)**

ISSN : 0141-3910 **Impact Factor :** 1.75

Abstract :

Thermal stability and degradation behavior of a series of novel wholly aromatic polyamide-hydrazides containing azo groups in their main chains have been investigated in nitrogen and in air atmospheres using differential scanning calorimetry (DSC), thermogravimetry (TG), infrared spectroscopy (IR) and elemental analysis. The influences of controlled structural variations and molecular weight on the thermal stability and degradation behavior of this series of polymers have also been studied. The structural differences were achieved by varying the content of para- and meta- substituted phenylene rings incorporated within this series. Azopolyamide-hydrazides having different molecular weights of all para- substituted phenylene type units were also examined. The polymers were prepared by a low temperature solution polycondensation reaction of p-aminosalicylic acid hydrazide [PASH] and an equimolar amount of 4, 4'-azodibenzoyl chloride [4, 4'ADBC] or 3, 3'-azodibenzoyl chloride [3, 3'ADBC] or mixtures of various molar ratios of 4, 4'ADBC and 3, 3'ADBC in anhydrous N, N-dimethyl acetamide [DMAc] containing lithium chloride as a solvent at -10 0C. All the polymers have the same structural formula except of the mode of linking phenylene units in the polymer chain. The results clearly reveal that these polymers are characterized by high thermal stability. Their weight loss occurred in three distinctive steps. The first was small and assigned to the evaporation of absorbed moisture. The second was appreciable and was attributed to the cyclodehydration reaction of the hydrazide groups into 1, 3, 4-oxadiazole rings by losing water, combined with elimination of azo groups by losing molecular nitrogen. This is not a true degradation but rather a thermo-chemical transformation reaction of the azopolyamide-hydrazides into the corresponding polyamide-1, 3, 4-oxadiazoles. The third was relatively severe and sharp, particularly in air, and corresponded to the decomposition of the resulting polyamide-1, 3, 4-oxadizoles. In both degradation atmospheres, the improved resistance to high temperatures was always associated with increased content of para- phenylene moieties of the investigated polymer. The better thermal stability of the wholly para- oriented type of polymer relative to the other polymers is attributed to its greater chain symmetry which is responsible for its greater close packing, rod-like structure and consequently stronger intermolecular bonds which would be more difficult to break and therefore more resistance to high temperatures.

Further, with exception of 160-200 0C temperature range, where the lower molecular weight samples showed considerable weight losses which were most probably due to hydrogen bonded DMAc, all the wholly para- oriented phenylene type of polymer samples behaved similarly regardless of their respective molecular weight. This seems to indicate that the structural building units responsible for high thermal stability of the polymers are their characteristics groups, such as aromatic moieties, amide and hydrazide linkages in case of azopolyamide-hydrazides, and 1, 3, 4-oxadiazole rings, aromatic nuclei and amide linking bonds in case of polyamide-1, 3, 4-oxadiazoles, rather than the longer chain segments.

Key Words :

Azopolyamide-hydrazides; Thermal and thermo-oxidative stability; Differential scanning calorimetry; Thermogravimetric analysis; Polyamide-1, 3, 4-oxadiazoles.

International Publications Awards
Cairo University

Name : **Prof . Naser Hassan Sweilam**

Dep. : **Mathematics**

Title : **A Posteriori Error Estimates for Adaptive Finite Element Discretizations of Boundary Control Problems**

R. H.W.Hoppe , Y. Iliash , C. Iyyunni and N. H. Sweilam

Journal : **Numerische Mathematik 14 57-82 (2006)**

ISSN : 0029-599X **Impact Factor :** 1.22

Abstract :

We are concerned with an a posteriori error analysis of adaptive finite element approximations of boundary control problems for second order elliptic boundary value problems under bilateral bound constraints on the control which acts through a Neumann type boundary condition. In particular, the analysis of the errors in the state, the co-state, the control, and the co-control invokes an efficient and reliable residual-type a posteriori error estimator as well as data oscillations. The proof of the efficiency and reliability is done without any regularity assumption. Adaptive mesh refinement is realized on the basis of a bulk criterion. The performance of the adaptive finite element approximation is illustrated by a detailed documentation of numerical results for selected test problems.

Key Words :

A Posteriori error analysis; Boundary control problems; Control constraints; Adaptive finite ;Element methods; Residual-type A posteriori error estimators; Data oscillations.

International Publications Awards
Cairo University

Name : **Prof . Rafeea Hasan Abu-Eittah**

Dep. : **Chemistry**

Title : **Kinetics and thermodynamic parameters of the thermal decomposition of bis(imipraminium)tetrachlorocuprate, bis(imipraminium)tetrachloromercurate and imipraminium reineckate**

R.H. Abu-Eittah , N.G. ZaKi, M.M.A. Mohamed and L.T. Kamel

Journal : **Anal. Appl. Pyrolysis 77 1–11 (2006)**

ISSN : 0165-2370 **Impact Factor :** 1.265

Abstract :

The complex ion-pairs of imipraminium ion with CuCl4 2-, HgCl4 2- and [Cr(NH3)2(SCN)4] have been prepared, identified and thermally analysed. The structure of the complex ion-pair has been proved by X-ray diffraction of a single crystal. The complex ion-pairs are bis(imipraminium)tetrachlorocuprate(II), bis(imipraminium)tetrachloromercurate(II) and imipraminium reineckate. Non-isothermal and isothermal decompositions of the above ion-pairs have been studied and the results were statistically analyzed. The thermal decomposition reaction of each ion-pair is shown to be a two-steps reaction and each step is a first-order reaction. The kinetic parameters: activation energy, Ea, and the pre-exponential term, A, were calculated for each step of the reaction. The theory of activated complex has been applied to each step of the reaction and the thermodynamic functions DH6¼, DG6¼ and DS 6¼ are calculated. A stiff and rigid activated complex (transition state) led to a lower degrees of freedom of rotation and vibration and hence to a negative value of DS 6¼ is obtained
which means the formation of a stiff and rigid activated complex (transition state) with fewer degrees of freedom of rotation and of ibration.
The thermal stability of the studied complexes varies in the order: imipraminium reineckate bis(imipraminium)tetrachloromercurate(II) > bis(imipraminium)tetrachlorocuprate(II).

International Publications Awards
Cairo University

Name : **Prof . Rafeea Hasan Abu-Eittah**

Dep. : **Chemistry**

Title : **Theoretical Investigation of the Decomposition of Acyl Azides: Molecular Orbital Treatment**

Rafie H. Abu-Eittah, Adel A. Mohamed and Ahmed M. Al-Omar

Journal : **Hyle 106 863-875 (2006)**

ISSN : 1433-5158 **Impact Factor :** 1.240

Abstract :

The thermal decomposition of formyl, acetyl, and benzoyl azides to the corresponding isocyanate and nitrogen has been treated theoretically using ab initio molecular orbital calculations at the Møller–Plesset type 2 (MP2)(full)/6-31G* level. The reaction is stimulated by elongation of NON bond and is followed until the formation of the isocyanate and expulsion of nitrogen. The decomposition of formyl azide proved to be a concerted one-step reaction without the formation of a nitrene intermediate. In contrast, the conversion of both acetyl and benzoyl azides to the corresponding isocyanate and nitrogen is a two-step reaction, and a nitrene intermediate is formed. One transition state is located and identified during the course of the conversion of formyl azide, but two transition states are located and identified during the course of the conversion of acetyl and benzoyl azides. The thermodynamic functions, Er and Hr , of the studied reactions are calculated. The results predict that the ease of conversion of the acyl azide to the isocyanate and nitrogen goes in the order: formyl
azide acetyl azide benzoyl azide .

Key Words :

Curtius rearrangement; MO calculations of acylazide decomposition; nitrene intermediate; concerted and stepwise mechanism

Name : **Prof . Rashika El Ridi**

Dep. : **Zoology**

Title : **Equilibrium in Lung Schistosomula Sphingomyelin Breakdown and Biosynthesis Allows Very Small Molecules, But Not Antibody, to Access Proteins at The Host–Parasite Interface**

Rashika El Ridi and Hatem Tallima

Journal : **Galley 92(4) 730-737 (2006)**

ISSN : 0022-3395 **Impact Factor :** 1.524

Abstract :

The mechanism by which lung-stage schistosomula expose proteins at the host–parasite interface to nutrient, but not antibody, uptake has been obscure. We have found that Schistosoma mansoni and Schistosoma haematobium larvae emerging from host lung at a pH of around 7.5, and fixed with diluted formaldehyde (HCHO), readily bind specific antibodies in indirect membrane immunofluorescence. Data on inhibitors and activators of parasite tegument-bound, magnesium-dependent, neutral sphingomyelinase (nSMase), and sphingomyelin biosynthesis inhibitors revealed that equilibrium in schistosomular sphingomyelin breakdown and biosynthesis prevents antibody binding, yet permits access of small HO-CH2-OH polymers to interact with and cross-link proteins at the host–parasite interface, allowing for their serological visualization.

Name : **Prof . Rashika El Ridi**

Dep. : **Zoology**

Title : **Impact of interleukin-1 and interleukin-6 in murine primary schistosomiasis**

Rashika El Ridi , Amal Wagih , Rabab Salem , Noha Mahana , Maha El Demellawy and Hatem Tallima

Journal : **International Immunopharmacology 6 1100–1108 (2006)**

ISSN : 1567-5769 **Impact Factor :** 2.008

Abstract :

Background: Immunization with schistosome antigens invariably elicits a plethora of cytokines and, hence, it is reasonable to assume that these cytokines influence host responses to challenge lung-stage larvae and, consequently, the adult worm burden, and may be responsible for the erratic data generally observed in protection studies against schistosome infection. Methods: Schistosoma mansoni-infected mice were administered with recombinant interleukin (IL)-1β or IL-6 to evaluate the impact of cytokines in host responses to lung-stage schistosomula, and subsequent effects on adult worm parameters. Plasma lipid levels were assayed by colorimetric enzymatic tests and antibody responses by ELISA. Cytokine profile in peripheral blood mononuclear cells was evaluated by RT-PCR. Results: S. mansoni infection elicited, at the time of parasite residency in the lung, significant increase in free fatty acids (FA) and decrease in cholesterol plasma levels in C57BL/6 and CD1 mice, and stimulation of mRNA expression for cytokines of T helper type (Th) 2 in BALB/c, Th1 in C57BL/6, and Th1/Th2 in CD1 mice. However, no specific antibody production was evident in any mouse strain. In BALB/c mice, exogenous IL-1β-related plasma free FA level significant increase, stimulation of expression of IL-1 and IL-12 mRNA, and considerable increase in percent of specific antibody-producing mice were associated with significant reduction in adult worm burden and egg load. In contrast, exogenous IL-1β elicited decrease in free FA plasma levels, and downregulation of cytokines' mRNA expression in C57BL/6 and CD1 mice, changes associated with aggravation of the worm burden. Likewise, exogenous IL-6 failed to stimulate increase in plasma free FA levels or percent of antibody-producing mice except in BALB/c mice, effects that were protective for the host in BALB/c and for the parasite in C57BL/6 and CD1 mice. Conclusion: These findings were discussed in relation to the erratic data of protection experiments with schistosome subunit antigens in different mouse strains.

Key Words :

IL-1β; IL-6; Lung-stage schistosomula; Plasma lipids; RT-PCR; Schistosoma mansoni

Name : **Prof . Rashika El Ridi**

Dep. : **Zoology**

Title : **Influence of interleukin-2 and interferon-gamma in murine schistosomiasis**

Rashika El Ridi , Rabab Salem , Amal Wagih , Noha Mahana , Maha El Demellawy and Hatem Tallima

Journal : **Cytokine 33 281-288 (2006)**

ISSN : 1043-4666 **Impact Factor :** 2.012

Abstract :

Schistosoma mansoni-infected mice were administered at the time of parasite residency in the lung with recombinant murine interleukin (IL)-2 or interferon-gamma (IFN-g), to evaluate the impact of cytokines in host responses to primary schistosomiasis. S. mansoni lung-stage schis- tosomula did not affect plasma lipids levels in BALB/c, while elicited significant ($p < 0.05$) increase in free fatty acids (FA) and decrease in cholesterol plasma levels in C57BL/6 and CD1 mice, and stimulated expression of mRNA for Th2 cytokines in BALB/c and Th1 cytokines in C57BL/6 and CD1 mice. Production of specific antibodies was negligible in the 3 strains. Interleukin-2 treatment elicited significant ($p < 0.001$) decrease in triglycerides (TG) in CD1, and decrease in TG and cholesterol plasma levels and down-regulation of TNF-a mRNA expression in C57BL/6 mice. Induction of type 2 cytokines and/or IFN-g mRNA expression did not lead to increase in percentage of specific antibody re- sponders in any mouse strain. Exogenous IL-2-related reduction in cholesterol plasma levels and TNF-a mRNA expression in C57BL/6 mice was associated with significant ($p < 0.05$) decrease in adult worm recovery and egg count. Treatment with IFN-g elicited significant ($p < 0.05$) free FA plasma levels increase in BALB/c and C57BL/6 and decrease in CD1 mice. Expression of type 2 cytokines mRNA was stim- ulated in BALB/c and CD1 mice, yet was not accompanied with increase in humoral responses. Exogenous IFN-g-related reduction in free FA plasma levels and IFN-g mRNA response, and up-regulation of TNF-a mRNA expression in CD1 mice were associated with significant increase in adult worm burden and egg load. The data were discussed in an attempt to define host factors predictive of resistance to schistosome infection

Key Words :

Interferon-gamma; Interleukin-2; Lung-stage schistosomula; Plasma lipids; Schistosoma mansoni

Name : **Prof . Rifaat Hilal**

Dep. : **Chemistry**

Title : **Electronic structure of orotic acid III geometric feature and thermal properties of some transition metal orotic acid Complexes**

Rifaat Hilal, Z.M. Zaky and Shabaan A.K. Elroby

Journal : **Spectrochim Acta Part A 63 A 740-748 (2006)**

ISSN : 1386-1425 **Impact Factor :** 1.289

Abstract :

The complexes or orotic acid with Co(ll), Ni(II), Fe(III), Cu(II), and Cd(II) were prepared and their stoichiometry were determined by elemental analysis. Co([l) and Ni(II) give complexes with orotic acid of I: I ratio whereas that of the remaining transition metals give complexes of 1:2 ratio. The stereochemistry of the studied metal complexes has becn establishcd by analyses of their electronic spectra and magnetic susceptibilities. The mode of bonding in the studied series of metal complexes was established via, analysis of their infrared spectra. The present analysis leads to the conclusion that all metal ions studied coordinate to orotic acid via Nt and the adjacent carboxyl ate group'. Thermal ckcomposition studies of orotic acid complexes have been carried out as to understand the status of water molecules present in these complexes as well as to know their general decomposition pattern. Theoretical investigation of the electronic structure of the studied metal complexes has been carried out. MO computations at the HF-Level were performed. Charge density distribution, extent of distortion from regular geometry, dipole moment, and orientation were computed and discussed.

Key Words :

Orotic and; Metal complexes; MO computations; IR; Thermal analysis; Reflectance spectra

International Publications Awards
Cairo University

Name : **Prof . Saeed Ahmed Soliman Ghozlan**

Dep. : **Chemistry**

Title : **Studies with 2-arylhydrazononitriles: a new convenient synthesis of 2, 4-disubstituted- 1,2,3-triazole-5-amines**

Said Ahmed Soliman Ghozlan , Ismail Abdelshafy Abdelhamid , Hamada Mohamed Ibrahim and Mohamed Hilmy Elnagdi

Journal : **Arkivoc xv 53-60 (2006)**

ISSN : 1424-6376 **Impact Factor :** 0.69

Abstract :

A new simple and efficient approach to 2,4-disubstituted 1,2,3-triazoles-5-amines from the reaction of 2-arylhydrazononitriles and hydroxylamine is described. Investigation of behavior of 3-phenyl-3oxo-2 arylhydrazonopropane nitriles has been undertaken. In addition to readily reported formation of aminoisoxazoles, 4-benzoyl-1-aryl-1,2,3-triazole-5-amines 5f,g were prepared via cyclising products of reacting 2f,g with hydroxylamine in basic medium.

Key Words :

Hydrazononitriles; 1,2,3-triazoles; aminoisoxazoles

Name : **Prof . Saeed Ahmed Soliman Ghozlan**

Dep. : **Chemistry**

Title : **Functionally substituted arylhydrazones as building blocks in heterocyclic synthesis: routes to pyridazines and pyridazinoquinazolines**

Said Ahmed Soliman Ghozlan, Ismail Abdelshafy Abdelhamid, and Mohamed Hilmy Elnagdi

Journal : **Arkivoc xiii 147-157 (2006)**

ISSN : 1424-6376 **Impact Factor :** 0.69

Abstract :

The arylhydrazones 2a-c were prepared via coupling acetoacetic acid with aromatic diazonium salts. These arylhydrazones condensed with ethyl cyanoacetate and malononitrile to yield the acyclic product 4 which cyclised only after long reflux into the pyridazines 5 or 6,11- d ihydropyridazino[1,6-a]quinazoline-4-carbonitrile 6 depending on the nature of substituent on the aryl moiety. Compound 2b and 2c reacted with α,β-unsaturatednitriles 7 to yield the pyridazinoquinazoline 13 and 16 respectively.

Key Words :

Azaenamines, pyridazines, pyridazinoquinazolines

International Publications Awards
Cairo University

Name : **Prof . Sayed Mohamed Riyadh**

Dep. : **Chemistry**

Title : **A Novel Route to Tetracyclic Fused Tetrazines and Thiadiazines**

Ikhlass M. Abbas, Sayed M. Riyadh, Magda A. Abdallah and Sobhy M. Gomha

Journal : **Heterocyclic Chem 43 935-943 (2006)**

ISSN : 0022-152X **Impact Factor :** 0.74

Abstract :

The reaction between 3-amino-2,3-dihydro-7,9-dimethyl-2-thioxo-pyrido[3`,2`:4, 5]thieno[3,2-d]pyrimidin-4(1H)-one 4 or its 2-methylthio derivative 5 with hydrazonoyl halides 6 in dioxane in the presence of triethylamine under reflux has followed heterocyclization reaction to yield pyrido[3``,2``:4`,5`]thieno[3`,2`:4,5] pyrimido[2,1-c][1,2,4,5] tetrazin-6(4H)-ones 9. On the other hand, reaction of compound 4 with hydrazonoyl halides 6 in sodium ethoxide at room temperature led to formation of hydrazonothioate compounds 10. The latter on treatment with glacial acetic acid produced tetracyclic compounds, namely 2-arylhydrazonopyrid o[3``,2``:4`,5`]thieno[3`,2`:4,5]pyrimido[2,1-b][1,3,4] thiadiazinones 11. An alternative method was carried out to prove the structure of product 11. The mechanism of the reaction under study was proposed and the products were screened for their biological activity.

Name : **Prof . Shahinaz Mostafa Yousef**

Dep. : **Astronomy**

Title : **80–120 yr Long-term solar induced effects on the earth, past and predictions**

Shahinaz Moustafa Yousef

Journal : **Physics and Chemistry of the Earth 31 113–122 (2006)**

ISSN : 1474-7065 **Impact Factor :** 0.993

Abstract :

The 80–120 year solar Wolf-Gleissberg cycles have wide effects on the Earth's environment. Studying past effects can throw light on future predictions of solar terrestrial relations at similar solar activity levels. Solar induced climate changes do happen at the turning points of such cycles when changes in solar spin rates occur. Reversing of North Atlantic Oscillations can be interpreted in terms of solar stimuli. The sudden abrupt rises of lakes levels and closed seas are solar forced. It is anticipated that the Aral and the Dead Sea will recover in the near future. Following drought conditions in African Equatorial lakes by the end of cycle 23 around 2008 ± 2 yr, cyclic rises and falls of lakes level are expected to be coherent with the weak cycles 24 to perhaps 26 when solar forcings will reverse or cease toexist.
The Atlanto Canadian fish disappearance dilemma is a natural Wolf-Gleissberg cycle induced effect and is expected to recover in due time.

Key Words :

Wolf-Gleissberg cycles; NAO; Lakes levels; Fish disappearance; El nino

International Publications Awards
Cairo University

Name : **Prof . Shrief Hanafy**

Dep. : **Geophysics**

Title : **Ground-Penetrating Radar Tomography for Soil-Moisture Heterogeneity**

S. Hanafy and S. A. al Hagrey

Journal : **Geophysics 11 No 1 Kg-K18 (2006)**

ISSN : 0016-8033 **Impact Factor :** 1.03

Abstract :

Many ground-penetrating radar (GPR) studies incor- porate tomographic methods that use straight raypaths for direct model reconstruction, which is unrealistic for media with gradually changing petrophysics. Ray-bending algorithms can sometimes lead to unreliable resolution, especially at interfaces of abrupt dielectric changes. We present an improved GPR tomography technique based on a combination of seismic tomographic methods and a finite-difference solution of the eikonal equation. Our in- version algorithm uses velocity gradient zones and bending rays that represent realistic geology in the subsurface. We tested the technique on theoretical and experimental mod- els with anomalous bodies of varying saturations and veloc- ity and applied it to data from a GPR field experiment that analyzed the root zones of trees. Synthetic results showed that the resolution of our technique is better than that of published methods, especially for local anomalies with sharp velocity contacts. Our laboratory experiments con- sisted of four objects buried in sand with various water saturations. The GPR tomogram could map the objects and determine their degree of saturation. The velocities are compatible with those of the complex refraction index method; their relationship to the water content fits a pre- viously published empirical equation. Our original field experiment around a poplar tree could map the hetero- geneous subsurface and distinguish a central low velocity beneath the tree from the peripheral negative anomaly of a refill. This zone reflects the whole root zone and is caused by its bulk water content of both the organic root network and its surrounding soils

Name : **Prof . Waheed Badawy**

Dep. : **Chemistry**

Title : **Electrochemical Behavior of Copper–Nickel Alloys in Acidic Chloride Solutions**

Khaled M. Ismail , Ahlam M. Fathi and Waheed A. Badawy

Journal : **Corrosion Science 48 1912-1925 (2006)**

ISSN : 0010-938X **Impact Factor :** 1.92

Abstract :

The electrochemical behavior of Cu–Ni alloys in acidic chloride medium was investigated. Commercial Cu–Ni alloys were investigated using potentiodynamic techniques, complemented by electrochemical impedance spectroscopy. The influence of alloy composition, chloride ion concentration and immersion time on the electrochemical response of the alloys was analyzed. Results of present investigations with pure metals (Cu and Ni) are also considered in this paper for the sake of comparison. Potentiodynamic measurements reveal that the increase in nickel content decreases the corrosion rate of the alloy and when the nickel content exceeds 30%, an increase in the corrosion rate was recorded. Also, the corrosion current density increases with increasing the concentration of chloride ions up to 0.6 M. The experimental impedance data were fitted to an equivalent circuit model representing the electrode/electrolyte interface. The relevance of the proposed model to the corrosion/passivation phenomena occurring at the electrode/solution interface was discussed.

Key Words :

A. Copper; A. Nickel; B. EIS; B. Polarization; C. Acid corrosion.

International Publications Awards
Cairo University

Name : **Prof . Waheed Badawy**

Dep. : **Chemistry**

Title : **Corrosion control of Cu–Ni alloys in neutral chloride solutions by amino acids**

Waheed A. Badawy ; Khaled M. Ismail and Ahlam M. Fathi

Journal : **Electrochimica ACTA 51 4182-4189 (2006)**

ISSN : 0013-4686 **Impact Factor :** 2.45

Abstract :

The corrosion inhibition of Cu–Ni alloys was investigated in aqueous chloride solutions using amino acids as environmentally safe materials. The corrosion rate was calculated in absence and presence of the corrosion inhibitor using polarization and impedance techniques. The inhibition efficiency of the different amino acids was also calculated. The experimental results have shown that a simple amino acid like glycine can be used as efficient corrosion inhibitor for the Cu–Ni alloys in neutral chloride solutions. An inhibition efficiency of about 85% could be achieved at very low concentrations of the amino acid (0.1 mM). For low Ni content alloy (Cu–5Ni), 2.0mM cysteine shows a remarkable high (~96%) corrosion inhibition efficiency. The experimental impedance data were fitted to theoretical data according to a proposed equivalent circuit model for the electrode/electrolyte interface, and the mechanism of the corrosion inhibition process was suggested. Different adsorption isotherms were tested and the corrosion inhibition process was found to depend on the adsorption of the amino acid molecules and/or the deposition of corrosion products on the alloy surface. The adsorption free energy of cysteine on Cu–5Ni (−37.81 kJ mol−1) reveals a strong physical adsorption of the inhibitor on the alloy surface.

Key Words :

Amino acids; Corrosion; Copper–nickel alloys; Impedance; Inhibition; Polarization.

International Publications Awards
Cairo University

Name : **Prof . Waheed Badawy**

Dep. : **Chemistry**

Title : **Optimization of the electropolymerization of 1-amino- 9,10-anthraquinone conducting films from aqueous media**

Waheed A. Badawy, Khaled M. Ismail and Shymaa S. Medany

Journal : **Electrochimica Acta 51 6353-6360 (2006)**

ISSN : 0013-4686 **Impact Factor :** 2.45

Abstract :

The optimum conditions for the electrochemical preparation of poly(1-amino-9,10-anthraquinone), PAAQ, films in environmentally safe aqueous solutions were investigated. The conducting polymer films were prepared by electrochemical oxidation of 1-amino-9,10-anthraquinone, AAQ, in sulfuric acid solutions in the potential range from 0.0 to +1.3V. The influence of scan repetition, scan rate, and monomer concentration on the formation process and the properties of the polymer film were studied. The electrochemical response of the formed polymer film was investigated in both aqueous and non-aqueous media. The polymer films were found to be stable in aqueous acidic media. In non-aqueous solutions, like acetonitrile, dimethyl sulfoxide and dioxin, the polymer films showed remarkable degradation. The best electrochemical response of the PAAQ films was found to be in the potential range between +0.3 and +0.9V. The presence of quinone units in the polymer film chain suggests promising applications of these conducting polymers in lightweight (rechargeable) batteries, electrochromic display devices, and biosensor and corrosionprotection.

Key Words :

1-Amino-9,10-Anthraquinone; Conducting polymers; Electropolymerization; Electrocatalysis; Sulfuric acid

International Publications Awards
Cairo University

Name : **Prof . Walaa Mohamed Seif**

Dep. : **Physics**

Title : **The fusion cross section and energy dependence of the potential radius**

W. M. Seif

Journal : **Nuclear Physics A 767 92-111 (2006)**

ISSN : 0375-9474 **Impact Factor :** 1.95

Abstract :

Focusing on the fusion reactions, the variation of the ion–ion potential with energy through its radius is studied. A new formula for the energy dependence of the potential radius at low and intermediate energy is proposed. This formula led to improved agreement between the fusion calculations and experimental data for spherical nuclei. It also accounts well for the scattering data over wide energy range. The same formula is applied successfully for the interactions including deformed nuclei as well. The anomaly of the large surface diffuseness required to the fusion cross section calculations disappeared when the energy dependence of the potential radius is considered.

Name : **Prof . Walaa Mohamed Seif**

Dep. : **Physics**

Title : **Alpha Decay as a Probe of Nuclear Incompressibility**

W. M. Seif

Journal : **Physical Review C 74(3) 034302-1:10 (2006)**

ISSN : 0556-2813 **Impact Factor :** 3.61

Abstract :

This study is centered on probing of the nuclear matter incompressibility. The calculations are employed in the framework of the superasymmetric fission model of α-decay, for 182 radioactive nuclei including the recent produced isotopes of superheavy elements, to probe the nuclear incompressibility and its isospin dependence through the used effective density dependent nucleon-nucleon force. The microscopic α-daughter nuclear interaction potential is calculated by double folding the density distributions of both α and daughter nuclei with a realistic effective density dependent M3Y force that modified to consider the effect of incompressibility in the case of total overlapped densities inside the barrier. The microscopic Coulomb potential is calculated by folding the charge density distributions of the two interacting nuclei. The minimum angular momentum transfer required for the spin-parity conservation is considered. The half-lives of the different α-decays have been calculated within the WKB approximation. The obtained values for the nuclear matter incompressibility are ranged between 205 MeV and 255 MeV for the most studied cases which have isospin asymmetry range , =0.033 to 0.228. For the same isospin asymmetry, the incompressibility values of the even N-even Z nuclei are found to be the higher while those of the odd N-odd Z nuclei are the lower. The estimated symmetric nuclear matter incompressibility deduced from the results obtained for different asymmetric nuclei is MeV.

Faculty of Medicine

Name : **Prof . Abdel Magid Kassem**

Dep. : **Endemic Diseases**

Title : **Argon plasma ablation of gastric inlet patches in the cervical esophagus may alleviate globus sensation: a pilot trial.**

Meining A, Bajbouj M, Preeg M, Reichenberger J, Kassem AM, Huber W, Brockmeyer SJ, Hannig C, Höfler H, Prinz C, Schmid RM

Journal : **Endoscopy. 6 566-70 (2006)**

ISSN : 0013-726X **Impact Factor :** 4.07

Abstract :

Globus sensation and/or sore throat have been associated with both gastroesophageal reflux disease and the presence of a gastric inlet patch. There have been no reports, however, on whether ablation of heterotopic mucosa in the cervical esophagus leads to improvement of chronic globus sensation. PATIENTS AND METHODS: Ten patients with a histologically proved gastric inlet patch who complained of chronic globus sensation and/or sore throat were included in this prospective pilot study. After a thorough assessment, including videofluoroscopy, laryngoscopy, manometry, and 24-hour two-channel pH monitoring, patients underwent argon plasma coagulation (APC) to ablate the heterotopic mucosa. A questionnaire with a visual analog scale ranging from 0 to 10 was used for assessment of globus sensation, sore throat, and other typical or atypical reflux symptoms. Follow-up examinations (including symptom assessment) were performed 4 weeks and 8 weeks after APC therapy. RESULTS: Ablation of the gastric inlet patch resulted in a significant reduction of median symptom scores for globus sensation (from 2.7 to 0) and sore throat (from 2.8 to 0) 8 weeks after therapy ($P < 0.05$), but there was no improvement in other reflux-related symptoms. Acid reflux in the distal and proximal esophagus, determined by two-channel pH monitoring, did not change after therapy. CONCLUSIONS: Our preliminary data suggest that ablation of gastric inlet patches by APC can alleviate chronic globus sensation or sore throat. Acid reflux or its treatment is unlikely to influence these results. A randomized and blinded study is warranted.

Name : **Prof . Abdel Magid Kassem**

Dep. : **Endemic Diseases**

Title : **Argon Plasma Ablation of Gastric Inlet Patches in the Cervical Esophagus may Alleviate Globus Sensation: A Pilot Trial**

A. Meining, M. Bajbouj, M. preeg, J. Reichenberger, A. M. Kassem, W. Huber , S. J. Brockmeyer, C. Hannig, H. Hofler, C. Prinz, and R. M. Schmid

Journal : **Endoscopy 38 (6) 566-570 (2006)**

ISSN : 0013-726X **Impact Factor :** 4.07

Abstract :

Our preliminary data suggest that ablation of gastric inlet patches by APC can alleviate chronic globus sensation or , sore throat. Acid reflux or its treatment is unlikely to influence these results. A randomized and blinded study is warranted.

Name : **Prof . Abdel Rahman El-Nashaar**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Incidence of erectile dysfunction in 800 hypertensive patients: a multicenter Egyptian national study.**

Mittawae B, El-Nashaar AR, Fouda A, Magdy M, Shamloul R

Journal : **Urology 3 575-8 (2006)**

ISSN : 0090-4295 **Impact Factor :** 2.14

Abstract :

To evaluate the incidence of erectile dysfunction (ED), its severity, and other sexual function domains in 800 Egyptian patients with hypertension. METHODS: All patients completed a detailed questionnaire addressing their general medical history, with special emphasis on hypertension (ie, duration of hypertension, type of antihypertensive treatment, compliance, and presence of any complications). Sexual function was evaluated with the International Index of Erectile Function. RESULTS: The mean +/- SD patient age was 59.2 +/- 2.3 years (range 28 to 75). Of the 800 patients, 739 (92.3%) had regular sexual activity (one to two times per week) and 346 (43.2%) had ED. Of the 346 men, 40 (5%), 96 (12%), and 210 (26.2%) had mild, moderate, and severe ED, respectively. A highly statistically significant correlation was found between the duration of hypertension and the duration of weak erections. Only 41 patients (12%) with ED reported receiving erectogenic drug therapy. CONCLUSIONS: Our results have shown a greater prevalence of ED in the Egyptian hypertensive population. The presence of another risk factor in addition to elevated blood pressure can increase the incidence of ED further.

International Publications Awards
Cairo University

Name : **Prof . Abdel Rahman El-Nashaar**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Antibiotic treatment can delay ejaculation in patients with premature ejaculation and chronic bacterial prostatitis.**

El-Nashaar A, Shamloul R

Journal : **Sex Med 2 491-6 (2006)**

ISSN : 1743-6095 **Impact Factor :** 4.67

Abstract :

INTRODUCTION: Premature ejaculation (PE) is regarded as the most common male sexual disorder. Previous studies reported that prostatic inflammation was highly prevalent in PE. However, the effect of antibiotic treatment of cases with PE and chronic prostatitis has not been extensively investigated. AIM: To examine the effect of antibiotic treatment in delaying ejaculation in patients with PE and chronic prostatitis. METHODS: A total of 145 consecutive men attending of secondary premature ejaculation (SPE) were included in this study. Sequential microbiologic specimens were obtained from urine and prostatic fluid. Antibiotics were given for 1 month according to the results of their culture and sensitivity test. All patients were instructed to follow up with our clinic monthly for at least 4 months. At the end of the 4-month follow-up, another prostatic secretion analysis was performed. RESULTS: Based on expressed prostatic secretion culture and white blood cell (WBC) count, 94 (64.8%) were having chronic bacterial prostatitis. The remaining 51 (35.2%) patients had negative WBC count. Of the 94 patients with SPE and chronic bacterial prostatitis, 20 patients were left untreated and considered as a control group. All 74 patients with PE and chronic prostatitis continued the 1-month treatment duration. Following 1-month antibiotic treatment, all 74 patients with initially positive cultures had sterile final cultures ($P < 0.05$). Sixty-two (83.9%) patients showed increases in their ejaculatory latency time and reported good control of their ejaculation and were considered treatment responsive. None of the control group patients experienced any improvement either in their prostatic infection condition or in their ejaculation time. The follow-up of treatment-responsive patients ($N = 62$) revealed no recurrence of PE with negative prostatic culture. CONCLUSIONS: Successful eradication of causative organisms in patients with PE and chronic prostatitis may lead to marked improvement in intravaginal ejaculatory latency time and ejaculatory control.

International Publications Awards
Cairo University

Name : **Prof . Abdel Rahman El-Nashaar**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Validity and Reliability of the Arabic Version of the National Institutes of Health Chronic Prostatitis Symptom Index**

AbdelRahman El-Nashaar , Ahmad Fathy , Ashraf Zeedan , Amr Al-Ahwany and Rany Shamloul

Journal : **Urologia Internationalis 77 227-231 (2006)**

ISSN : 0042-1138 **Impact Factor :** 0.58

Abstract :

Introduction: In order to accurately assess the extent of chronic pelvic pain syndrome (CPPS) and to objectively measure symptoms for natural history studies and to assess the outcome parameters for clinical trials, the National Institutes of Health (NIH) Chronic Prostatitis Collaborative Research Network developed and validated the NIH Chronic Prostatitis Symptom Index (NIH-CPSI). The aim of the current study was to develop and validate a fluent and comprehensive Arabic version of the NIH-CPSI. Methods: This study consisted of 80 consecutive male patients affected by CPPS and 80 healthy controls who were asked to complete the Arabic version of the NIH-CPSI. The translation was performed by a group consisting of an andrologist and professional translators. Psychometric data were collected. Results: Of the 160 subjects enrolled, 82 (50 patients and 32 controls) completed the study. The total Arabic NIH-CPSI scores and the scores of each subscale differed significantly between the two groups with good discriminant validity. The questionnaire had also a high internal consistency. Conclusion: The present study provides the Arabic version of the NIH-CPSI and recognizes it as a valid and reliable tool in the assessment of local patients with CPPS.

Key Words :

Prostatitis ; Chronic Prostatitis Symptom Index ; Chronic pelvic pain

Name : **Prof . Adel Wilson**

Dep. : **General Surgery**

Title : **Use of botulinum toxin type A to prevent widening of facial scars.**

Wilson AM.

Journal : **Plast Reconstr Surg 6 1758-66 (2006)**

ISSN : 0032-1052 **Impact Factor :** 1.69

Abstract :

Wounds of the face, especially those lying perpendicular to the lines of Langer, are known to heal poorly with conspicuous scarring. Different methods have been tried to tackle this problem, including corticosteroid injections, irradiation, ultrasound, silicone applications, and many others. However, as expected, their effects were far from satisfactory, because they do nothing to alleviate the underlying pathologic process, which is the distracting effect of muscle pull on immature collagen. METHODS: In 40 patients with ugly scars of the face, botulinum toxin was used to induce temporary paralysis of the muscles during revision surgery, thus minimizing tension on healing wound edges until the collagen could mature. RESULTS: Using both objective and subjective assessment scales, 90 percent of patients ended up with an improved outcome. This new technique has been proven effective in primates and in this study was shown to be as effective in humans, yielding results superior to those of any other treatment modality. CONCLUSION: In view of the results of this study, it is considered worthwhile to offer patients with ugly scars of the face botulinum toxin injections simultaneous with revision surgery.

Name : **Prof . Ahmed Atef**

Dep. : **The Ear , Nose and Throat**

Title : **Bipolar Radiofrequency Volumetric Tissue Reduction of Inferior Turbinate: Does the Number of Treatment Sessions Influence the Final Outcome?**

Ahmed Atef, M.D., Mohamed Mosleh, M.D., Hossam El Bosraty, M.D., Gamal Abd El Fatah, M.D., and Ahmed Fathi, M.D. (Egypt)

Journal : **American Journal of Rhinology 25-31 (2006)**

ISSN : 1050-6586 **Impact Factor :** 1.16

Abstract :

Background: The aim of this study was to determine if the number of treatment sessions has an influence on the final intermediate term results of submucosal bipolar radiofrequency volumetric tissue reduction of the inferior turbinate.
Methods: One hundred two patients were enrolled in this study prospectively. The procedure was done using the Coblation (Arthrocare Corp., Sunnyvale, CA). The assessment was done using the 10-cm visual analog scale and acoustic rhinometry. Surgical procedures and pre- and postoperative assessments were done at the Faculty of Medicine, Cairo University. Results: Eighty eight percent of our study population achieved final relief of their nasal obstruction, and at least three sessions were needed to maintain the favorable outcome at 1-year follow up.
Conclusion: Increasing the number of bipolar radiofrequency volumetric tissue reduction treatment sessions was associated with better intermediate-term outcome. This was confirmed using subjective and objective methodology.

Name : **Prof . Ahmed Ateya**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Evaluation of Prostatic Massage in Treatment of Chronic Prostatitis**

Ahmad Ateya, Ashraf Fayez, Ragab Hani, Wael Zohdy, Mohammad A. Gabbar, and Rany Shamloul

Journal : **Urology 67 674-678 (2006)**

ISSN : 0090-4295 **Impact Factor :** 2.14

Abstract :

Objectives. To evaluate the efficacy of regular prostatic massage in combination with culture-specific antibiotic therapy for men with chronic prostatitis.
Methods. This study included 81 consecutive patients who attended our outpatient clinic with a history or symptoms suggestive of chronic prostatitis (National Institutes of Health category II and IIIA). In addition to prostatic culture and sensitivity, all patients were asked to complete the National Institutes of Health Chronic Prostatitis Symptom Index. According to their chronic prostatitis category, all patients were divided into four groups: group 1, chronic bacterial prostatitis treated with antibiotics and prostatic massage, n _ 17; group 2, chronic bacterial prostatitis treated with antibiotics alone, n _ 20; group 3, chronic nonbacterial prostatitis treated with antibiotics and prostatic massage, n _ 25; and group 4, chronic nonbacterial prostatitis treated with antibiotics alone, n _ 19.
Results. Of the 37 patients with initially positive cultures, 30 (81.1%) had sterile final cultures. Overall, 30 patients (37%) of 81 had complete resolution of symptoms, 18 (22.2%) had initial resolution but had recurrence after therapy, 22 (27.1%) had partial improvement, and 11 (13.5%) had no improvement. No significant difference was found in the response between patients treated with antibiotics alone and those treated with antibiotics and prostatic massage in all four groups. Only 29% of class IIIa patients had complete improvement in contrast to 52% complete improvement in the class II patients.
Conclusions. Prostatic massage did not significantly improve the response of patients with chronic pelvic pain syndrome to antibiotics. Patients with National Institutes of Health class II prostatitis should be primarily treated with culture-sensitive antibiotics. Treatment of nonbacterial prostatitis is challenging and requires additional extensive research.

Name : **Dr . Ahmed Nabil El Ghani**

Dep. : **Orthopaedic**

Title : **Modified Dorsal Rotation Advancement Flap for Release of the Thumb Web Space**

Ghani HA.

Journal : **Hand Surgery-British And European Volume (2006)**

ISSN : 0266-7681 **Impact Factor :** 0.844

Abstract :

The dorsal rotational advancement flap described by Buck-Gramcko in 1998 is a good local flap for release of the thumb index web space. This paper describes a modification which broadens the apex of the flap and increases its length. This modification provides a long wide flap which releases the thumb index web space with suture lines far beyond the web. In addition, it provides a release of the palmar skin even when very tight in severe narrowing of the web. It is suitable for release of thumb-index syndactyly, severe narrowing of the web in thumb hypoplasia and congenital clasped thumb.

Name : **Prof . Ahmed Zohdi**

Dep. : **Neurosurgery**

Title : **Endoscopic approach to colloid cysts.**

Zohdi A, El Kheshin S.

Journal : **Minim Invasive Neurosurg 5 263-8 (2006)**

ISSN : 0946-7211 **Impact Factor :** 0.75

Abstract :

OBJECTIVE: The aim of this study is to discuss the variations in the morbid anatomy of colloid cysts with its impact on the choice of endoscopic approach through a standard Kocher's burr hole.
METHODS: This study was conducted on 18 patients between 1996 and 2006. All patients were operated through a single burr hole at Kocher's point using a rigid endoscope with a single working channel. The anatomical variations of the cyst and the foramen of Monro dictated the use of the transforaminal approach, the transseptal interforniceal approach or both. RESULTS: There were no mortalities or significant morbidities. The operative time ranged between 90 to 240 minutes (with a mean of 133 minutes). Five patients (27.7%) developed remediable postoperative chemical meningitis successfully controlled with steroids. Postoperative transient memory disturbance was observed in 3 patients (16.7%). One patient had a postoperative CSF leak that stopped spontaneously. Aspiration of the cyst's contents showed variable degrees of resistance to aspiration. The period of follow-up ranged between 5 months to 8 years and 3 months (mean: 4 years and 2 months). None of our patients showed radiological evidence of cyst recurrence during the follow-up period.
CONCLUSION: Through a single right pre-coronal burr hole at Kocher's point, several endoscopic manoeuvres can be done. These include aspiration of the contents or its piecemeal removal, combined balloon squeeze and aspiration, foraminoplasty, pellucidotomy, coagulation of cyst capsule and ETV. The choice of the appropriate approach is largely dependent on the location of the cyst and the shape of the foramen of Monro. Coronal MRI may aid in preoperative evaluation of the tucked up retroforaminal growth of the cyst. We had no recurrence in our series with a follow-up reaching more than 8 years. This could be attributed to both the marsupialization and coagulation done for the remaining cyst capsule.

Name : **Prof . Amal El-Beshlawy**

Dep. : **Pediatrics**

Title : **Effect of L-carnitine on the physical fitness of thalassemic patients.**

El-Beshlawy A, El Accaoui R, Abd El-Sattar M, Gamal El-Deen MH, Youssry I, Shaheen N, Hamdy M, El-Ghamrawy M, Taher A

Journal : **Ann Hematol 1 31-4 (2006)**

ISSN : 0939-5555 **Impact Factor :** 2.254

Abstract :

Poor physical fitness is a common problem among thalassemic patients. L-Carnitine plays an essential role in fatty acid beta-oxidation, a process especially important in the organs that preferentially use fatty acid as a source of energy such as the myocardium and the skeletal muscles. The main objective of this study is to assess the effect of the administration of oral L-carnitine on exercise tolerance and physical fitness in patients with thalassemia major. Thirty patients followed up at the New Cairo University Children Hospital were included in this study. Clinical, laboratory, and cardiopulmonary exercise testing were performed before and after 6 months of oral L-carnitine therapy (50 mg/kg/day). The oxygen consumption, cardiac output, and oxygen pulse at maximal exercise significantly increased after L-carnitine therapy ($p<0.001$, $p=0.002$ and $p<0.001$, respectively). However, there was no significant change in minute ventilation and ventilatory equivalent of carbon dioxide ($p=0.07$ and $p=0.06$, respectively). A weak but positive correlation between the age of the patients and the degree of improvement in exercise parameters was noted. There was also significant increase in the blood transfusion intervals after L-carnitine administration ($p=0.008$). However, there was no significant change in hemoglobin concentration ($p=0.4$). L-Carnitine seems to be a safe and effective adjunctive therapeutic approach in thalassemic patients. It improves their cardiac performance and physical fitness. The younger the patients are, the higher is the degree of improvement in their exercise parameters.

Name : **Prof . Amal El-Beshlawy**

Dep. : **Pediatrics**

Title : **Diastolic Dysfunction and Pulmonary Hypertension in Sickle Cell Anemia: Is There a Role for L -Carnitine Treatment?**

A. El-Beshlawya E. Abd El Raoufa F. Mostafaa M. Talaata H. Isma'eel E. Aounb A.V. Hoffbrandc A. Taherb

Journal : **Acta Haematol 115 91–96 (2006)**

ISSN : 0001-5792 **Impact Factor :** 1.229

Abstract :

Clinical manifestations of cardiovascular abnormalities in patients with sickle cell (SC) anemia are well documented. Many variables were assessed in our study before and after administration of L -carnitine to randomly selected 37 SC disease (SCD) children for a period of 6 months. Variables such as weight, height, serum ferritin levels, units of blood transfused and the number of venoocclusive crises all showed signifi cant improvement after the 6 months of therapy with L -carnitine. Our study also showed that cardiac diastolic function and pulmonary hypertention are common in pediatric SCD patients. These two disorders showed some improvement after L -carnitine administration. Therefore, L -carnitine deserves a rigorous large-scale randomized clinical trial to evaluate its potential benefi ts as treatment for SCD patients with cardiac complications

Key Words :

L -Carnitine. Pulmonary hypertention . Sickle cellanemia

Name : **Prof . Amal El-Beshlawy**

Dep. : **Pediatrics**

Title : **Enzyme Replacement Therapy and Bony Changes in Egyptian Paediatric Gaucher Disease Patients**

A. El-Beshlawy , L. Ragab , I. Youssry , K. Yakout , H. El-Kiki , K. Eid , I. M. Mansour , S. Abd El-Hamid , M. Yang and P. K. Mistry

Journal : **Inherit Metab Dis (2006)**

ISSN : 0141-8955 **Impact Factor :** 3.24

Abstract :

Background. In Gaucher disease, the infiltration of the bone marrow by glucocerebroside-laden macrophages
(Gaucher cells) triggers a diverse pattern of skeletal disease that results in crippling complications. Reliable ascertain- ment of the severity and pattern of skeletal disease is essen- tial to determine disease status and the response to enzyme replacement therapy (ERT). Although there is ample docu- mentation of reversal of haematological and visceral disease by ERT, there is a paucity of data on skeletal response to ERT in children. Aim. To delineate the pattern of bone disease in children with Gaucher disease in Egypt and to evaluate its response to ERT. Method. Twenty-two children with Gaucher disease were treated with ERT. Phenotyping by clinical, laboratory and radiological criteria was performed at baseline and following 11.2 ± 4 months of ERT. Genotyping for glucocerebrosidase
(GBA) mutations was performed by gene sequencing, and genotype–phenotype correlations were performed.

International Publications Awards
Cairo University

Name : **Prof . Amr Wael Farag**

Dep. : **Orthopaedic**

Title : **Augmentation of partially regenerated nerves by end-to-side side-to-side grafting neurotization: experience based on eight late obstetric brachial plexus cases.**

Amr SM, Moharram AN, Abdel-Meguid KM

Journal : **Brachial Plex Peripher Nerve Inj 5 1-6 ()**

ISSN : **Impact Factor :**

Abstract :

OBJECTIVE: The effect of end-to-side neurotization of partially regenerated recipient nerves on improving motor power in late obstetric brachial plexus lesions, so-called nerve augmentation, was investigated. METHODS: Eight cases aged 3-7 years were operated upon and followed up for 4 years (C5,6 rupture C7,8 T1 avulsion: 5; C5,6,7,8 rupture T1 avulsion: 1; C5,6,8 T1 rupture C7 avulsion: 1; C5,6,7 rupture C8 T1 compression: one 3 year presentation after former neurotization at 3 months). Grade 1-3 muscles were neurotized. Grade 0 muscles were neurotized, if the electromyogram showed scattered motor unit action potentials on voluntary contraction without interference pattern. Donor nerves included: the phrenic, accessory, descending and ascending loops of the ansa cervicalis, 3rd and 4th intercostals and contralateral C7. RESULTS: Superior proximal to distal regeneration was observed firstly. Differential regeneration of muscles supplied by the same nerve was observed secondly (superior supraspinatus to infraspinatus regeneration). Differential regeneration of antagonistic muscles was observed thirdly (superior biceps to triceps and pronator teres to supinator recovery). Differential regeneration of fibres within the same muscle was observed fourthly (superior anterior and middle to posterior deltoid regeneration). Differential regeneration of muscles having different preoperative motor powers was noted fifthly; improvement to Grade 3 or more occurred more in Grade 2 than in Grade 0 or Grade 1 muscles. Improvements of cocontractions and of shoulder, forearm and wrist deformities were noted sixthly. The shoulder, elbow and hand scores improved in 4 cases. LIMITATIONS: The sample size is small. Controls are necessary to rule out any natural improvement of the lesion. There is intra- and interobserver variability in testing muscle power and cocontractions. CONCLUSION: Nerve augmentation improves cocontractions and muscle power in the biceps, pectoral muscles, supraspinatus, anterior and lateral deltoids, triceps and in Grade 2 or more forearm muscles. As it is less expected to improve infraspinatus power, it should be associated with a humeral derotation osteotomy and tendon transfer. Function to non improving Grade 0 or 1 forearm muscles should be restored by muscle transplantation. LEVEL OF EVIDENCE: Level IV, prospective case series.

Name : **Prof . Bahgat Mittawae**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Incidence of Erectile Dysfunction In 800 Hypertensive Patients: A Multicenter Egyptian National Study**

Bahgat Mittawae, Abdel Rahman El-Nashaar, Ayman Fouda, Mahmoud Magdy And Rany Shamloul

Journal : **Adult Urology 67 575-578 (2006)**

ISSN : 0090-4295 **Impact Factor :** 2.14

Abstract :

Objectives. To evaluate the incidence of erectile dysfunction (ED), its severity, and other sexual function domains in 800 Egyptian patients with hypertension.
Methods. All patients completed a detailed questionnaire addressing their general medical history, with special emphasis on hypertension (ie, duration of hypertension, type of antihypertensive treatment, compliance, and presence of any complications). Sexual function was evaluated with the International Index of Erectile Function.
Results. The mean _ SD patient age was 59.2 _ 2.3 years (range 28 to 75). Of the 800 patients, 739 (92.3%) had regular sexual activity (one to two times per week) and 346 (43.2%) had ED. Of the 346 men, 40 (5%), 96 (12%), and 210 (26.2%) had mild, moderate, and severe ED, respectively. A highly statistically significant correlation was found between the duration of hypertension and the duration of weak erections. Only 41 patients (12%) with ED reported receiving erectogenic drug therapy.
Conclusions. Our results have shown a greater prevalence of ED in the Egyptian hypertensive population. The presence of another risk factor in addition to elevated blood pressure can increase the incidence of ED further.

Name : **Prof . El-Hoseiny Ismail**

Dep. : **General Health**

Title : **HCV-related morbidity in a rural community of Egypt.**

Mohamed MK, Bakr I, El-Hoseiny M, Arafa N, Hassan A, Ismail S, Anwar M, Attala M, Rekacewicz C, Zalata K, Abdel-Hamid M, Esmat G, Fontanet A

Journal : **Med Virol 9 1185-9 (2006)**

ISSN : 0146-6615 **Impact Factor :** 2.779

Abstract :

The origin of the hepatitis C virus (HCV) epidemic in Egypt has been attributed to intravenous schistosomiasis treatment in rural areas in the 1960s to 70s. The objective of this study was to estimate the HCV-related morbidity in a rural area where mass schistosomiasis treatment campaigns took place 20-40 years before. The study sample included 2,425 village residents aged 18-65 years recruited through home-based visits. Overall, HCV antibody prevalence was 448/2,425 = 18.5% (95% CI = 16.9-20.1%), reaching 45% in males over 40 years, and 30% in females over 50 years. Of those with HCV antibodies, 284/448 (63.4%, 95% CI = 58.7-67.9%) had chronic HCV infection, among which 107/266 (40.2%, 95% CI = 34.3-46.4%) had elevated alanine aminotransferase (ALT). As part of pre-treatment screening, 26 consenting patients had a liver biopsy: 13 (50.0%) had a treatment indication. Thus, of all patients with HCV antibodies, 13 (2.9%) were eligible for treatment and willing to be treated. The relatively low level of morbidity observed in this study is discussed in view of co-factors of HCV infection progression, such as young age at infection, absence of alcohol intake, the prevalence of Schistosoma mansoni infection, and the prevalence of chronic hepatitis B.

Name : **Prof . Hady Goubran**

Dep. : **Internal Medicine**

Title : **A minipool process for solvent–detergent treatment of cryoprecipitate at blood centres using a disposable bag system**

T. Burnouf, H. A. Goubran, M. Radosevich,1M. A. Sayed, G. Gorgy4 and M. El-Ekiaby

Journal : **Vox Sanguinis 1-8 (2006)**

ISSN : 0042-9007 **Impact Factor :** 1.88

Abstract :

Background and Objectives Single-donor or small-pool cryoprecipitates are produced by blood establishments, mostly in developing countries, for substitute therapy in haemophilia A, von Willebrand disease and fibrinogen deficiency, as well as for the manufacture of fibrin sealant. As cryoprecipitate may be contaminated with pathogenic plasma-borne viruses, there is an urgent need to develop a simple method for the viral inactivation of cryoprecipitate. Materials and Methods Cryoprecipitate was obtained according to standard procedures. Ten minipools of five or six donations of cryoprecipitate were prepared and subjected, in sterile closed bags, to a viral inactivation treatment using either 2% tri(n-)butyl phosphate (TnBP) for 4 h at 37°C or the combination of 1% TnBP and 1% Triton X-45 for 4 h at 31°C. The cryoprecipitates were subsequently extracted three times in their processing bags by mixing and decantation using 7•5% sterile ricinus oil. The TnBP-treated cryoprecipitates were further subjected to a clarifying centrifugation step at 3800g for 30 min. The final products were dispensed into individual bags and frozen at − 30°C or lower. Results The cryoprecipitates treated with either 2% TnBP or 1% TnBP + 1% Triton X-45 showed excellent (> 93%) mean recovery of coagulant factor VIII (FVIII), ristocetin cofactor Von Willebrand factor (VWF:RCo), and clottable fibrinogen activity. Prothrombin time, international normalized ratio and activated partial thromboplastin time increased during solvent–detergent treatment but returned to initial values after oil extractions. The final content of TnBP and Triton X-45 was < 10 and 50 ppm, indicating excellent removal by the oil-extraction procedure. Conclusions Viral inactivation treatment by TnBP, with or without Triton X-45, can be applied to minipools of cryoprecipitate, with good recovery of FVIII, VWF and fibrinogen. The viral inactivation and solvent–detergent removal process can be performed in a closed bag system and using simple blood establishment techniques and equipment. This technology could be considered for the improved viral safety of cryoprecipitate which is used to treat haemophilia A, von Willebrand disease or fibrinogen deficiency, or to prepare fibrin sealant.

Name : **Prof . Hady Goubran**

Dep. : **Internal Medicine**

Title : **A process for solvent/detergent treatment of plasma for transfusion at blood centers that use a disposable-bag system**

Thierry Burnouf, Hadi Alphonse Goubran, Miryana Radosevich, Makram A. Sayed, George Gorgy, and Magdy El-Ekiaby

Journal : **Transfusion 46 2100-2108 (2006)**

ISSN : 0041-1132 **Impact Factor :** 3.16

Abstract :

BACKGROUND: Solvent/detergent (S/D) inactivates enveloped viruses in plasma. The current technology requires a plasma fractionation facility and is applied to large plasma pools, which increases the cost and risks of exposure to S/D-resistant pathogens and lowers the content of protein S and α 2-antiplasmin. Two S/D treatment procedures for single donations or minipools of plasma have been developed with a single-use bag system. STUDY DESIGN AND METHODS: Frozen plasma samples were thawed and treated in disposable bags with either 2 percent tri(n-butyl)phosphate (TnBP) at 37°C or1 percent TnBP and 1 percent Triton X-45 at 31°C for 4 hours. Plasma samples were extracted three times with 7.5 percent sterile castor oil to remove TnBP and Triton X-45. The TnBP-treated plasma samples were further subjected to a clarifying centrifugation (3800×g, 30 min). Final plasma samples were dispensed into individual bags and frozen at − 30°C. Plasma quality was assessed at each step of the procedures. RESULTS: Both processes yielded greater than 90 percent mean recovery of coagulation factors (clottable fibrinogen, von Willebrand factor, and factors VIII, V, VII, IX, X, and XI), anticoagulants (protein C, protein S), protease inhibitors (antithrombin, α 2-antiplasmin), total protein, albumin, and immunoglobulins. Global coagulation tests of the treated plasma samples were normal. Final TnBP and Triton X-45 content was less than 10 and 50 ppm, respectively. CONCLUSION: S/D treatment of plasma can be performed in a closed-bag system under conditions that maintain plasma protein quality. The technology is simple, presents advantages over the industrial large-scale S/D plasma process, and could be performed in blood centers.

Name : **Prof . Hala Salah Hamza**

Dep. : **Pediatrics**

Title : **Comparison of clinical prediction rules for management of pharyngitis in settings with limited resources.**

Fischer Walker CL, Rimoin AW, Hamza HS and Steinhoff MC

Journal : **Pediatrics (2006)**

ISSN : 0022-3476 **Impact Factor :** 3.387

Abstract :

Objectives : To compare the effectiveness of several clinical prediction rules for culture-positive streptococcal pharyngitis in a single group of patients in a setting in which clinicians routinely treat all cases of pharyngitis presumptively, without laboratory data. STUDY DESIGN: A MEDLINE search identified clinical prediction rules for streptococcal pharyngitis in children. Each rule was applied analytically to data from 410 children in Cairo, Egypt with clinical pharyngitis, in whom throat cultures were performed. The diagnostic effectiveness of these rules for predicting a positive culture were assessed and compared. RESULTS: Seven prediction rules were identified. Of these 7 rules, 4 were developed in North American children, 1 was recommended by the World Health Organization (WHO), and 2 were developed in Egypt. In the Cairo children, the WHO rule was the least sensitive, at 12%. The 6 other rules had sensitivities ranging from 81% to 99% and specificities ranging from 4% to 40%; 2 rules seemed to be effective, with diagnostic odds ratios of 5.2 and 6.1. CONCLUSIONS: The prediction rules demonstrated variable diagnostic effectiveness in the Egyptian children. Without laboratory testing, 2 clinical rules detected > 90% of cases of pharyngitis with positive culture for group A streptococcus and reduced overtreatment of culture-negative cases by approximately 40%. Selected clinical prediction rules have useful characteristics in settings of limited resources and need further validation.

Key Words :

Streptococcus, pharyngitis, comparison, prediction rule, limited resources

Name : **Prof . Hani El-Shafey**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Tianeptine can be effective in men with depression and erectile dysfunction.**

El-Shafey H, Atteya A, el-Magd SA, Hassanein A, Fathy A and Shamloul R.

Journal : **Sex Med 5 910-7 (2006)**

ISSN : 1743-6095 **Impact Factor :** 4.67

Abstract :

INTRODUCTION: Erectile dysfunction (ED) and depression are highly prevalent medical disorders affecting men of diverse cultures throughout the world. Tianeptine is a new antidepressant drug with less adverse effects on sexual functions. AIM: To evaluate the efficacy of tianeptine in the treatment of mild to moderate depression with ED. METHODS AND MAIN OUTCOME MEASURES: A randomized, double-blind, placebo-controlled, crossover trial. Subjects were assigned either tianeptine or matching placebo, each for 8 weeks. All patients were followed up on monthly basis where they were asked to complete three assessment questionnaires, namely, Anxiety and Depression Scale, Brief Sexual Inventory, and Quality-of-life and erection questionnaire. All patients were asked a global assessment question. Treatment-responsive subjects were defined as study participants who had scores 1-16 on the Anxiety and depression Scale, showed normal erectile function on the Brief Sexual Inventory, and answered "yes" to the global assessment question. RESULTS: Of the 237 consecutive men complaining of ED of >6 months and screened for this study, 110 patients met our inclusive criteria; 42 declined to participate. The remaining 68 patients were randomly assigned to treatment. Significant improvement ($P < 0.05$) was observed during the active drug phase in all three assessments questionnaires, in comparison with the placebo phase. Forty-eight patients (72.7%) of the subjects during the active drug phase were classified as responders, while 19 (27.9%) of the subjects during placebo phase were classified as responders. CONCLUSIONS: Tianeptine could be considered an effective therapy for the treatment of depression and ED. Further large-scale multicentered studies are warranted.

Name : **Prof . Hesham Al Inany**

Dep. : **Obstetrics and Gynecology**

Title : **Intrauterine insemination catheters for assisted reproduction: a systematic review and meta-analysis**

Ahmed M.Abou-Setta , Ragaa T.Mansour , Hesham G.Al-Inany , Mona A.Aboulghar , Ahmed Kamal, Mohamed A.Aboulghar and Gamal I.Serour

Journal : **Human Reproduction 21 1961-1967 (2006)**

ISSN : 0268-1161 **Impact Factor :** 3.67

Abstract :

Intrauterine insemination (IUI) is the oldest and most practised form of assisted reproduction worldwide. We systematically reviewed the literature so that we could evaluate the use of soft versus firm catheters in subfertile women undergoing IUI. METHODS: Extensive searches were conducted for full-text manuscripts, confer- ence abstracts, ongoing and unpublished trials. Primary outcomes were clinical pregnancy (CPR) and ongoing preg- nancy (OPR)/live birth rates (LBRs) per woman. Secondary outcomes were multiple pregnancy rate (MPR) per clinical pregnancy, difficulty cannulating the cervix, bleeding and patient discomfort. Meta-analysis was performed using the Peto-modified Mantel-Haenszel fixed-effect model. RESULTS: Seven randomized trials were identified, and four were excluded. No significant differences were noted for CPR and LBR per woman [OR = 0.96, 95% CI = 0.70–1.32 and OR = 0.82, 95% CI = 0.43–1.58, respectively]. As for the secondary outcomes, MPRs per cycle were also not significantly different. More difficulty was noted with soft catheters and more patient discomfort with firm catheters. Bleeding following the procedure was similar between the two groups. CONCLUSIONS: Catheter choice during IUI does not seem to be a detrimental factor for success, as in other assisted reproduction techniques (ART). More studies are warranted to draw definitive conclusions and support the results of this systematic review.

Key Words :

assisted reproduction;catheters;Intrauterine insemination;meta-analysis

International Publications Awards
Cairo University

Name : **Prof . Hesham Al Inany**

Dep. : **Obstetrics and Gynecology**

Title : **Cost-effectiveness of aromatase inhibitor co-treatment for controlled ovarian stimulation**

Mohamed A.Bedaiwy , Rachel Forman , Noha A.Mousa , Hesham G.Al Inany and Robert F.Casper

Journal : **Human Reproduction 21 2838–2844 (2006)**

ISSN : 0268-1161 **Impact Factor :** 3.67

Abstract :

To compare the clinical results and the cost-effectiveness of using the aromatase inhibitor, letrozole, in conjunction with FSH and FSH alone for controlled ovarian stimulation (COS) in patients undergoing intra- uterine insemination (IUI) for a variety of indications. METHODS: Four hundred and thirty-two consecutive patients who underwent 872 IUI cycles were included. The study population was composed of two groups. Group I included 308 patients who underwent 589 IUI cycles with letrozole and FSH for the following indications: anovula- tion (143 cycles), male factor infertility (147 cycles), unexplained infertility (250 cycles), endometriosis (18 cycles) and combined indications (31 cycles). Group II included 124 patients who underwent 283 IUI cycles who received FSH only for the following indications: ovarian factor infertility (82 cycles), male factor infertility (66 cycles), unexplained infertility (114 cycles), endometriosis (13 cycles) and other indications (8 cycles). Main outcome measures included number of mature follicles >16 mm in diameter, dose of FSH used per cycle, clinical pregnancy rate and cost-effectiveness ratio per pregnancy. RESULTS: FSH dose required for ovarian stimulation was significantly lower when letrozole was used ($P < 0.0001$). Although a significantly higher number of follicles >16 mm and endometrial thickness at the day of hCG administration ($P < 0.0001$) were observed in Group II, pregnancy rate per started (14.4 versus 15.9%) and per completed cycles (15.77 versus 18.07%) was the same in Group I and Group II, respectively. IUI cancellation rate was significantly lower with letrozole treatment ($P = 0.05\%$). The cost per cycle was significantly lower in Group I versus Group II (Can$468.93 □ 418.18 versus 1067.28 □ 921.43; $P < 0.0001$). The cost-effectiveness ratio was $3249.42 in the letrozole group and $6712.00 in the FSH-only group. CONCLUSION: A letrozole-FSH combination could be an effect- ive ovarian stimulation protocol in IUI cycles. Such a protocol may be more cost-effective than FSH alone because of the difference of FSH dose and cost. A randomized controlled trial is needed to further substantiate this finding.

Key Words :

aromatase inhibitors/cost-effectiveness/intrauterine insemination/letrozole/ovarian stimulation

Name : **Prof . Hesham Al Inany**

Dep. : **Obstetrics and Gynecology**

Title : **Metformin reduces abortion in pregnant women with polycystic ovary syndrome**

Sherif Khattab, Iman Abdel Mohsen, Ismail Aboul Foutouh, Ashraf Ramadan, Mohamed Moaz and Hesham Al-Inany

Journal : **Gynecological Endocrinology 12 680–684 (2006)**

ISSN : 1472-6491 **Impact Factor :** 3.2

Abstract :

Background. Women with polycystic ovary syndrome (PCOS) are considered to be at increased risk of miscarriage. Since metformin has beneficial effects on the risk factors contributing to first-trimester abortion in PCOS patients, we hypothesized that metformin – owing to its metabolic, endocrine, vascular and anti-inflammatory effects – may reduce the incidence of first-trimester abortion in PCOS women. Materials and methods. A prospective cohort study was set up to determine the beneficial effects of metformin on PCOS patients during pregnancy. Two hundred non-diabetic PCOS patients were evaluated while undergoing assisted reproduction. One hundred and twenty patients became pregnant while taking metformin, and continued taking metformin at a dose of 1000–2000 mg daily throughout pregnancy. Eighty women who discontinued metformin use at the time of conception or during pregnancy comprised the control group. Results. Both groups were similar with respect to all background characteristics (age, body mass index, waist/hip ratio, follicle-stimulating hormone, luteinizing hormone, estradiol and dehydroepiandrosterone sulfate levels). Rates of early pregnancy loss in the metformin group were 11.6% compared with 36.3% in the control group (p50.0001; odds ratio¼0.23, 95% confidence interval 0.11–0.42). Conclusions. Administration of metformin throughout pregnancy to women with PCOS was associated with a marked and significant reduction in the rate of early pregnancy loss.

Key Words :

Metformin, polycystic ovary, miscarriage, clinical trial

Name : **Prof . Hesham Al Inany**

Dep. : **Obstetrics and Gynecology**

Title : **Female Infertility**

Hesham Al-Inany

Journal : **British Medical 16 725-729 (2006)**

ISSN : 0959-8146 **Impact Factor :** 9.05

Abstract :

Clomifene One systematic review found that clomifene (clomiphene) increased pregnancy rates compared with placebo in women who ovulate infrequently. Two RCTs in anovulatory women, found no significant difference between clomifene and tamoxifen in pregnancy or ovulation rates. One small crossover trial in anovulatory women found that clomifene plus tamoxifen improved ovulation rate per cycle compared with clomifene alone. One systematic review found that clomifene plus metformin increased pregnancy and ovulation rates over 6 months compared with clomifene alone in women with polycystic ovary syndrome.
In vitro fertilisation We found no RCTs comparing in vitro fertilisation versus no treatment in women with ovulation disorders however, RCTs are unlikely to be conducted. One RCT found that immediate compared with delayed in vitro fertilisation increased pregnancy and live birth rates in women with any cause of infertility. One RCT identified by a systematic review found no significant difference between in vitro fertilisation and intracytoplasmic sperm injection in pregnancy rate in women with various causes of infertility.

Name : **Prof . Ibrahim Fahmy**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Etiological factors of unconsummated marriage**

W Badran, N Moamen, I Fahmy, A El-Karaksy, TM Abdel-Nasser and H Ghanem

Journal : **International Journal of Impotence Research 1-6- (2006)**
ISSN : 0955-9930 **Impact Factor :** 2.19

Abstract :

Normal erectile function is subjected to the influence of psychological, hormonal, neurological, vascular and cavernosal factors. Unconsummated marriage is a common medical and socialproblem in andrology clinics in conservative communities. However, its etiological factors remain unclear. This work aimed to define the probable etiology of unconsummated marriage. A total of 191 patients were evaluated through history taking, constructed questionnaire, educational settings, clinical examination, lab investigation, imaging procedures and other measures. Psychogenic factors were the cause in 74.4% of the investigated patients. Performance anxiety was the cause in 52.9%, and in 21.5% other psychological distresses were responsible. Organic causes represent 7.3%, vaginismus 8.4%, premature ejaculation 3.1% and cases with undetermined etiology were 6.8%. In conclusion, performance anxiety was revealed to be the main contributor. However, other psychogenic, organic and social factors represent sizable etiological factors.

Key Words :

unconsummated marriage; first-night erectile dysfunction; wedding night impotence; honeymoon impotence; erectile dysfunction; vaginismus

International Publications Awards
Cairo University

Name : **Prof . Khalid Salem**

Dep. : **Orthopaedic**

Title : **Limb Malalignment and Functional Outcome after Antegrade Versus Retrograde Intramedullary Nailing in Distal Femoral Fractures**

Salem KH, Maier D, Keppler P, Kinzl L, Gebhard F.

Journal : **Trauma 61 375-381 (2006)**

ISSN : 1079-6061 **Impact Factor :** 1.72

Abstract :

Background: Torsional malalignment and mechanical axis deviation (MAD) are worrisome complications after nailing of distal femoral fractures. Variable, sometimes contradictory, reports about these problems have been published. METHODS: In a retrospective nonrandomized study, 41 patients (mean age, 44.5 years) with distal third femoral fractures that were operatively treated using either antegrade (20 cases) or retrograde (21 cases) intramedullary nailing during a period of 2 years have been reviewed. Goniometric measurement was done using a navigated ultrasound examination whereas functional evaluation and return to sports were assessed using Merle d'Aubigné functional grading system and Tegner and Lysholm activity score. RESULTS: There was no difference in femoral length, torsion, or MAD between patients treated using antegrade nails and those treated with a retrograde nail. There was a greater limitation of knee motion with retrograde nailing and of hip motion with antegrade nailing. The functional grading and activity evaluation showed, however, no difference between both groups. CONCLUSIONS: The study cohort showed that no treatment method had proved an advantage over the other regarding limb geometry or the functional outcome. The proper operative indication, intraoperative control, and the surgeon's experience seem to be more important in this regard than the nailing technique.

Name : Dr . Khalid Salem

Dep. : Orthopaedic

Title : Circular External Fixation in Knee Arthrodesis Following Septic Trauma Sequelae: Preliminary Report

Salem KH, Kinzl L, Schmelz A

Journal : Knee Surgery Sports Traumatology Arthroscopy (2006)

ISSN : 0942-2056 **Impact Factor :** 1.216

Abstract :

Deep infection is one of the most devastating complications after knee fractures. It may be related to the initial fracture status or, more commonly, the surgical intervention. From 1991 to 2003, 12 patients underwent knee fusion to treat resistant infection after complex knee fractures or arthrodesis fractures using the Ilizarov method and frame. There were 9 men and 3 women (mean age, 39.7 years). Two-thirds of the patients had long-standing infection and 5 patients had undergone earlier attempts at knee arthrodesis. Correction of concurrent malalignment was achieved in 2 patients. Bone transport using the same arthrodesis frame was necessary in 2 patients to overcome large bony defects. Solid fusion was achieved in all patients by the end of treatment. The average duration of external fixation was 22 weeks (range: 11-44 weeks). No patients required secondary bone grafting to achieve union. Complications occurred in 6 (50%) patients. The most common problem seen was pin tract infection, but only 2 patients required surgical intervention for its treatment. The study emphasizes the clinical success of the Ilizarov method in knee arthrodesis after infected fractures.

International Publications Awards
Cairo University

Name : **Prof . Manal Bosseila**

Dep. : **Dermatology**

Title : **Quantitative Morphometric Analysis of Hair Follicles in Alopecia Areata**

Manal Bosseila and Bassem Saad

Journal : **Dermatological Science 44 59-61 (2006)**

ISSN : 0923-1811 **Impact Factor :** 2.00

Abstract :

Background: Transverse sectioning of scalp biopsies of patients with alopecia areata gives simultaneous overview of many hair follicles. Computerized image analysis provides accurate changes in parameters of the follicles.
Aim: To demonstrate hair density and possible changes in hair follicles that may occur during alopecia areata (AA) using image analysis.
Patients and Methods: Scalp biopsies (4mm) were obtained from 20 patients with AA; and 5 individuals with healthy scalp and subjected to morphometric analysis of hair follicle parameters in the horizontal sections of biopsies.
Results: This study showed a statistically significant decrease in hair follicle area, hair follicle perimeter, hair shaft diameter and hair shaft area in AA compared to normal scalp hair; and a significant increase in hair follicle irregularity. However, hair follicle diameter, outer and inner sheath thickness and hair roundness did not vary significantly.
Conclusion: Computerized image analysis is a feasible technique for the assessment of hair density and various hair diameters in alopecia areata.

Key Words :

Alopecia areata; hair follicle parameters; image analysis; transverse sectioning.

International Publications Awards
Cairo University

Name : **Prof . Medhat El-Mofty**

Dep. : **Dermatology**

Title : **Narrow Band UVB 311 NM in The Treatment of Vitiligo : Two Right Left Comparison Studies**

EL Mofty M , Esmat S., Youssef R., Azzam O., Hunter N., El Hanafi G.and Fawzi M.

Journal : **Photo Dermatology Photo Immunology & Photo Medicine 22 1-11 (2006)**

ISSN : 0905-4383 **Impact Factor :** 1.31

Abstract :

Purpose: Evaluation of NB UVB (311 nm) in the treatment of vitiligo by two independent studies. The first study compared NB UVB with a well-established therapeutic modality, PUVA, and the second study was conducted to find out whether psoralen might add to its efficacy.
Patients and methods: In the first study, 15 patients were exposed on the left half of their body to UVB 311 nm and then exposed their right half to UVA after ingestion of psoralen. In the second study, 20 patients were exposed to UVB 311 nm on the left side of the body, followed by ingestion of psoralen and exposure to narrow band UVB 311 nm 90 min later to the right side of the body. In both studies, while exposing one side, the other was protected by an UV- proof gown. Thus two right –left comparative studies were carried out simultaneously, namely UVB 311 nm vs. PUVA and UVB 311 nm vs. PUVB 311 nm.
Results: In the first study, comparison of PUVA and NB UVB 311 nm showed no difference either in the degree of response or in the incidence of complications. In the second study, comparison of PUVB and UVB showed equal clinical improvement on both sides. The cumulative dose needed to achieve the same response on the PUVB side was lower than that on the UVB side, but the difference was not statistically significant. The incidence of phototoxic reactions was significantly higher on the PUVB treated body half.
Conclusion: NB UVB 311 nm has similar repigmentary effects as PUVA. The addition of psoralen does not increase its efficacy.

Key Words :

Vitiligo ; NB UVB 311 nm ; PUVA; PUVB; Comparison

Name : **Prof . Medhat El-Mofty**

Dep. : **Dermatology**

Title : **Ultraviolet A in vitiligo**

Medhat El-Mofty , Wedad Mostafa , Randa Youssef , Mona El-Fangary , Amany Z. Elramly , Doaa Mahgoub , Marwa Fawzy

Journal : **Photo Dermatology Photo Immunology & Photo Medicine 22 213-216 (2006)**

ISSN : 0905-4383 **Impact Factor :** 1.31

Abstract :

Both types of Ultraviolet (UV), UVB (290–320 nm) and UVA (320–400 nm), produce increased pigmenta- tion or tanning. However, no evaluation of UVA alone in the treatment of vitiligo has been reported. There- fore, it was the purpose of this work to study the pigmentogenic effect of UVA (5 and 15 J/cm2) in vitiligo. The study included 20 randomly selected patients with vitiligo involving more than 30% of the body surface area with a bilateral/symmetrical distri- bution. They were equally divided into two groups each of 10 patients. All patients received three weekly sessions of UVA, 15 J/cm2 in group I and 5 J/cm2 in group II, a total of 48 sessions over 16 weeks. Overall pigmentation of 60% and above was recorded in 50% and 10% of patients in groups I and II, respectively. We conclude that broadband UVA alone, without psoralens, and in appropriate doses may be of impor- tant therapeutic value in vitiligo.

Key Words :

vitiligo; UVA; treatment

Name : **Prof . Mohamed Arafa**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **The prevalence of Peyronie's disease in diabetic patients with erectile dysfunction.**

Arafa M, Eid H, El-Badry A, Ezz-Eldine K and Shamloul R

Journal : **Int J Impot Res 2 213-7 (2006)**

ISSN : 0955-9930 **Impact Factor :** 2.353

Abstract :

We attempted in this study to investigate the prevalence of Peyronie's disease (PD) among diabetic patients with erectile dysfunction (ED). Two-hundred and six diabetic patients were further evaluated in this study. Forty-two (20.3%) patients had PD. There were significant associations between PD and risk factors of age, obesity and smoking. All patients with PD had also ED. Penile curvature was present in 82.1% of all patients with PD. Of the patients with PD, 25.4% had pain with or without erection. Significant associations between PD and ED and ED duration were detected. This study confirmed the high prevalence of PD among diabetic patients with ED. Further work is needed probing the mechanisms through which diabetes affects the pathogenesis of ED and PD.

Name : **Prof . Mohamed Arafa**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Efficacy of sertraline hydrochloride in treatment of premature ejaculation: a placebo-controlled study using a validated questionnaire**

M Arafa and R Shamloul

Journal : **International Journal of Impotence Research 06 531-537 (2006)**

ISSN : 0955-9930 **Impact Factor :** 2.19

Abstract :

Selective serotonin reuptake inhibitors (SSRIs) are increasingly used to treat premature ejaculation. We report a large prospective placebo-controlled crossover study of sertraline in premature ejaculation (PE) using Arabic Index of Premature Ejaculation (AIPE). One hundred and forty-seven men suffering from PE were enrolled in a randomized single-blinded crossover study of sertraline hydrochloride and placebo. Patients were randomized into group 1 (n ¼ 77) and group 2 (n ¼ 70). Both groups received sertraline and placebo interchangeably for 4 weeks. Overall, 127 (81%) of 157 subjects experienced a significant increase in their AIPE total score after sertraline treatment. Sixty-six (66%) of 100 patients available for follow-up experienced relapse of PE within 6 months after sertraline withdrawal. The active drug was generally well tolerated. Our relatively large study, using a validated questionnaire (AIPE), confirmed the useful effect of sertraline on PE.

Key Words :

premature ejaculation; sertraline; questionnaires

International Publications Awards
Cairo University

Name : **Prof . Mohamed El Daly**

Dep. : **General Health**

Title : **Higher clearance of hepatitis C virus infection in females compared with males.**

Bakr I, Rekacewicz C, El Hosseiny M, Ismail S, El Daly M, El-Kafrawy S, Esmat G, Hamid MA, Mohamed MK, Fontanet A.

Journal : **Gut 8 1183-7 (2006)**

ISSN : 0017-5749 **Impact Factor :** 7.69

Abstract :

According to the literature, 14-46% of subjects clear hepatitis C virus (HCV) from blood after infection. Controversy exists about sex differences in HCV clearance rates. PATIENTS AND METHODS: We compared HCV clearance in males and females using data from a large population based study on HCV infection in Egypt. Definitions used in the paper were: cleared HCV infection (positive HCV antibody and negative HCV RNA test results) and chronic HCV infection (positive HCV antibody and positive HCV RNA test results). The study sample included 4720 village residents aged 18-65 years recruited through home based visits (n = 2425) or voluntary screening (n = 2295). RESULTS: Overall, HCV antibody prevalence was 910/4720 (19.3% (95% confidence interval 18.2-20.4)). Of those with HCV antibodies (n = 910), 61.5% had chronic HCV infection. Compared with males, females were more likely to have cleared the virus (44.6% v 33.7%, respectively; p = 0.001). Control for age, schistosomiasis history, iatrogenic exposures, and sexual exposure to HCV did not alter the positive association between female sex and viral clearance. CONCLUSION: This study provides strong evidence in favour of a higher HCV clearance rate in females compared with males.

International Publications Awards
Cairo University

Name : **Prof . Mohamed El-Dakhly**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Assessment of seminal plasma laminin in fertile and infertile men.**

El-Dakhly MR, Tawadrous GA, Mostafa T, Roaia MM, El-Nashar AR, Shedeed SA, Kamel II, Aziz AA and El-Mohtaseb Y.

Journal : **Asian J Androl 9(1) 63-67 (2006)**

ISSN : 1008-682X **Impact Factor :** 1.73

Abstract :

To assess laminin levels in the seminal plasma of infertile and fertile men, and to analyze the correlation of laminin levels with sperm count, age, sperm motility and semen volume. METHODS: One hundred and twenty-five recruited men were equally divided into five groups according to their sperm concentration and clinical examination: fertile normozoospermia, o ligoasthenozoospermia, non-obstructive azoospermia (NOA), obstructive azoospermia (OA) and congenital bilateral absent vas deferens (CBAVD). The patients' medical history was investigated and patients underwent clinical examination, conventional semen analysis and estimation of seminal plasma laminin by radioimmunoassay. RESULTS: Seminal plasma laminin levels of successive groups were: 2.82 +/- 0.62, 2.49 +/- 0.44, 1.77 +/- 0.56, 1.72 +/- 0.76, 1.35 +/- 0.63 U/mL, respectively. The fertile normozoospermic group showed the highest concentration compared to all infertile groups with significant differences compared to azoospermic groups ($P<0.05$). Testicular contribution was estimated to be approximately one-third of the seminal laminin. Seminal plasma laminin demonstrated significant correlation with sperm concentration ($r = 0.460$, $P < 0.001$) and nonsignificant correlation with age ($r = 0.021$, $P = 0.940$), sperm motility percentage ($r = 0.142$, $P = 0.615$) and semen volume ($r = 0.035$, $P = 0.087$). CONCLUSION: Seminal plasma laminin is derived mostly from prostatic and testicular portions and minimally from the seminal vesicle and vas deferens. Estimating seminal laminin alone is not conclusive in diagnosing different cases of male infertility.

Name : **Prof . Mohamed El-Komy**

Dep. : **Dermatology**

Title : **Nailfold fluconazole fluid injection for fingernail onychomycosis**

M. H. M. El-Komy

Journal : **Clinical and Experimental Dermatology 31 465-467 (2006)**

ISSN : 0307-6938 **Impact Factor :** 1.43

Abstract :

Onychomycosis or fungal infections of the nails are difficult to eradicate with drug treatment. Oral fluconazole treatment for onychomycosis needs long treatment periods, may cause headache, nausea, and gastrointestinal upset. Moreover, it inhibits the cytochrome P450 enzyme system, leading to some potentially significant drug interactions. It should not be coadministered with oral hypoglycaemic agents, phenytoin, cyclosporin, rifampin, theophylline or terfenadine. In an attempt to reduce such hazards, we evaluated the efficacy of 2 mg /mL fluconazole infusion, injected in the proximal nailfold of patients with onychomycosis. The results of this study suggest that weekly nailfold fluconazole injection might be useful in clinically clearing onychomycosis of the fingers.

Name : **Prof . Mohamed Haidara**

Dep. : **Physiology**

Title : **Role of Oxidative Stress in Development of Cardiovascular Complications in Diabetes Mellitus**

Mohamed A. Haidara , Hanna Z. Yaseen , Moshira Rateb , Hania Ammar and Mahmoud A. Zorkani

Journal : **Current Vascular Pharmacology 4 215-227 (2006)**

ISSN : 1570-1611 **Impact Factor :** 3.97

Abstract :

Diabetes represents a serious risk factor for the development of cardiovascular problems such as coronary heart disease, peripheral arterial disease, hypertension, stroke, cardiomyopathy, nephropathy and retinopathy. Identifying the pathogenesis of this increased risk provides a basis for secondary intervention to reduce morbidity and mortality in diabetic patients. Hyperglycemia and protein glycation, increased inflammation, a prothrombotic state and endothelial dysfunction have all been implicated as possible mechanisms for such complications. A linking element between many of these phenomena could possibly be, among other factors, increased production of reactive oxygen species. Vascular endothelial cells have several physiological actions that are essential for the normal function of the cardiovascular system. These include the production of nitric oxide (NO), which regulates vasodilatation, anticoagulation, leukocyte adhesion, smooth muscle proliferation and the antioxidative capacity of endothelial cells. However, under conditions of hyperglycemia, excessive amounts of superoxide radicals are produced inside vascular cells and this can interfere with NO production leading to the possible complications. This article aims at reviewing the links between reactive oxygen species, diabetes and vascular disease and whether or not antioxidants can alter the course of vascular complications in diabetic patients and animal models. A possible beneficial effect of antioxidants might present a new addition to the range of secondary preventive measures used in diabetic patients.

Key Words :

Diabetes mellitus, cardiovascular complications, hypertension, endothelial dysfunction, free radicals, antioxidants,vitamin E, vitamin C.

Name : **Prof . Mohamed Mohsen Ibrahim**

Dep. : **Cardiology**

Title : **RAS Inhibition in Hypertension**

M Mohsen Ibrahim

Journal : **Human Hypertension 101-108 (2006)**

ISSN : 0950-9240 **Impact Factor :** 2.40

Abstract :

Drugs that inhibit the renin–angiotensin system (RAS), namely angiotensin-converting enzyme inhibitors (ACE-I) and angiotensin receptor antagonists (ARA) are gaining increasing popularity as initial medications for the management of hypertensive patients. In the year 2002, ACE-I were the most commonly prescribed drugs for the treatment of hypertension in USA. Although their antihypertensive efficacy as monotherapy is similar to other antihypertensive agents, they have the advantage of better tolerability, limited side effects and a favorable metabolic profile. When compared to other antihypertensive agents (diuretics, beta-adrenergic blockers and calcium antagonists) in large clinical trials, ACE-I and ARA provided no additional advantages regarding improvement in cardiovascular and total mortality. With the exception of the superiority of ARA in prevention of stroke, RAS inhibitors have no advantage over other agents in prevention of other cardiovascular morbid events, namely, heart failure (though ACE-I are superior to calcium antagonists), coronary heart disease and total cardiovascular events. However, there is the possibility that these agents have other benefits beyond blood pressure lowering. At equal degrees of blood pressure reduction, RAS inhibitors prevent or delay the development of diabetes mellitus and provide better end-organ protection, kidneys, blood vessels and the heart when compared with other antihypertensive agents. The combined use of ACE-I and ARA is particularly useful in organ protection. RAS inhibitors are specifically indicated in the treatment of hypertension in patients with impaired left ventricular systolic function, diabetes, proteinuria, impaired kidney function, myocardial infarction, multiple cardiovascular risk factors and possibly elderly patients. The main limitation of the ACE-I is cough and rarely angioedema. Elderly patients or those who are volume depleted or receiving large doses of diuretics or in heart failure are liable to develop hypotensive reaction and/or deterioration in kidney function.

Key Words :

Renin–angiotensin system; Hypertension; Renal failure.

Name : **Prof . Mohamed Shaarawy**

Dep. : **Obstetrics and Gynecology**

Title : **Effects of the Long-Term Use of Depot Medroxyprogesterone Acetate as Hormonal Contraceptive on Bone Mineral Density and Biochemical Markers of Bone Remodeling**

Mohamed Shaarawy , Samira Yousef El-Mallah , Samia Seoudi , Mohamed Hassan and Iman Abdel Mohsen

Journal : **Contraception 74 297-302 (2006)**

ISSN : 0010-7824 **Impact Factor :** 1.71

Abstract :

Purpose and Method: Our objective is to evaluate the effects of the long-term use of depot medroxyprogesterone acetate (DMPA) as a method of contraception on bone mineral density (BMD) and bone remodeling. Forty women (21— 44 years old) who used DMPA for contraception for < 1, 1-2 and >5 years, in addition to 20 age-matched healthy women (nonusers), participated in this study. Lumbar spine BMD (LS-BMD) was measured by dual-energy X-ray absorptionmetry. Serum osteocalcin (OC), a bone formation marker, was measured by enzyme amplification sorbent immunoassay. Urinary deoxypyridinoline (DPD), a bone resorption marker, was determined by enzyme immunoassay. Results: Serum OC and urinary DPD levels in women who used DMPA for < 1, 1-2 and >5 years were significantly increased compared to the corresponding levels in nonusers. The increase of both biomarkers was more pronounced with longer duration of use. LS-BMD was significantly decreased in women on long-term DMPA use compared to LS-BMD in nonusers. The mean percentage decrease of LS-BMD in women who used DMPA for 1-2 and >5 years was 9% and 11.8%, respectively. LS-BMD was negatively correlated with serum OC and urinary DPD in women who used DMPA. On the other hand, LS-BMD and bone turnover were not significantly different between women who used DMPA for < 1 year and nonusers.
Conclusion: Long-term use of DMPA (>2 years) had a significant adverse effect on BMD and induced increased bone turnover, as evidenced by a significant increase in biochemical indices of bone formation and resorption. The measurement of LS-BMD and of biomarkers of bone turnover may be recommended in women aged above 40 years and who used DMPA for a long duration (2-5 years).

Key Words :

Medroxyprogesterone acetate; BMD ; Bone remodeling markers

Name : **Prof . Mohammad Ali EL-Darouty**

Dep. : **Dermatology**

Title : **ReportMicroscopic Study of Normal Skin in Cases of Mycosis Fungoides**

Mohammad A. El-Darouti, MD, Salonaz A. Marzouk, MD, Manal Bosseila, MD,Ola Abu Zeid, MD, Omar El-Safouri, MD, Amira Zayed, MD, Amany El-Ramly, MD, and Mona R. E. Abdel-Halim, MD

Journal : **The International Society of Dermatology 1043-1046 (2006)**

ISSN : 0011-9059 **Impact Factor :** 0.94

Abstract :

Background During therapy of patients with mycosis fungoides (MF) at the Department of Dermatology, Kasr El-Aini Hospital, follow-up biopsies are routinely taken every 2 months. It was noticed that lesions of MF might become clinically normal during treatment, and yet still show microscopical evidence of MF. This finding raised the possibility that clinically normal skin in MF could be microscopically involved.
Aim The aim of our work was to evaluate the degree of histopathological involvement of normal-looking skin in patients with MF.
Patients and methods Thirty patients with stage IB were biopsied from their normal skin. Two biopsies were taken: one proximal (2 cm) and the other distal (> 5 cm) from any visible lesion. Ten normal controls were included in the study. All specimens were stained with H&E and examined microscopically. The microscopical diagnosis was confirmed by immunophenotyping. Results Epidermotropism was detected in 21 (70%) of the proximal skin biopsies and 14 (47%) of the distal skin biopsies, whereas no biopsy from the control group showed epidermotropism. All the proximal skin biopsies showed dermal infiltrate and 90% of the biopsies from the distal normal skin showed dermal infiltrate (mostly superficial perivascular). Conclusion Normal skin in patients with MF could be affected microscopically and this may raise questions regarding the credibility of the current staging classification of MF, and may necessitate taking biopsies from normal skin before starting topical treatment. During MF treatment, biopsies from cured lesions are required before starting withdrawal.

International Publications Awards
Cairo University

Name : **Prof . Mohammad Ali EL-Darouty**

Dep. : **Dermatology**

Title : **Histopathological study of apparently normal skin of patients with leprosy**

Mohammad A. El-Darouti, MD, Soliman Hussein, MD, Salonaz A. Marzouk, MD, Naglaa Nabil, MD, Nahla S. Hunter, MD, Duaa Mahgoub, MD, Nermine H. El-Eishi, MD, and Mona R. E. Abdel-Halim, MD

Journal : **International Journal of Dermatology 45 292–296 (2006)**

ISSN : 0011-9059 **Impact Factor :** 0.942

Abstract :

Background Several clinical and laboratory observations point to the possible microscopical affection of normal-looking skin in leprosy.
Objective This study was carried out to verify the microscopical affection of apparently normal-looking skin in different types of leprosy.
Patients and methods The study included 50 patients with different clinical types of leprosy. Biopsies from both skin lesions and normal-looking skin were obtained from each patient and examined for microscopical evidence of leprosy. Results Microscopical affection of normal-looking skin was detected in 52% of our cases, with higher incidence of affection towards the lepromatous end of the disease.
Conclusion Our findings underscore that the incidence of microscopical affection of normal-looking skin in leprosy is much higher on the lepromatous end of the spectrum of leprosy than on the tuberculoid end; during treatment, the leprosy granulomas may disappear from the normal skin before the clinical lesions. Moreover, the microscopic picture of indeterminate leprosy can be observed in the normal-looking skin of patients with tuberculoid leprosy or lepromatous leprosy, and this description appears not to be confined to the entity known as indeterminate leprosy.

Name : **Prof . Mohammad Ali EL-Darouty**

Dep. : **Dermatology**

Title : **Muckle–Wells syndrome: Report of six cases with hyperpigmented sclerodermoid skin lesions**

Mohammad A. El-Darouti, MD, Salonaz A. Marzouk, MD, and Mona R. E. Abdel-Halim, MD

Journal : **International Journal of Dermatology 45 239–244 (2006)**

ISSN : 0011-9059 **Impact Factor :** 0.942

Abstract :

Muckle–Wells syndrome (MWS) is a rare syndrome, characterized by chronic recurrent urticaria, often combined with fever, chills, rigors, malaise, and arthralgia. Progressive sensorineural deafness, and, in approximately one third of the patients, amyloidosis of the kidneys as well as of other organs may occur. It was first described in 1962 by Muckle and Wells. Herein we describe six cases of MWS showing, in addition to the classic features of MWS, unique skin lesions that to the best of our knowledge have not been described before in association with MWS.

International Publications Awards
Cairo University

Name : **Prof . Mohammad Ali EL-Darouty**

Dep. : **Dermatology**

Title : **Vitiligo Vs. Hypopigmented Mycosis Fungoides (Histopathological and Immunohistochemical Study, Univariate Analysis)**

Mohammad A. EL-darouti, Salonaz A. Marzouk, Omar Azzam, Marwa Mohsen, Fawzi, Mona R.E. Abdel-Halim, Amira A. Zayed and Tahra M. Leheta

Journal : **Eur J Dermatol 1-6 (2006)**

ISSN : 1167-1122 **Impact Factor :** 1.29

Abstract :

Vitiligo is a common skin disease characterized by the presence of well circumscribed, depigmented milky white macules devoid of identifiable melanocytes. On the otherhand, hypopigmented mycosis fungoides (MF) is a rare variant of MF which presents clinically as persistent hypopigmented macules and patches. Both disorders show a predomi- nance of CD8+ T cells in tissue samples and hence the differentiation between the two diseases on clinical, histopathological and even immu- nohistochemical grounds may offer great diffculty. The aim of this work is to identity certain histopathological clues which might help to differ- entiate between the two diseases. The study included 54 patients (26 vitiligo patients and 28 patients with Hypopigmented MF). Skin biopsies were taken and examined by hematoxylin and eosin and CD3, CD4 and CD8 markers were performed for ten vitiligo and nine MF patients. We have found that epidermotropism, hydropic degeneration of basal cells, partial loss of pigment, preservation of some melanocytes, presence of lymphocytes within the papillary dermis, increased density of the dermal infiltrate and wiry fibrosis of the papillary dermal collagen were detected with a significantly higher incidence in hypopigmented MF rather than vitiligo (P-values < 0.0001, < 0.00011, < 0.00011, = 0.001, = 0.008 and = 0.001 respectively). On the other hand, focal thickening of the base- ment membrane, complete loss of pigmentation, total absence of mel- anocytes, as well as absence or sparsness of lymphocytes in the dermal papillae were seen much more frequently in vitiligo. Statistical analy- sis of these differences was significant with P-values < 0.00011, < 0.00011, < 0.00011, = 0.008 respectively, regarding these patho- logical criteria. We conclude that differentiation of hypopigmented MF from vitiligo is possible by relying on the histopathological clues described in this study. This is particularly useful in areas of the world where cost benefit is crucial.

Name : **Prof . Olfat Shaker**

Dep. : **Medical Biochemistry**

Title : **Gene Expression of E-Selectin in Tissue and Its Protein Level in Serum of Breast Cancer Patients**

Olfat G Shaker, Mohamed A Ay El-Deen, Mohamed T Abd El-Rahim, and Randa M Talaat

Journal : **Tumori 92 524-530 (2006)**

ISSN : 0300-8916 **Impact Factor :** 0.74

Abstract :

This study aims to detect the expression of E-selectin in tissue and the serum level of its soluble form in patients with primary breast cancer and benign breast tu- mors and to correlate the results with the clinicopathological data of the subjects. Methods: Fifty participants were included in the study and stratified into 3 subgroups. Group A comprised 30 patients with primary breast cancer, group B 9 patients with benign breast tumors, and group C 11 healthy control women under- going reduction mammoplasty. E-selectin gene expression was investigated in breast tissues by PCR techniques and soluble E-selectin was measured in sera by ELISA. Results: The E-selectin gene was expressed in 73.3% of group A, 44.4% of group B and 9.1% of group C. It was expressed in 61.5% of patients with grade 2 breast cancer and in 82.4% of patients with grade 3 breast cancer. E-selectin gene expres- sion was detected in 60%, 73.3% and 100% of patients with stage II, III and IV tumors, respectively. It was detected in 81.8% of patients with node-positive primary breast cancer and in 50% of patients with node-negative cancer. PCR in situ hybridization was done to locate the site of E-selectin expres- sion. E-selectin was found on the membranes of peritumoral endothelial cells while it was not found on breast epithelial cells. Serum levels of soluble E-selectin were significantly el- evated in group A compared to groups B and C ($P < 0.001$). They increased significantly with increasing breast cancer stage ($P < 0.001$) and were significantly higher in patients with lymph node involvement than in patients without node in- volvement ($P < 0.001$).Conclusions: The studied marker showed associations with es- tablished prognostic parameters such as lymph node involve- ment and histological tumor grade. Further studies are need- ed to evaluate E-selectin as a possible target for antimetastat- ic therapy through modulation of the expression of the cell adhesion molecule. E-selectin can be regarded as a promis- ing strategy in improving tumor therapy.

Key Words :

Breast Cancer; E-Selectin; Gene Expression.

Name : **Prof . Olfat Shaker**

Dep. : **Medical Biochemistry**

Title : **Serum Levels of Tissue Inhibitors of Metalloproteinase 2 in Patients with Systemic Sclerosis with Duration More Than 2 Years: Correlation with Cardiac and Pulmonary Abnormalities**

Amira Shahin, Amani Elsawaf, Shahira Ramadan, Olfat Shaker, Mona Amin and Mohamed Taha

Journal : **Mediators of Inflammation 1-6 (2006)**

ISSN : 0962-9351 **Impact Factor :** 0.95

Abstract :

In this study, we measured the serum concentration of TIMP-2 in patients with systemic sclerosis (SSc) and explored its possible correlation with cardiac and pulmonary lesions. We studied 42 patients with SSc, with duration equal to or more than 2 years. CT chest, ECG, echocardiography, and serum TIMP-2 concentration measurement using ELISA technique were performed in all patients and in 25 normal controls. The mean serum levels of TIMP-2 in patients was higher than in controls (P = .005). The mean CT score of dSSc patients with elevated TIMP-2 levels was significantly higher than dSSc patients with normal levels (P = .013). Four patients out of five with elevated TIMP-2 levels showed diastolic dysfunction (80%), compared to 2 out of 15 lSSc patients with normal levels (13.3%), with P = .014. Our research, though involving a small group of patients, points to the probable role of TIMP-2 in the development of pulmonary lesions in dSSc patients and cardiac lesions in lSSc patients with duration equal to or more than 2 years.

Name : **Prof . Olfat Shaker**

Dep. : **Medical Biochemistry**

Title : **The Role of Interleukin-12 in the Pathogenesis of Psoriasis**

Olfat G. Shaker , Wedad Moustafa , Samia Essmat , Mona Abdel-Halim and Mohamed El-Komy

Journal : **Clinical Biochemistry 119-125 (2006)**

ISSN : 0009-9120 **Impact Factor :** 2.36

Abstract :

Objectives: To verify the role of IL-12 in the pathogenesis of psoriasis and determine its relation to IFNγ. Design and methods: Skin biopsies from lesional and non-lesional skin of 30 patients and 10 healthy controls were obtained for quantitative
PCR examination of IL-12 (P40) and IFNγ mRNA as well as in situ PCR of IL-12 (P40) and IFNγ mRNA. Results: IL-12 and IFNγ levels were higher in lesional skin than in non-lesional and control skin. A significant correlation between IL-12 and IFNγ was found. By in situ PCR hybridization, IL-12 expression was only found in the dermis, while IFNγ was invariably expressed in the dermis and/or epidermis. Conclusion: We suggest that IL-12 independently and through IFNγ induction may have a crucial role in the development of the active psoriatic lesion itself, where it is probably produced locally in the dermis as a step in the evolution of the psoriatic lesion.

Key Words :

Psoriasis; Interleukin-12; Interferon gamma; In situ PCR.

International Publications Awards
Cairo University

Name : **Prof . Osama Shaeer**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Methylene blue-guided repair of fractured penis**

Shaeer O

Journal : **Sex Med 2 349-54 (2006)**

ISSN : 1743-6095 **Impact Factor :** 4.67

Abstract :

Introduction: Fracture of the penis is a condition where excessive force applied to the long axis of the penis in the erect state results in rupture of the tunica albuginea of the corpus cavernosum. Surgical management can be confusing and time-consuming due to the concealment of the tear in organized blood and edematous tissue, necessitating extensive dissection in friable traumatized tissues, especially if the tear is a small one, or if there are multiple tears. AIM: The present work investigates the value of methylene blue in aiding the localization of tunical and urethral tears in such cases. PATIENTS AND METHODS: Twelve cases with delayed presentation of fracture penis were managed. In six patients, methylene blue was injected into the corpora cavernosa and through the urethral meatus to point out tears. In the other six patients, methylene blue was not used. MAIN OUTCOME MEASURES: Operative time and complication rate. RESULTS: Operative time was considerably less in the group that received methylene blue, and the repair was more straightforward. Complications issued only in the group that did not receive methylene blue considering the extensive lengthy dissection. CONCLUSION: Methylene blue-guided repair for trauma of the penis is an easy, reliable, safe, and fast method for spotting tears in the tunica albuginea of the corpora cavernosa or in the urethra, eliminating the need for unnecessary lengthening.

International Publications Awards
Cairo University

Name : **Prof . Osama Shaeer**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Correction of penile curvature by rotation of the corpora cavernosa: a case report.**

Shaeer O

Journal : **Sex Med 5 932-7 (2006)**

ISSN : 1743-6095 **Impact Factor :** 4.6

Abstract :

AIM: We report on the corporal rotation technique, customized for the management of ventral curvature in patients without hypospadias. METHODS: A male patient with ventral curvature of 90 degrees was operated on. The neurovascular bundle was mobilized for a short distance at the point of maximum curvature. The corpora cavernosa were approximated to each other in the dorsal midline by suturing pairs of longitudinal parallel incisions. To avoid urethral narrowing, minimal dissection was used to develop the groove on either side of the corpus spongiosum, to release it from its attachment to the rotated corpora cavernosa. RESULTS: Full correction of the curvature was achieved, without shortening, erectile dysfunction, or micturition problems. CONCLUSION: Corporal rotation can be applied for the correction of ventral penile curvature in patients with and without hypospadias, without sacrificing penile length.

International Publications Awards
Cairo University

Name : **Prof . Osama Shaeer**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Minimizing the losses in penile lengthening: "V-Y half-skin half-fat advancement flap" and "T-closure" combined with severing the suspensory ligament.**

Shaeer O, Shaeer K and el-Sebaie A

Journal : **Sex Med. 3(1) 155-160 (2006)**

ISSN : 1743-6095 **Impact Factor :** 4.676

Abstract :

The technique most commonly used for penile lengthening is the release of the suspensory ligament in combination with an inverted V-Y skin plasty. This technique has drawbacks such as the possibility of reattachment of the penis to the pubis, a hump that forms at the base of the penis, in addition to alteration in the angle of erection. AIM: In this work, we describe a new technique that overrides these drawbacks and minimize the loss of gained length. METHODS: The suspensory ligament was released through a penopubic incision. The caudal flap of the resected ligaments was reflected caudally and sutured to the Buck's fascia. The V flap was incised. The caudal half of the V was deskinned, leaving a cranial skin-covered V flap, and a caudal, rectangular fat flap. The fat flap was pulled into the gap between the base of the penis and the pubis and secured in position by suturing its deep surface and lower edge to the pubis. This maneuver filled up the gap. The V incision was closed as a Y. The penopubic incision was closed as a T shape, to avoid pulling the penis back at skin closure. A stay suture stretched from the glans to the thigh, maintaining the penis in the stretched position. A urinary catheter was inserted. RESULTS: Six months after surgery, there was no loss in the length gained. The angle of erection (as reported by the patient) was similar to that prior to the procedure. The skin incisions left no hump and a faint scar that was not troublesome to the patient. CONCLUSION: "V-Y half-skin half-fat advancement flap" and "T-closure" may improve the results of suspensory ligament release for penile lengthening. The reported techniques minimize the losses compromising length gain, whether in-surgery or following it

Name : **Prof . Osama Shaeer**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Penile girth augmentation using flaps "Shaeer's augmentation phalloplasty": a case report.**

Shaeer O, Shaeer K.

Journal : **Sex Med. 3(1) 164-169 (2006)**

ISSN : 1743-6095 **Impact Factor :** 4.67

Abstract :

Current girth augmentation techniques rely either on liposuction/injection or on the use of dermal fat grafts. These procedures have serious disadvantages, including regression in gained size, deformities, irregular contour, and asymmetry. Ideally, the augmentation technique should ensure durability and symmetry. This case report describes the first application of a flap (superficial circumflex iliac artery island flap) in penile girth augmentation. MATERIALS AND METHODS: The superficial circumflex iliac vessels were identified and the groin flap was elevated from lateral to medial, rotated toward the penis, and tunneled into a penopubic incision. It was wrapped around the penis short of the corpus spongiosum and insinuated under the glans. RESULTS: Six months after surgery, the patient had an erect girth of 19.5 cm and a flaccid girth of 16.5 cm, compared with 11 cm and 7 cm, respectively, before surgery, thus maintaining the intraoperative girth gain. The outer surface felt smooth with no lobulation. The size of the glans was proportionate to the shaft's girth. CONCLUSION: This case report shows that the application of flaps in penile girth augmentation may provide a reliable alternative to the currently applied techniques. Glans flaring promotes the aesthetic results and is applicable with other techniques of penile girth augmentation.

Name : **Prof . Rany Shamloul**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Sustained normalization of high blood pressure in spontaneously hypertensive rats by implanted hemin pump.**

Wang R, Shamloul R, Wang X and Meng Q, Wu L

Journal : **Hypertension 4 685-92 (2006)**

ISSN : 0194-911X **Impact Factor :** 6.33

Abstract :

Treatment of established hypertension, especially for prolonged control of this pathogenic process, represents a great challenge. To upregulate the expression of heme oxygenase (HO) to lower blood pressure (BP) of spontaneously hypertensive rats (SHRs), we administered hemin to 12-week-old adult SHRs through subcutaneously implanted osmotic minipumps for 3 consecutive weeks (the hemin protocol). Systolic BP of SHRs was normalized 123+/-2 mm Hg (n=20; P<0.001) and this normalization maintained for 9 months after the removal of hemin pumps. At the end of the hemin protocol, HO-1 expression, HO activity, soluble guanylyl cyclase expression, and cGMP content were all increased, but phosphodiesterase-5 expression was downregulated in the mesenteric arteries. The hemin protocol also reversed SHR-featured arterial eutrophic inward remodeling and decreased expression levels of vascular endothelial growth factor. These changes lasted 9 months after the hemin protocol. Our study, thus, formulates a novel hemin protocol that will not only normalize BP in SHRs with established hypertension but, more importantly, will also provide long-lasting antihypertension protection. Sustained upregulation of HO-1-linked signaling pathways and reversal of vascular remodeling in peripheral blood vessels mediate likely the antihypertensive effect of the hemin protocol.

International Publications Awards
Cairo University

Name : **Prof . Rany Shamloul**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Management of honeymoon impotence.**

Shamloul R.

Journal : **Sex Med 2 361-6 (2006)**

ISSN : 1743-6095 **Impact Factor :** 4.67

Abstract :

INTRODUCTION: Honeymoon impotence can be defined as the failure to be successfully involved in sexual intercourse at the beginning of marriage, particularly in the first few nights. While its exact causes are not yet elucidated, many studies recognize this problem as related to performance anxiety. AIM: The aim of this study was to report the outcome of management of patients with honeymoon impotence. METHODS AND MAIN OUTCOME MEASURES: This study included 100 consecutive patients presenting to our department complaining of failed sexual intercourse since the beginning of their marriage. History taking, completion of the abridged form of the International Index of Erectile Function (IIEF-5) questionnaire, and combined intracavernous injection and stimulation and nocturnal penile tumescence monitoring were performed. Penile duplex was performed to elucidate vascular insufficiency. All psychogenic patients with erectile dysfunction (ED) were treated with sildenafil and sex therapy. All organic ED patients were treated either with sildenafil alone or combined therapy with either intracavernous prostaglandin E1 or vacuum constriction device. RESULTS: Seventy-four patients had psychogenic ED and 26 patients had vasculogenic ED. All psychogenic ED patients were treated successfully with sildenafil and sex therapy. Twenty-two patients with vasculogenic ED were treated successfully with sildenafil or combined therapy, while four patients needed venous surgery. Minimal side effects of all treatment modalities occurred throughout the study. CONCLUSIONS: Management of honeymoon impotence requires profound diagnosis of its causative factors. Treating physicians in areas with high prevalence of this condition should be ready to manage this problem with vigilant systematic overture. A combined approach of sildenafil and sex therapy proved highly effective in treatment of honeymoon impotence of psychogenic origin; however, controlled studies are needed. Other patients showing functional erectile abnormalities should be treated accordingly.

Name : **Prof . Rany Shamloul**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Early treatment of cavernositis resulted in erectile function preservation.**

Shamloul R, Kamel I

Journal : **Sex Med 2 320-2 (2006)**

ISSN : 1743-6095 **Impact Factor :** 4.67

Abstract :

Introduction: Some of the more common complications of intracavernous injection (ICI) therapy include pain and prolonged erections. Rare reported complications include intracorporeal needle breakage and postinjection cavernositis. AIM: We report a case of early management of postinjection cavernositis resulting in preservation of erectile function with no angulation. METHODS: A 53-year-old male with no history of diabetes mellitus presented to our department with a small painful penile swelling 36 hours after ICI of 15 microg prostaglandin E1. Clinical, laboratory, and ultrasound assessments suggested the occurrence of cavernositis. Surgical debridement, abscess drainage, and antibiotics resulted in marked improvement. Follow-up showed normal erectile function with minimal scarring. CONCLUSIONS: Timely management of cavernositis can help prevent loss of erectile function. Stringent supervision of patients, after adequate ICI training, together with drug prescription, is essential.

International Publications Awards
Cairo University

Name : **Prof . Rany Shamloul**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Peak systolic velocities may be falsely low in young patients with erectile dysfunction.**

Shamloul R

Journal : **Sex Med. 3(1) 138-143 (2006)**

ISSN : 1743-6095 **Impact Factor :** 4.67

Abstract :

Introduction of duplex ultrasonography with color flow Doppler analysis after intracavernous injection of vasoactive drugs has been reported to be a minimally invasive and accurate method, and considered the gold-standard technique for evaluating penile hemodynamics. However, several studies have demonstrated that in some cases Color Doppler Ultrasound (CDU) testing may result in wrong diagnosis because of anxiety and increased sympathetic stimulation. AIM: This study was carried out to evaluate the impact of age on the decision to repeat CDU in patients with initial low peak systolic velocities (PSVs). METHODS: This is a prospective study involving 71 patients with erectile dysfunction (ED) who presented to the Department of Andrology, Sexology and Sexually Transmitted Diseases at Cairo University between December 2000 and April 2002. An intracavernous pharmacotest and CDU with prostaglandin E1, papaverine, and phentolamine was performed. All patients in the study had poor response to intracavernous pharmacotesting and achieved a low PSV (<30 cm/second) during the initial CDU examination. The CDU was repeated 2 weeks later. The 71 patients were grouped into four according to age: group A (20-29 years old) consisted of 11 patients, group B (30-39 years old) consisted of 19 patients, group C (40-49 years old) consisted of 20 patients, and group D (50-59 years old) consisted of 21 patients. RESULTS: The group A patients experienced a statistically significant increase ($P < 0.05$) in their PSV measurements, which reached normal values in the second CDU. None of the patients of groups B, C, or D experienced any statistically significant change ($P > 0.05$) in their PSV measurements in the second CDU, which remained below normal values. Also, there was a statistically significant difference between the PSV measurements of group A and the other three groups. CONCLUSIONS: Low PSV measurements in young men (less than 30 years old) with ED should be interpreted with caution. The effect of sympathetic overtone because of the environment in the office and anxiety related to penile injection, together with any underlying psychological disturbance, should be taken into consideration during the evaluation of the results of the CDU. Repetition of the CDU is recommended before considering any additional invasive diagnostic or therapeutic modalities.

International Publications Awards
Cairo University

Name : **Prof . Rany Shamloul**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Increased intracavernosal pressure response in hypertensive rats after chronic hemin treatment.**

Shamloul Rand Wang R

Journal : **Sex Med. 3(4) 619-627 (2006)**

ISSN : 1743-6095 **Impact Factor :** 4.67

Abstract :

Erectile dysfunction (ED) is increased in prevalence in patients with arterial hypertension. Whether upregulation of heme oxygenase (HO) expression could improve penile erection has been unknown. AIMS: To correlate altered expression profiles of HO-1 and soluble guanylyl cyclase (sGC) in penile tissues with low intracavernosal pressure (ICP) in adult spontaneously hypertensive rats (SHR); and to investigate therapeutic effect of hemin-induced upregulation of HO-1 in penile tissues on ED developed in adult SHR. METHODS AND MAIN OUTCOME MEASURES: Intracavernosal pressure changes after electrical stimulation were monitored in adult SHR and age-matched normotensive Sprague-Dawley (SD) rats after chronic administration of either hemin or hydralazine. Expression levels of HO-1, HO-2, sGC, and phosphodiesterase type 5 (PDE5) were examined with Western blot. RESULTS: Frequency-dependent ICP changes were reduced in adult SHR. Three weeks after hemin treatment, high blood pressure of SHR was normalized and ICP responses to electrical stimulations in SHR were significantly increased to the level of normotensive rats. Hydralazine-treated SHR had normalized blood pressure but unaltered low ICP response. Expression of HO-1 and sGC was upregulated and that of PDE5 downregulated in hemin-treated, but not hydralazine-treated, SHR. CONCLUSIONS: Decreased erectile responses in adult SHR can be improved through chronic hemin treatment. Prolonged upregulation of HO-1 and sGC as well as lowered expression of PDE5 may at least partially explain the effect of hemin treatment on ICP. Upregulation of HO-1 may represent a novel therapeutic approach to treat ED.

Name : **Prof . Rany Shamloul**

Dep. : **Andrology, Sexology, and Sexually Transmitted Diseases**

Title : **Chronic prostatitis in premature ejaculation: a cohort study in 153 men.**

Shamloul R, el-Nashaar A

Journal : **Sex Med 1 150-4 (2006)**

ISSN : 1743-6095 **Impact Factor :** 4.676

Abstract :

INTRODUCTION: Premature ejaculation is a common male sexual dysfunction, affecting 30-40% of sexually active men in an age-dependent manner. Chronic prostatitis has been suggested as an important organic cause of premature ejaculation. AIM: The aim of this study was to confirm previous data reported on the incidence of chronic prostatitis in a large cohort of patients with primary and secondary premature ejaculation. METHODS: A total of 153 consecutive heterosexual men aged 29-51 years with premature ejaculation and another 100 male healthy subjects were included in this study. Sequential microbiologic specimens were obtained according to the standardized Meares and Stamey protocol. Nonbacterial prostatitis was defined by the evidence of prostatic inflammation but negative cultures of urine and prostatic fluids in men with various genitourinary symptoms. RESULTS: There was no significant difference between patients and control subjects regarding age, education, or intercourse frequency. Prostatic inflammation was found in 64% and chronic bacterial prostatitis in 52% of the patients with premature ejaculation, respectively, showing statistical significance compared with control subjects ($P < 0.05$). CONCLUSIONS: Results in our study showed a high prevalence of chronic prostatitis in patients with premature ejaculation. Examination of the prostate, physically and microbiologically, should be considered during assessment of patients with premature ejaculation.

International Publications Awards
Cairo University

Name : **Prof . Rasha El-sayed Lotfy**

Dep. : **Rheumatology and Rehabilitation**

Title : **The Validity and Reliability of the Graphic Rating Scale and Verbal Rating Scale for Measuring Pain Across Cultures: A Study in Egyptian and Dutch Women With Rheumatoid Arthritis**

Peter M. ten Klooster, MSc , Alexander P. J. Vlaar, MD , Erik Taal, PhD, Rasha E. Gheith, MD , Johannes J. Rasker, MD, PhD , Ayman K. El-Garf, MD, PhD, and Mart A. F. J. van de Laar, MD, PhD

Journal : **Clin J Pain 22 827-831 (2006)**

ISSN : 0749-8047 **Impact Factor :** 2.71

Abstract :

Single-item continuous rating scales such as the visual analog scale (VAS) or the similar graphic rating scale (GRS) and categorical scales like the verbal rating scale (VRS) are among the most commonly used measures of pain intensity.1,2 Both types of pain scales have shown good psychometric properties, although the VAS and the GRS generally tend to be more sensitive to change.3–6

The evidence supporting the use of these scales, however, is largely based on research conducted in Western settings. To our knowledge, no studies have directly compared the psychometric qualities of pain scales between patients from Arabic and Western cultures. The aim of this study was to examine the comparative validity and reliability of the GRS and the VRS in young female Egyptian and Dutch rheumatoid arthritis (RA) patients. The study confirmed that the GRS and VRS were reliable and valid in the total study cohort. Within the individual countries, the GRS seemed to perform better than the VRS

Key Words :

Pain Measurement; Graphic Rating Scale. Verbal Rating Scale; Rheumatoid Arthritis.

Name : **Dr . Rehab Kassem**

Dep. : **Ophthalmology**

Title : **Factors Affecting Sensory Functions After Successful Postoperative Ocular Alignment of Acquired Esotropia**

Rehab R. Kassem, FRCS(Glasg) and Hala M. Elhilali

Journal : **AAPOS 10(2) 112-116 (2006)**

ISSN : 1091-8531 **Impact Factor :** 0.62

Abstract :

Purpose: We sought to evaluate the sensory status of patients with acquired esotropia who were able to re-establish stable alignment by optical correction and surgery and to determine the possible predictors of the different sensory outcomes. Methods: Thirty-four successfully aligned esotropic patients were included in the study. Preoperative evaluation comprised history taking, measurement of visual acuity, evaluation of the sensory status (using the Worth 4-Dot test, and the Titmus Stereo test), measurement of ocular deviation, cycloplegic refraction, and fundus examination. All patients underwent successful surgical alignment to within 10 prism diopters ( ) of orthotropia. At each postoperative follow-up visit, the sensory functions and ocular alignment were assessed. Statistical analysis of the results was performed. Results: Among the 34 patients included in the study,
62% achieved fusion, 17% had diplopia, 15% had suppression, and 6% had a variable response to the Worth 4-Dot test at 6 months after surgery. Stereopsis was achieved in 32% as determined by the Titmus Stereo test. Statistical analysis revealed a significant relationship between the sensory status and the duration of strabismus (P
.00002), the age at surgery (P.00289), and postoperative ocular alignment (P.02211).
Conclusion: Early surgical and optical ocular alignment of strabismic patients is advisable to achieve fusion and stereopsis.

Key Words :

sensony;esobropia;fusion;diplopia;suppression

International Publications Awards
Cairo University

Name : **Prof . Salwa Ibrahim**

Dep. : **Internal Medicine**

Title : **Antibody level after hepatitis-B vaccination in hemodialysis patients: impact of dialysis adequacy, chronic inflammation, local endemicity and nutritional status.**

Ibrahim S, el-Din S, Bazzal I

Journal : **Natl Med Assoc 12 1953-7 (2006)**

ISSN : 0027-9684 **Impact Factor :** 1.255

Abstract :

We prospectively studied the evolution of HBsAg antibody (HBsAb) after primary vaccination (four doses; Engerix B, 40 pg i.m at 0, one, two and six months) in 29 patients who were seronegative (HBsAb <10 IU/L), had not been previously vaccinated and were on hemodialysis. Their mean age was 45.58 +/- 10.98 years, and the hemodialysis duration ranged from 1-21 years. In addition, we assessed dialysis adequacy for all cases on four different occasions beside the estimation of predialysis serum albumin, serum ferritin, C-reactive protein (CRP), transferrin saturation ratio (TSAT), body mass index (BMI) and subjective global assessment (SGA). We measured anti-HBs titer eight weeks after the fourth dose. Our results showed that two patients (6.90%) were nonresponders (HBsAb <10 IU/L) after the completion of vaccination. One patient (3.45%) was a weak responder (10-100 IU/L). Strikingly, 26 patients (89.65%) showed good antibody response (> 100 IU/L). HBsAb titers showed no significant correlation with age, duration of HD therapy, serum albumin, CRP, TSAT level, BMI or SGA scores ($p > 0.05$). Responders to primary vaccination had significantly higher levels of urea reduction ratio (%) and Kt/V compared to nonresponders (63.61 +/- 6.97% and 1.25 +/- 0.15 vs. 52.0 +/- 2.10% and 0.92 +/- 0.13, respectively, $P < 0.05$). In conclusion, this was a preliminary study showing a very high response to hepatitis-B vaccination among hemodialysis patients that neither correlated with age, systemic inflammation nor nutritional status. Efficient hemodialysis was associated with good response to hepatitis-B vaccine.

International Publications Awards
Cairo University

Name : **Prof . Samia Mohamed Esmat**

Dep. : **Dermatology**

Title : **Lipoprotein (A) and Nitrites in Behcet's Disease: Relationship with Disease Activity and Vascular Complictions**

Samia Esmat ,Hanan El Sherif , Somaya Anwar Ibtsam Fahmy , Manal Elmenyawi and Olphat Shaker

Journal : **Eur J Dermatol 1-5 (2006)**

ISSN : 1167-1122 **Impact Factor :** 1.29

Abstract :

Our object was the assessment of serum lipoprotein(a) {Lp(a)} and nitrites in Behcet's disease (BD) patients and their relation to vascular events and disease activity. Thirty cases of BD and 14 healthy volunteers were included. Serum levels of Lp(a) were estimated using enzyme- linked immunosorbent assays. Serum nitrites were measured according to the method of Benjamin and Vallence. Compared to controls, BD patients had significantly lower concentrations of serum nitrites, and significantly higher concentrations of Serum Lp(a). Significantly higher levels of serum Lp(a) were observed in patients with vascular complica- tions, while significantly lower levels of serum nitrites were found during disease activity and in patients with erythema nodosum like lesions. Increased serum lipoprotein (a) may contribute to the increased incidence of vascular complications in Behcet's disease. Decreased nitrites can be considered as a marker of disease activity that may be related to endothelial dysfunction.

Key Words :

Behcet's disease; Aipoprtein A; Nitrites

Name : **Prof . Shereen Abdel Ghaffar**

Dep. : **Pediatrics**

Title : **Carotid Intima-Media Thickness: An Index for Subclinical Atherosclerosis in Type 1 Diabetes**

Shereen Abdelghaffar,a Mona El Amir,b Amr El Hadidi,c and Fatma El Mougid

Journal : **Tropical Pediatrics 52 39-45 (2006)**

ISSN : 0142-6338 **Impact Factor :** 0.719

Abstract :

Cardiovascular disease and the development of coronary artery atherosclerosis play a pivotal role in increasing mortality in patients with diabetes. The aim of the present study was to determine the presence of subclinical atherosclerosis (measured as carotid intima-media thickness [cIMT] and to study possible associated risk factors in adolescents with type 1 diabetes. Forty type 1 diabetic subjects, aged 11-30 years, with duration of diabetes 3-25 years and 40 normal healthy controls, were included. Blood pressure (BP) measurement, as well as screening for diabetic complications, was performed. Lipid profile, albumin/creatinine ratio, renal functions and glycosylated hemoglobin (HB A(1)c) were assayed. Carotid intima-media thickness (cIMT) was measured using ultrasound. The mean aggregate cIMT was higher in diabetics than controls (0.6 mm 00 +/- 0.1 vs. 0.4 mm +/- 0.1, p = 0.000). Moreover, it was higher in patients with positive family history of type 2 diabetes than in those with negative family history (mean 0.7 mm +/- 0.1 vs. 0.6 mm +/- 0.1, p = 0.018). cIMT was found to positively correlate with: age in both diabetics and controls (r = 0.76, p = 0.000, r = 0.74, p = 0.000 respectively), body mass index (BMI) in diabetics but not controls (r = 0.82, p = 0.000, r = 0.30, p = 0.06 respectively). In diabetics, mean aggregate cIMT positively correlated with duration of diabetes (r = 0.66, p = 0.000), systolic blood pressure (r = 0.82, p = 0.000), diastolic BP (r = 0.83, p = 0.000), as well as HB A1c (r = 0.40, p = 0.004) and correlated negatively with high density lipoprotein -cholesterol (HDL-C) (r = -0.88, p = 0.000).
As cardiovascular morbidity is high in diabetes, non-invasive methods for monitoring vascular changes as cIMT might be useful in clinical practice for early diagnosis of subclinical atherosclerosis, which can allow for strategies designed to reduce the cardiovascular event rate in those patients.

International Publications Awards
Cairo University

Name : **Prof . Tamer Gheita**

Dep. : **Rheumatology and Rehabilitation**

Title : **Multislice CT pulmonary findings in Behçet's disease**

Y. Emad , N. Abdel-Razek , T. Gheita , M. El-Wakd ,T. El Gohary and A. Samadoni

Journal : **Clinical Rheumatology 26 879-884 (2006)**

ISSN : 0770-3198 **Impact Factor :** 1.26

Abstract :

Pulmonary artery aneurysm is the best-defined type of pulmonary disease in Behçet's disease (BD) with an important morbidity and mortality. The objective of this study was to assess the contribution of high-resolution dynamic chest CT imaging for one of the most serious aspects of BD: pulmonary artery aneurysm and other pulmonary parenchymal involvement. Sixteen BD patients were recruited for this study, (14 men, 87.5%, and 2 women, 12.5%). All patients fulfilled the 1990 American College of Rheumatology criteria for classification of BD [International Study Group for Behçet's Disease, Lancet 335:1078–1080, (1990)]. All patients underwent thorough history taking, full clinical examination, and routine laboratory investigations. Plain chest X-rays and pulmonary CT angiography were performed on all patients in an attempt to assess the pulmonary vasculature and lung parenchyma. Pulmonary vascular abnormalities were as follows: pulmonary artery aneurysms of varying sizes in nine patients (56.3%%), main pulmonary artery ectasia in two patients (12.5%), pulmonary artery embolism in two patients (12.5%), venacaval thrombosis in seven patients (43.8%), and pulmonary venous varices in four patients (25%). Pulmonary parenchymal abnormalities were as follows: three patients (18.8%) with mild central bronchi- ectasis, one patient (6.3%) with atelectasis, one patient (6.3%) with subpleural nodule, and four patients (25%) with interstitial lung disease. Eight of the male patients were smokers. Multislice CT is useful in demonstrating the entire spectrum of thoracic manifestations of BD. Multislice CT is noninvasive and provides excellent delineation of the vessel lumen and wall and perivascular tissues, as well as detailed information concerning the lung parenchyma, pleura, and mediastinal structures.

Key Words :

Behçet's disease ; Multislice CT pulmonary angiography ;Pulmonary artery aneurysms

International Publications Awards
Cairo University

Name : **Prof . Tamer Macky**

Dep. : **Ophthalmology**

Title : **Retinal toxicity of triamcinolone's vehicle (benzyl alcohol): an electrophysiologic and electron microscopic study.**

Macky TA, Helmy D, El Shazly N

Journal : **Graefes Arch Clin Exp Ophthalmol 6 817-24 (2006)**

ISSN : 0721-832X **Impact Factor :** 1.50

Abstract :

PURPOSE: To assess retinal toxicity of the vehicle of triamcinolone, benzyl alcohol (BA), when injected into the vitreous cavity of rabbits. METHODS: This prospective comparative experimental study included 24 pigmented rabbits assigned into two groups: group 1 (experimental, n = 12) received intravitreal 0.1 ml of BA, and group 2 (control, n = 12) received intravitreal 0.1 ml of balanced salt solution (BSS); all injections were done in the right eyes. Clinical examinations [slit lamp biomicroscopy, indirect ophthalmoloscopy, and three intraocular pressure (IOP) measurements] were done on both eyes before injection, at 1 and 3 h post injection, together with electroretinograms (ERGs) at 3 days, 1, 2, 4, and 6 weeks following injections. Three rabbits from each group were euthanased at 1, 2, 4, or 6 weeks and eyes were sent for light and electron microscopic examination for quantitative morphometric measurements. RESULTS: The mean amplitudes of the a and b waves of the BA-injected eyes were 6.42 +/- 9.02 microv and 11.18 +/- 15.18 microv at 3 days, respectively, which were significantly reduced compared with the BSS-injected eyes (30.87 +/- 8.22 microv and 57.90 +/- 13.38 microv, respectively; P < 0.01 t-test) and the non-injected contralateral eyes (36.20 +/- 7.85 microv and 64.10 +/- 9.36 microv, respectively; P < 0.01 t-test). These ERG responses continued to be significantly reduced in the BA-injected eyes (P < 0.01 t-test) throughout the study period. The mean ganglion cell count was significantly reduced (P < 0.005 t-test) in the BA-injected eyes (8.42 +/- 2.4) compared with the BSS- and non-injected eyes (16.42 +/- 3.9 and 16.5 +/- 4.2, respectively). The mean thicknesses of the inner nuclear layer (INL) and outer nuclear layer (ONL) were significantly reduced (P < 0.005 t-test) in the BA-injected eyes (3.78 +/- 0.96 microm and 11.77 +/- 1.29 microm, respectively) compared with the BSS- (6.1 +/- 0.92 microm and 21.82 +/- 0.95 microm, respectively) and non-injected eyes (7.05 +/- 1.9 microm and 22.49 +/- 1.01 microm, respectively). Electron microscopy showed moderate to severe intracellular changes in the ganglion cell layer, INL, ONL, and photoreceptor layer at 6 weeks in BA-injected eyes, with no significant changes in BSS-injected eye. There was no significant rise in the IOP or clinical evidence of increased lens density during the study period in any of the eyes. CONCLUSIONS: Triamcinolone acetonide's vehicle, BA, produced severe ERG and structural damage to the retina when injected intravitreally.

Name : **Prof . Tarek El-Gohary**

Dep. : **Critical Care Medicine**

Title : **Coronary angiographic findings in asymptomatic systemic sclerosis**

El-Gohary Tarek, Amin E. Yasser,Tamer Gheita

Journal : **Clinical Rheumatology 25 487-490 (2006)**

ISSN : 0770-3198 **Impact Factor :** 1.26

Abstract :

The objective of this study was to assess coronary arterial involvement in asymptomatic systemic sclerosis (SSc) patients. Fourteen female patients with SSc (five limited and nine diffuse) were recruited for this study.All patients fulfilled the following 1980 American College of Rheumatology criteria for classification of SSc. None of them had chest pain nor electrocardiogram (ECG) changes suggestive of myocardial ischemia. All patients underwent thorough history taking, full clinical examination, routine laboratory investigations, and basic screening for conventional atherosclerotic disease risk factors. ECG and coronary catheterization were done for all patients. We detected 19 coronary angiographic abnormalities in our cohort Three out of nine diffuse SSc patients (33.33%) had ectasia of the coronary arteries, and all of them had slow flow but none in the limited type. One patient with limited SSc showed spasm. Three out of five patients with limited type (60%) had stenosis, one of them had uncontrolled hypertension, while none had the diffuse type. Five patients (55.55%) of the diffuse type had tortuosity, while it was found in only two patients (40%) of the limited type. Three patients (33.3%) of the diffuse type had calcification of the coronaries, while it was seen in two patients (40%) of the limited type. Pathological involvement of coronary arteries in asymptomatic SSc patients is not uncommon but not paralleled by clinical symptomatology

Key Words :

Coronary angiography ; Coronary arteryectia; Systemic sclerosis

International Publications Awards
Cairo University

Name : Dr . Yasser Farid

Dep. : Orthopaedic

Title : **Endoprosthetic and Allograft-Prosthetic Composite Reconstruction of the Proximal Femur for Bone Neoplasms**

Farid Y, Lin PP, Lewis VO and Yasko AW.

Journal : **Clinical Orthopaedics and Related Research (2006)**

ISSN : 0009-921X **Impact Factor :** 2.161

Abstract :

Reconstruction of the proximal femur after tumor resection can be achieved with either an endoprosthesis or an allograft-prosthetic composite. We compared the two modalities for complications, functional outcome, and construct survival. We retrospectively analyzed 52 patients with endoprostheses and 20 with allograft-prosthetic composite reconstructions between 1974 and 2002. Median followup was 146 months and 76 months, respectively. Both methods were associated with low rates of early complications. Infections occurred in two patients with endoprostheses and one patient with an allograft-prosthetic composite reconstruction. Aseptic loosening was the most common (10%) late complication for patients with endoprostheses. Nonunion was the most common (10%) complication for patients with allograft prosthetic composite reconstructions. All host-allograft junctions eventually healed after bone-grafting. The Musculo skeletal Tumor Society scores were similar for patients with endoprostheses (70%) and allograft-prosthetic composites (82%). The median hip abductor strength was greater for patients with allograft-prosthetic composite reconstructions (4.6 of 5) than for patients with endoprostheses (2.8 of 5). Kaplan-Meier survivorship of the implant was 86% for both groups at 10 years. The consistent restoration of abductor muscle strength combined with the low morbidity and high durability support the use of allograft-prosthetic composite reconstruction in patients with long life expectancy. Level of Evidence: Therapeutic study, Level IV (case series--no, or historical control group). See the Guidelines for Authors for a complete description of levels of evidence.

Faculty of Engineering

International Publications Awards
Cairo University

Name : **Prof . Abdel Kareem Hassan**

Dep. : **Engineering Mathematics and Physics**

Title : **Non-derivative design centering algorithm using trust region optimization and variance reduction**

A. S. O. HASSAN, H. L. ABDEL-MALEK and A. A. RABIE

Journal : **Engineering Optimization 38 37-51 (2006)**

ISSN : 0305-215X **Impact Factor :** 0.52

Abstract :

Fluctuations in manufactured integrated circuit parameters may dramatically reduce the parametric yield. Yield maximization can be formulated as an unconstrained optimization problem in nominal parameter values, which is known as design centering. The high expense of yield evaluations, the absence of any gradient information, and the presence of some numerical noise obstruct the use of the traditional derivative-based optimization methods. In this article, a novel design centering algorithm is presented, which consists of a non-derivative unconstrained optimizer coupled with a variance reduction estimator. The used optimizer combines a trust region mechanism with quadratic interpolation and provides efficient use of yield evaluations. The stratified sampling technique is used to develop a lower variance yield estimator that reduces the number of circuit simulations required to reach a desired accuracy level. Numerical and practical circuit examples are used to demonstrate the efficiency of the proposed algorithm with respect to other methods in the same field.

Key Words :

Design centering; Trust region; Quadratic interpolation; Variance reduction

International Publications Awards
Cairo University

Name : **Prof . Adel Shaltout**

Dep. : **Electric Power and Machines**

Title : **Cost-Effective Control Scheme for Reduction of Torsional Torque Oscillations in Starting Large Induction Motors**

N. Abdel Rahim and A. Shaltout

Journal : **Electric Power Components 1163-1176 (2006)**

ISSN : 1532-5008 **Impact Factor :** 0.12

Abstract :

This paper presents a variable frequency drive using a slip-frequency control scheme for starting and operating large induction motors. The proposed control scheme regulates the slip frequency and sets a predetermined maximum value on the motor line current. Thus, it alleviates the problem of the high starting current of the motor, and suppresses the shaft torque oscillations, preventing them from reaching hazardous levels. In addition to its simplicity and hence cost-effectiveness, the proposed scheme is shown to be capable of reducing the motor line current by approximately 78% when compared to the direct on-line start of the large motor.

Key Words :

Large Induction Motors; Motor drive; Slip frequency control; Constant V/F control scheme.

International Publications Awards
Cairo University

Name : **Prof . Ahmed Mahmoud Soliman**

Dep. : **Electronics and Communication Engineering**

Title : **A Modified CMOS Realization of The Operational Transresistance Amplifier (OTRA)**

Hassan Mostafa, Ahmed M. Soliman

Journal : **Frequenz 60 70-76 (2006)**

ISSN : 0016-1136 **Impact Factor :** 0.121

Abstract :

A modified CMOS realization of the operational transresistance amplifier (OTRA) is presented. A fair comparison with Salama and Soliman OTRA [1] shows that the modified OTRA provides better perform- ance in all parameters. The OTRA is suitable for analog VLSI applications since it does not suffer from constant gain bandwidth product. Hence, it can exhibit wide bandwidth at high gain values. Moreover, an OTRA based variable gain amplifier (VGA) is introduced. A detailed analysis taking the effect of the finite transresistance gain in consideration is provided.

Key Words :

CMOS operational transresistance amplifier, analog VLSI applications, variable gain amplifier,
wireless communications,

International Publications Awards
Cairo University

Name : **Prof . Ahmed Mahmoud Soliman**

Dep. : **Electronics and Communication Engineering**

Title : **New op-Amp- RC to Gm- Ctransformation Method**

Rania F. Ahmed , Inas A. Awad and Ahmed M. Soliman

Journal : **Analog Integrated Circuits and Signal Processing 49 79-86 (2006)**

ISSN : 0925-1030 **Impact Factor :** 0.28

Abstract :

A new transformation method is proposed and used to transform op-amp-RC circuits to Gm -C ones with only grounded capacitors. The proposed method enables the generation of high-performance Gm -C filters that benefit from the advantages of good and well-known op-amp-RC structures and at the same time feature electronic tunability, high frequency capability and monolithic integration ability. An attractive feature of the proposed method is that it results in Gm -C structures with only grounded capacitors in spite of the presence of floating capacitors in the original op-amp-RC circuits.

Key Words :

Gm -C filters; Transformation method; Generation of Gm -C circuits.

International Publications Awards
Cairo University

Name : **Prof . Ahmed Mahmoud Soliman**

Dep. : **Electronics and Communication Engineering**

Title : **Novel Accurate Wideband CMOS Current Conveyor**

Hassan M. Hassan and Ahmed M. Soliman

Journal : **Frequenz 60 233-235 (2006)**

ISSN : 0016-1136 **Impact Factor :** 0.121

Abstract :

Novel CMOS Class-A positive type second generation current conveyor (CCII) suitable for high frequency applications is proposed. It provides accurate voltage and current tracking as well as low input imped- ance.

Key Words :

wideband, CMOS current conveyor, analog circuits

International Publications Awards
Cairo University

Name : **Prof . El Sayed Tag Eldin**

Dep. : **Electric Power and Machines**

Title : **Fault Location Scheme for Combined Overhead Line with Underground Power Cable**

El Sayed Tag Eldin , Mohamed Mamdouh Abd ElAziz , Doaa khalil Ibrahim and Mahmoud Gilany

Journal : **Electric Power Systems Research 76 928-935 (2006)**

ISSN : 0378-7796 **Impact Factor :** 0.33

Abstract :

This paper presents a fault location scheme for transmission systems consisting of an overhead line combined with an underground power cable. The algorithm requires phasor measurements data from one end of the transmission line and the synchronized measurements at the most far end of the power cable. Fault location is derived using distributed line model, modal transformation theory and Discrete Fourier Transform. The technique can be used on-line or off-line using the data stored in the digital fault recording apparatuses. The proposed scheme has the ability to locate the fault whether it is in the overhead line or in the underground power cable. In addition to, the proposed scheme gives an accurate estimation of the fault resistance at fault location. Extensive simulation studies carried out using MATLAB show that the proposed scheme provides a high accuracy in fault location under various fault conditions.

Key Words :

Fault location; Modal transformation; Phasor extraction; Combined overhead lines; Power cables.

International Publications Awards
Cairo University

Name : **Prof . El Sayed Tag Eldin**

Dep. : **Electric Power and Machines**

Title : **A Phasor-Based Double Ended Fault Location Scheme for Aged Power Cables**

Mohamed Mamdouh Abd Elaziz, El Sayed Tag Eldin,Doaa Khalil Ibrahim and Mahmoud Gilany

Journal : **Electric Power Components and Systems 34 417-432 (2005)**

ISSN : 1532-5008 **Impact Factor :** 0.12

Abstract :

This paper presents a fault location scheme for aged power cables using phasor measurements from both ends of the cable line. The proposed fault location scheme is derived using two-terminal measurements incorporated with a distributed line model, modal transformation theory, and discrete Fourier transforms. The proposed scheme can solve the problem of cable changing parameters, especially the change of the relative permittivity and thus for the operating positive, negative, and zero sequence capacitance changes. Extensive simulation studies are carried out using the alternative transients program ATP/EMTP. The simulation studies show that the proposed scheme provides a high accuracy in fault location calculations under various system and fault conditions. The results show that the proposed method responds very well, being insensitive to fault type, fault distance, fault resistance, and fault inception angle. The proposed scheme solves the problem of aged cables with change of electric parameters. In addition, it gives an accurate estimation of the fault resistance in all fault types.

Key Words :

Aged cabl; Distributed line model; Fault location; Modal transformation; Phasor extraction; And power cable lines protection.

International Publications Awards
Cairo University

Name : **Prof . Emad Al-Hussaini**

Dep. : **Electronics and Communication Engineering**

Title : **A Generalized Blind Adaptive Multi-User Detection Algorithm for Multipath Rayleigh Fading Channel Employed in a MIMO System**

Yasmine A. Fahmy, Hebat-Allah M. Mourad, and Emad K. Al-Hussaini

Journal : **Communications and Networks 290-296 (2006)**

ISSN : 1229-2370 **Impact Factor :** 0.457

Abstract :

In this paper, a generalized blind adaptive algorithm is introduced for multi-user detection of Direct Sequence Code Division Multiple Access (DS-CDMA) wireless communication systems. The main property of the proposed algorithm is its ability to resolve the multipath fading channel resulting in Inter Symbol Interference (ISI) as well as Multiple Access Interference (MAI). Other remarkable properties are its low complexity and mitigation to the near-far problem as well as its insensitivity to asynchronous transmission. The proposed system is based on the minimization of the output energy and convergence to the Minimum Mean Square Error (MMSE) detector. It is blind in the sense that it needs no knowledge of the other users' signatures, only the intended user signature and timing are required. Furthermore, the convergence of the Minimum Output Energy (MOE) detector to the MMSE detector is analytically proven in case of M-ary PSK. Depicted results show that the performance of the generalized system dominates those previously considered. Further improvements are obtained when Multiple Input Multiple Output (MIMO) technique is employed

Key Words :

Multi-user detection, Multipath Rayleigh fading channel, Blind adaptive techniques, MIMO.

International Publications Awards
Cairo University

Name : **Prof . Emad Al-Hussaini**

Dep. : **Electronics and Communication Engineering**

Title : **Three proposed mobile radio multirate CDMA systems through multipath Rayleigh fading channel**

Emad K. Al-Hussaini, Hebat-Allah M. Mourad and Ahmed S. Harmal

Journal : **Frequenz 126-129 (2006)**

ISSN : 0016-1136 **Impact Factor :** 0.127

Abstract :

The main properties of the precombining blind adaptive multiuser detector (PBA-MUD), which is composed of a rake and a minimum output energy receiver (MOE), are low complexity, multiple-access interference mitigation and remarkable near-far resistance in time–varying multipath fading channels scenarios. In this paper the PBA-MUD is applied to a multirate with variable spreading length, CDMA mobile system. Furthermore, a second multirate system is also suggested, using a prerake at the transmitter. This simplifies the receiver while maintaining a good performance. A channel coding is employed for both systems giving an appreciable improvement. Finally, a diversity technique is applied to the first proposed system resulting in an appreciable improvement. The performance measure is the average bit error rate versus the SNR per bit in a single cell environment.

Key Words :

Multirate, CDMA, blind adaptive multiuser detection, multipath Rayleigh fading channels, coding, diversity

International Publications Awards
Cairo University

Name : **Prof . Emad Al-Hussaini**

Dep. : **Electronics and Communication Engineering**

Title : **Multi-User MIMO Mobile CDMA Uplink System Employing Turbo Coding and Joint Detection Through a Multipath Rayleigh Fading Channel**

Yasmine A. Fahmy, Hebat-Allah M. Mourad and Emad K. Al-Hussaini

Journal : **Wireless Personal Communications 325-342 (2006)**

ISSN : 0929-6212 **Impact Factor :** 0.31

Abstract :

. In this paper, a generalized multiple-input multiple-output (MIMO) antenna system that can be fitted to the uplink of a wireless communication system is considered for the general case of multi-user. At the transmitter, the information bits are Turbo coded, then interleaved and passed through a serial-to-parallel converter. The channel is assumed bad urban suffering from multipath Rayleigh fading resulting in inter-symbol and multiple access interferences (ISI and MAI). At the front-end of the receiver, a number of receiving antennas are used followed by a joint multi-user estimator based on the Minimum Mean Square Error Block Linear Equalizer (MMSE-BLE). Computer simulations demonstrate a significant performance improvement in both single user and multi-user cases.

Key Words :

MIMO systems, Turbo coding, CDMA, Joint multi-user detection, Multipath Rayleigh fading channel, Least mean square error equalizers.

International Publications Awards
Cairo University

Name : **Prof . Essam El-Deen Khaleel**

Dep. : **Mechanical Engineering**

Title : **Preserving the Tombs of the Pharaohs**

Essam E Khalil, PhD (London), Member Ashrae

Journal : **Ashrae 48 34-38 (2006)**

ISSN : 0001-2491 **Impact Factor :** 0.18

Abstract :

Visitor traffic in the pharaohs' tombs within the Valley of the Kings in Luxor, Egypt, is contributing to the deterioration of the tombs' interior wall paintings. Contributing factors include exces- sive humidity, high temperature, lighting effects, pests, shock and vibration, and pollution.1 To preserve the tombs and contents, as well as provide for visitor comfort, a proper ventilation system is needed to control indoor climate conditions.

Name : **Prof . Essam Hashish**

Dep. : **Electronics and Communication Engineering**

Title : **Localized pulses exhibiting a missilelike slow decay**

Amr M. Shaarawi , Maha A. Maged , Ioannis M. Besieris and Essam Hashish

Journal : **Optical Society of America 23 2039-2052 (2006)**

ISSN : 1084-7529 **Impact Factor :** 1.76

Abstract :

We investigate the quasi-missile behavior of known localized wave solutions, such as the modified power spec- trum and splash pulses. We demonstrate that source-free localized waves can exhibit slow decay rates analo- gous to Wu's missile solutions, which are characterized by an amplitude decay rate slower than 1 / R over an unlimited range. When excited from a finite aperture, the missilelike decay is not exhibited by all localized waves showing such behavior in the source-free situation. On the other hand, localized wave missiles gener- ated from a finite aperture have peaks that exhibit quasi-missile decay. In an extended intermediate range between the near- and the far-field regions, these pulses decay at a rate slower than 1 / R before switching to the usual 1 / R decay.

International Publications Awards
Cairo University

Name : **Prof . Hany Lamey Abdel-Malek**

Dep. : **Engineering Mathematics and Physics**

Title : **The Ellipsoidal TechniqueforDesign Centering of Microwave Circuits Exploiting Space Mapping Interpolating Surrogates**

Hany L. Abdel-Malek, Abdel-karim S. O. Hassan, Ezzeldin A. Soliman, and Sameh A. Dakroury

Journal : **IEEE Transactions on Microwave Theory and Techniques 54 3731-3738 (2006)**

ISSN : 0018-9480 **Impact Factor :** 2.28

Abstract :

A new technique for design centering of microwave circuits is introduced. This technique exploits the space-map- ping interpolating surrogate (SMIS) with a modified ellipsoidal technique. The design centering solution for microwave circuits is obtained with a small number of fine model evaluations and, hence, the number of electromagnetic simulations is greatly re- duced. Practical and demonstrative examples are included to show the efficiency of the new technique.

Key Words :

Computer-aided design (CAD) algorithms; design centering; ellipsoidal technique; microwave circuits; space map- ping (SM)

International Publications Awards
Cairo University

Name : **Prof . Khaled Abdel-Fattah Ahmed**

Dep. : **Mining, Petroleum and Metallurgical**

Title : **Study Compares PVT Calculation Methods for Nonblack Oil Fluids**

K.A. El-Fattah, Ahmed H. El-Banbi and M. H. Sayyouh

Journal : **OIL & GAS JOURNAL 35-39 (2006)**

ISSN : 0030-1388 **Impact Factor :** 0.07

Abstract :

A comparison of different methods for generating pressure-volume- temperature (PVT) properties of volatile oil and gas-condensate reservoir fluids determined that PVT properties generated with the Whitson and Torp method agree the best with full equation-of-state (EOS) compositional simulation. Besides the comparison with the EOS compositional simulation, the study also compared the initial-oil-in-place (IOIP) calculations with the generalized material-balance equation. The study included a wide range of fluid characteristics from nine reservoir fluid systems: six gas condensate, two volatile oil, and one wet gas.

International Publications Awards
Cairo University

Name : **Prof . Khaled Mohamed El Sayed**

Dep. : **Electronics and Communication Engineering**

Title : **Channel-Aware Earliest Deadline Due Fair Scheduling for Wireless Multimedia Networks**

Khaled M.F. Elsayed and Ahmed K.F. Khattab

Journal : **WIRELESS PERSONAL COMMUNICATIONS 38 233-252 (2006)**

ISSN : 0929-6212 **Impact Factor :** 0.31

Abstract :

Providing delay guarantees to time-sensitive traffic in wireless multimedia networks is a challenging issue. This is due to the time-varying link capacities and the variety of real-time applications expected to be handled by such networks. We propose and evaluate the performance of a channel-aware scheduling discipline and a set of policies that are capable of providing such delay guarantees in TDM-based wireless networks. First, we introduce the Channel-Dependent Earliest-Due-Date (CD-EDD) discipline. In this discipline, the expiration time of the head of line packets of users' queues is taken into consideration in conjunction with the current channel states of users in the scheduling decision. This scheme attempts to guarantee the targeted delay bounds in addition to exploiting multiuser diversity to make best utilization of the variable capacity of the channel. We also propose the violation-fair policy that can be integrated with the CD-EDD discipline and two other well-known scheduling disciplines [1, 2]. In this policy, we attempt to ensure that the number of packets dropped due to deadline violation is fairly distributed among the users. The proposed schemes can provide statistical guarantees on delays, achieve high throughput, and exhibit good fairness performance with respect to throughput and deadline violations. We provide extensive simulation results to study the performance the proposed schemes and compare them with two of the best known scheduling disciplines [1, 2] in the literature.

Key Words :

Fairness; Multiuser diversity; Qos provisioning; Scheduling; Wireless networks.

International Publications Awards
Cairo University

Name : **Prof . Mahmoud Abu El Ela**

Dep. : **Mining, Petroleum and Metallurgical**

Title : **New Method Improves Back-Allocation for Gas, Condensate at Processing Plants**

Mahmoud Abu El Ela, Ismaiel Mahgoub, Mostafa Nabawi and Mohamed Abdel Azim

Journal : **Oil & Cas jpurnal 48-52 (2006)**

ISSN : 0030-1388 **Impact Factor :** 0.07

Abstract :

The main objective of this study is to develop a methodology for the back allocation of natural gas and condensate at natural gas processing facilities. This methodology based on energy and weight balance equations using the compositions of the gas and condensate of the inlet and outlet streams. The applicability of this work is confirmed by actual case study in Khalda Petroleum Company (an international joint venture company in Egypt). The new allocation system has been proved to be a reliable and comprehensive solution to meet the requirements of Khalda back allocation process. The system provides capabilities to compute production on points where accurate measurements are not physically possible or economically practicable. Such study is an original contribution to the knowledge of back allocation methods.

Name : **Prof . Mahmoud Abu El Ela**

Dep. : **Mining, Petroleum and Metallurgical**

Title : **Egyptian Gas Plant Employs Absorbents for Hg Removal**

Mahmoud Abu El Ela , Ismaiel Mahgoub, Mostafa Nabawi and Mohamed Abdel Azim

Journal : **Oil & Cas 52-58 (2006)**

ISSN : 0030-1388 **Impact Factor :** 0.07

Abstract :

Khalda Petroleum Company (an international joint venture company in Egypt) has recently found Mercury as a naturally occurring component of geological derived hydrocarbons in the Western Egyptian desert. Since then, Khalda Petroleum Company has concentrated on measuring and removing of the mercury from its produced gas. A mercury removal unit was installed at Salam gas processing plant. The mercury contents of the gas at the inlet and outlet of Salam mercury removal unit have been continuously monitored. This paper covers the process design, the field analysis procedures, and the performance of the Salam mercury removal unit. Such study is an original contribution to the knowledge of mercury problems in the gas industry and the technologies used for mercury removal.

Name : **Prof . Mahmoud Abu El Ela**

Dep. : **Mining, Petroleum and Metallurgical**

Title : **Integrated Approach Recommends Redevelopment Plan**

Mahmoud Abu El Ela

Journal : **Oil & Cas 55-60 (2006)**

ISSN : 0030-1388 **Impact Factor :** 0.07

Abstract :

Oil production in Egypt is based on the development of mature fields with highly complex geological and reservoir characteristics; therefore, a great amount of creativity is required to operate these oil fields. This paper presents an integrated approach for development a mature field. The main elements of this approach are (1) collection, evaluation, and analysis of the reservoir data, (2) reserve estimation and determination of the amount and location of the remaining oil, and (3) integrating of the reservoir data and selection of a proper technique to improve the recovery factor such as application of a secondary/tertiary recovery methods, or drilling of new wells…etc. This approach addresses a general framework of optimizing the data analysis process. The applicability of this work is confirmed by actual field case study (Shukheir Bay Field) in Offshore Shukheir Oil Company (an international joint venture company in Egypt). Such study is an original contribution to the knowledge of mature field development aspects, which proved effective in clarifying the overall view of the reservoir performance in view of facilitating decision making for developmental plans.

International Publications Awards
Cairo University

Name : **Prof . Mohamed El-Gamal**

Dep. : **Engineering Mathematics and Physics**

Title : **Optimization and Characterization af Electromagnetically Coupled Patch Antennas Using RBF Neural Networks**

M. D. A. Mohamed, E. A. Soliman , and M. A. El-Gamal

Journal : **Electromagn. Waves and Appl 20(8) 1101-1114 (2006)**

ISSN : 0920-5071 **Impact Factor :** 0.28

Abstract :

A new neural network model is presented in this paper. It utilizes radial basis functions neural network. The model solves the problem of the electromagnetically coupled microstrip patch antennas. At a specific resonance frequency, the proposed model predicts the optimum geometrical dimensions of both the patch and feeding microstrip line.Moreover, it provides the important characteristics of the optimum design. These characteristics include the impedance bandwidth, gain, and radiation efficiency.The proposed neural network model is very accurate and extremely faster than the classical approach.

International Publications Awards
Cairo University

Name : **Prof . Mohamed Nasr Allam**

Dep. : **Irrigation and Hydraulics**

Title : **Rainfall Runoff Modeling Using Artificial Neural Networks Technique; Case Study: The Blue Nile Catchment**

Mamdouh A . Antar, Ibrahim Elassiouti and Mohamed N. Allam

Journal : **Hydrological Processes 20 1201-1216 (2006)**

ISSN : 0885-6087 **Impact Factor :** 1.330

Abstract :

This paper presents a rainfall-runoff model for the Blue Nile catchment, based on the Artificial Neural Network (ANN). The best geometry of the ANN rainfall-runoff model in terms of number of hidden layers and nodes are identified through a sensitivity analysis. The Blue Nile (BN) catchment (about 300,000 km2) in the Nile Basin is selected here as a case study. The catchment is classified into seven subcatchments, and the mean areal precipitation over those subcatchments is computed as a main input to the ANN model. The available daily data (1992 – 1999) is divided into two sets for model calibratioin (1992 – 1996) and for validation (1997 – 1999). The results of ANN model are compared with one of physical distributed rainfall-runoff models that apply hydraulic and hydrologic fundamental equations in a grid base. The results over the case study area and the comparative analysis with the physically based distributed model show that, ANN technique has a great potential in adequately simulating the rainfall-runoff process. Because of the too short available record used in the calibration of the ANN model, the ANN model is biased compared to the distributed model, especially in high flows.

Key Words :

Rainfall – Runoff – Neural Networks – Distributed Model

International Publications Awards
Cairo University

Name : **Prof . Nabil Mahmoud Abdel-Moniem**

Dep. : **Chemical Engineering**

Title : **Thermodynamic modeling for the removal of Cs+, Sr2+, Ca2+ and Mg2+ ions from aqueous waste solutions using zeolite A**

K. M. Abd El-Rahman , A. M. El-Kamash , M. R. El-Sourougy and N. M. Abdel-Moniem

Journal : **Radioanalytical and Nuclear Chemistry, 268 221–230 (2006)**

ISSN : 0236-5731 **Impact Factor :** 0.46

Abstract :

The batch removal of Cs+, Sr2+, Ca2+ and Mg2+ ions from aqueous solutions using synthetic zeolite A was investigated. The influence of the initial ion concentration, pH and temperature was studied. The obtained isotherm data have been correlated with Langumir, Freundlich, and Dubinin-Radushkevich (D-R) isotherm models. The effect of the temperature on the equilibrium distribution values has been utilized to evaluate the standard thermodynamic parameters such as free energy (DG), enthalpy (DH) and entropy (DS). Based on the D-R isotherm expression, the maximum ion-exchange capacity and the mean free energy of each studied ion has been determined. The selectivity sequence, deduced from the equilibrium isotherm data is: Sr2+>Ca2+>Mg2+>Cs+>Na+.

Name : **Prof . Nabila Philip Attaallah Seif**

Dep. : **Engineering Mathematics and Physics**

Title : **Hermite-Gaussian-Like Eigenvectors of the Discrete Fourier Transform Matrix Based on the Direct Utilization of the Orthogonal Projection Matrices on its Eigenspaces**

Magdy Tawfik Hanna , Nabila Philip Attalla Seif and Waleed Abd El Maguid Ahmed

Journal : **IEEE Transactions on Signal Processing 54 2815-2819 (2006)**

ISSN : 1053-587X **Impact Factor :** 1.82

Abstract :

A new version is proposed for the Gram-Schmidt algorithm, the orthogonal procrustes algorithm and the sequential orthogonal procrustes algorithm for generating Hermite-Gaussian-like orthonormal eigenvectors for the discrete Fourier transform matrix F. This version is based on the direct utilization of the orthogonal projection matrices on the eigenspaces of matrix F rather than the singular value decomposition of those matrices for the purpose of generating initial orthonormal eigenvectors. The proposed version of the algorithms has the merit of achieving a significant reduction in the computation time.

Key Words :

Discrete fractional Fourier transform; Hermite-Gaussian-like orthonormal Eigenvectors; orthogonal procrustes algorithm; sequential orthogonal procrustes algorithm; Gram-Schmidt algorithm; projection matrices.

International Publications Awards
Cairo University

Name : **Dr . Noha Mohamed Salem**

Dep. : **Engineering Mathematics and Physics**

Title : **Phase Transitions of Carbon Tetra-Fluoride Using Raman Spectroscopy and Molecular Dynamics Simulations**

S. M. El-Sheikh , K. Barakat , N. M. Salem and L. Ulivi

Journal : **High Pressure Research 1-4 (2006)**

ISSN : 0895-7959 **Impact Factor :** 0.55

Abstract :

The pressure-dependent phase transitions of carbon tetra-fluoride are studied both experimentally and theoretically. We report the results of Raman spectroscopy measurements at pressures up to 6 GPa and at room temperature. On the other hand, molecular dynamics simulations on small clusters (108 and 256) were conducted using the Lennard-Jones interaction between the atoms within the framework of the isothermal–isobaric ensemble. Our theoretical predictions agree to a great extent with our and other experimental findings for most of the transitions.

Key Words :

Raman spectroscopy; Phase transitions; Molecular dynamics simulations.

Name : **Dr . Noha Mohamed Salem**

Dep. : **Engineering Mathematics and Physics**

Title : **Phase transitions of methane using molecular dynamics simulations**

S. M. El-Sheikh , K. Barakat and N. M. Salem

Journal : **Chemical Physics 124516-0-124517.9 (2006)**

ISSN : 0021-9606 **Impact Factor :** 3.14

Abstract :

Using a short ranged Lennard-Jones interaction and a long ranged electrostatic potential, CH4under high pressure was modeled. Molecular dynamics simulations on small clusters108 and256 molecules were used to explore the phase diagram. Regarding phase transitions at different temperatures, our numerical findings are consistent with experimental results to a great degree. In addition, the hysteresis effect is displayed in our results.

International Publications Awards
Cairo University

Name : **Prof . Reem Sayed Ettouney**

Dep. : **Chemical Engineering**

Title : **Implosion of a large crystallizer vessel**

R. S. Ettouney

Journal : **Process Safety and Environmental Protection 84(b1) 21-26 (2006)**

ISSN : 0957-5820 **Impact Factor :** 0.50

Abstract :

The collapse of the body of a large crystallizer vessel while it was being drained is reported. A simple model is developed to investigate the liquid level and gas space pressure dynamics for various degrees of obstruction of the vent valve. The causes of failure of the venting system are identified. An analysis of possible damage to interconnected components is presented and alternative system modifications suitable for avoidance of similar such accidents are discussed.

Key Words :

implosion; collapse; vessel draining; venting dynamics.

Name : **Prof . Reem Sayed Ettouney**

Dep. : **Chemical Engineering**

Title : **Double decomposition process analysis**

R. S. Ettouney

Journal : **Chemical Engineering and Processing 45 198-203 (2005)**

ISSN : 0255-2701 **Impact Factor :** 1.16

Abstract :

An analysis of a process for recovery of both products of a double decomposition reaction through two consecutive evapocrystallization-washing steps is conducted on the basis of a simple expression for the heterogeneous equilibrium between the precipitated solids and liquor ions' concentrations. The expression is based on lumping the system's non-idealities in terms of an interaction parameter. The developed model is applied to synthesis of the process for the production of K2SO4 and NH4Cl by double decomposition. The presented results illustrate the trends among the various critical internal design variables and their sensitivity to the interaction parameter. This enables an optimum trade off between the operating conditions subject to verification through a limited set of pilot tests.

Key Words :

Double decomposition; Potassium sulphate; Ammonium chloride; Metathetical salts

International Publications Awards
Cairo University

Name : **Prof . Saeed Rezk Grace**

Dep. : **Engineering Mathematics and Physics**

Title : **Oscillation criteria for first- order forced nonlinear difference equations**

Ravi P. Agarwal, Said R. Grace, and Tim Smith

Journal : **Mathematical and Computer Modelling 44 163-187 (2006)**

ISSN : 0895-7177 **Impact Factor :** 0.42

Abstract :

Some new criteria for the oscillation of first-order forced nonlinear difference equations of the form $\Delta x(n)+ q1\ (n)x\mu\ (n +1) = q2\ (n)x\lambda\ (n +1)+ e(n)$, where λ, μ are the ratios of positive odd integers $0 <\mu< 1$and $\lambda> 1$, are established.

International Publications Awards
Cairo University

Name : **Prof . Saeed Rezk Grace**

Dep. : **Engineering Mathematics and Physics**

Title : **The Oscillatory Behavior of Second Order Nonlinear Functional Differential Equations**

E.M.E. Zayed

Journal : **Arabian Journal for Science and Engineering 31 23-30 (2006)**

ISSN : 1319-8025 **Impact Factor :** 0.15

Abstract :

The main objective of this paper is to study the oscillatory behavior of the solutions of the following non linear functional differential equations
$(a(t) - (x(t))\, x'(t))' + p(t)\, x'(t) + q(t)\, f(x(g(t))) = 0$. The function f is not required to be monotonic .
AMS Subject Classification: 34K10, 34K15, 34K25, 34K99

Key Words :

Oscillatory and nonoscillatory solutions; Comparison; Nonlinear functional differential equations.

Name : **Dr . Sayed Kaseb**

Dep. : **Mechanical Engineering**

Title : **Sunlit fraction of vertical slant windowpanes**

S. Kaseb and M.F. El-Refaie

Journal : **Building and Environment 41 1251-1261 (2006)**

ISSN : 0360-1323 **Impact Factor :** 0.68

Abstract :

When evaluating the instantaneous rate of solar heat gain through a window, it is essential to know the shaded area, if any, of the glazing. This is a typical standard drill, which is frequently carried out for conventional windows, which have the glass panes parallel to the building exterior wall. Sometimes, and for architectural or other reasons, the glass may be fixed in a vertical but horizontally rotated position; i.e. non-parallel to the wall. This may help to rationalize the energy requirements for air conditioning. The objective of this paper is to establish a systematic method to calculate the sunlit, and hence the shaded, fraction of slant-glass area. The presented analysis takes into account all of the numerous variables involved in the problem; namely, location, date, time of the day, wall orientation, rotation of glass relative to the wall, and geometrical characteristics of the window. The calculation procedure is casted in a general computer program which can be readily and unlimitedly used for any set of conditions. Some sample results are presented.

Key Words :

Windows; Solar heat gain; Shading; Sunlit fraction

International Publications Awards
Cairo University

Name : **Prof . Yasser Mostafa Kadah**

Dep. : **Biomedical Engineering and Systems**

Title : **Deconvolution-Interpolation Gridding (DING): Accurate Reconstruction for Arbitrary k-Space Trajectories**

Refaat E. Gabr , Pelin Aksit , Paul A. Bottomley , Abou-Bakr M. Youssef and Yasser M. Kadah

Journal : **Magnetic Resonance in Medicine 56 1182-1191 (2006)**

ISSN : 0740-3194 **Impact Factor :** 3.51

Abstract :

A simple iterative algorithm, termed deconvolution-interpola- tion gridding (DING), is presented to address the problem of reconstructing images from arbitrarily-sampled k-space. The new algorithm solves a sparse system of linear equations that is equivalent to a deconvolution of the k-space with a small win- dow. The deconvolution operation results in increased reconstruction accuracy without grid subsampling, at some cost to computational load. By avoiding grid oversampling, the new solution saves memory, which is critical for 3D trajectories. The DING algorithm does not require the calculation of a sampling density compensation function, which is often problematic. DING's sparse linear system is inverted efficiently using the conjugate gradient (CG) method. The reconstruction of the gridding system matrix is simple and fast, and no regularization is needed. This feature renders DING suitable for situations where the k-space trajectory is changed often or is not known a priori, such as when patient motion occurs during the scan. DING was compared with conventional gridding and an iterative reconstruction method in computer simulations and in vivo spiral MRI experiments. The results demonstrate a stable per- formance and reduced root mean square (RMS) error for DING in different k-space trajectories.

Key Words :

gridding; nonuniform sampling; density compensa- tion function; deconvolution-interpolation; arbitrary trajectories

Faculty of Pharmacy

Name : **Dr . Ehab Rasmy Bendas**

Dep. : **Pharmaceutics**

Title : **Efficacy of topical griseofulvin in treatment of tinea corporis.**

Mohamed A. A. Kassem , Samia Esmat , Eihab R. Bendas , and Mohamed H. M. El-Komy

Journal : **Mycoses 49 232-235 (2006)**

ISSN : 0933-7407 **Impact Factor :** 0.76

Abstract :

Tinea infections are among the most common dermatological conditions throughout the world. Griseofulvin is a classical oral fungistatic antibiotic, active against Epidermophyton floccosum, Trichophyton and Microsporum species, the causative fungi of tinea corporis. To evaluate the efficacy of topical griseofulvin in the treatment of tinea circinata using three different vehicles for drug delivery. Sixteen patients with tinea circinata were instructed to apply either griseofulvin gel form in group A or a similar placebo gel for control group; a niosomal gel formulation of griseofulvin for group B or; a liposomal gel formulation of griseofulvin for group C. Patients were evaluated both clinically and mycologically after 3 weeks. Marked improvement was seen for groups A, B and C both clinically and mycologically while no improvement was observed in the placebo group. Mild and transient irritation was reported in four patients. Our results show that topical griseofulvin preparations may be effective and safe in treating tinea circinata and that further large-scale studies may establish the high efficacy of the niosomal gel formulation.

Key Words :

griseofulvin; niosomes; tinea corporis; liposomes; griseofulvin gel; topical griseofulvin.

International Publications Awards
Cairo University

Name : **Prof . Flora Fayek Barsoum**

Dep. : **Pharmaceutical Chemistry**

Title : **Novel bis(1-acyl-2-pyrazolines) of potential anti-inflammatory and molluscicidal properties**

Flora F. Barsoum, Hanaa M. Hosnib and Adel S. Girgisb

Journal : **Bioorganic & Medicinal Chemistry 14 3929–3937 (2006)**

ISSN : 0968-0896 **Impact Factor :** 2.286

Abstract :

A variety of bis[3-aryl-4,5-dihydro-1H-pyrazol-1-carboxaldehydes] 4a–h were obtained via reaction of bis[1-aryl-2-propen-1-ones] 3a–h with hydrazine hydrate in refluxing formic acid. In addition, the corresponding bis[1-acetyl-3-aryl-4,5-dihydro-1H-pyrazoles] 4i–m were formed through conducting the reaction of 3 with hydrazine hydrate in refluxing acetic acid. The starting bis(2-propen-1-ones) 3a–h were prepared stereoselectively as E,E0-geometric isomer via condensation of bisbenzaldehydes 1a,b with (un)substituted acetophenones 2 in ethanolic KOH solution. Anti-inflammatory as well as ulcerogenic activities of the prepared pyrazolines were evaluated in vivo and compared with that of a standard drug (indomethacin). Many of the tested compounds show remarkable anti-inflammatory properties with an ulcerogenic liability (especially 4f, g, j, and k) lower than that of the standard used drug. Compound 4f was established to be the best effectively prepared anti-inflammatory active pyrazoline derivative and safer than indomethacin with respect to its ulcerogenic liability. Molluscicidal activity of the prepared compounds against Biomphalaria alexandrina snails (the intermediate host of Schistosoma mansoni) was screened. Where, some of the prepared compounds show considerable activities.

Key Words :

Bis(2-propen-1-ones); Bis(2-pyrazolines); Anti-inflammatory;Ulcerogenic liability;Molluscicides.

Name : **Prof . Flora Fayek Barsoum**

Dep. : **Pharmaceutical Chemistry**

Title : **Novel synthesis of nicotinamide derivatives of cytotoxic properties**

Adel S. Girgis, Hanaa M. Hosnia and Flora F. Barsoumb

Journal : **Bioorganic & Medicinal Chemistry 14 4466–4476 (2006)**

ISSN : 0968-0896 **Impact Factor :** 2.286

Abstract :

A variety of 2-substituted-4,6-diaryl-3-pyridinecarboxamides 5 were synthesized through aromatic nucleophilic substitution
reaction of secondary amines with 2-bromo analogues 4. The latter were obtained via bromination of 2-cyano-3,5-diaryl-5-oxo-
N-substituted pentamides 3 in glacial acetic acid. Moreover, pentamide derivatives 3 were prepared through base-catalyzed Michael addition of cyanacetanilides 2 with 1,3-diaryl-2-propen-1-ones 1. Otherwise, reaction of 2-bromo-3-pyridinecarboxamides 4 with primary aromatic amines in refluxing pyridine afforded the corresponding 2-(arylamino)-3-pyridinecarboxamides 6 besides the unexpected 2-unsubstituted amino analogues 7. Antitumor properties of the synthesized pyridinecarboxamides utilizing 59 different
human tumor cell lines, representing leukemia, melanoma, and cancers of the lung, colon, brain, ovary, breast, prostate as well
as kidney, were screened. Many of the tested compounds show considerable in vitro antitumor properties especially 5c and 7a, which reveal moderate activities against most of the used human tumor cell lines. It has also been achieved that, all the tested nicotinamide derivatives reveal promising antitumor properties against MDA-MB-231/ATCC (breast cancer).

Key Words :

2-Propen-1-ones; Cyanacetanilides; 3-Pyridinecarboxamides;Michael reaction; Aromatic nucleophilic substitution.

International Publications Awards
Cairo University

Name : **Prof . Iman Saad Ahmed**

Dep. : **Pharmaceutics**

Title : **Formulation of a Fast-Dissolving Ketoprofen Tablet Using Freeze-Drying in Blisters Technique**

I.S. Ahmed , M.M. Nafadi and F.A. Fatahalla

Journal : **Drug Development and Industrial Pharmacy 32 437-442 (2006)**

ISSN : 0363-9045 **Impact Factor :** 0.79

Abstract :

The aim of this work was to develop a ketoprofen tablet which dissolve rapidly in the mouth, therefore, need not be swallowed. The solubility and dissolution rate of poorly water-soluble ketoprofen was improved by preparing a lyophilized tablet (LT) of ketoprofen using freeze-drying technique. The LT was prepared by dispersing the drug in an aqueous solution of highly water-soluble carrier materials consisting of gelatin, glycine, and sorbitol. The mixture was dosed into the pockets of blister packs and then was subjected to freezing and lyophilization. The saturation solubility and dissolution characteristics of ketoprofen from the LT were investigated and compared to the plain drug and the physical mixture (PM). Results obtained showed that the increase in solubility of ketoprofen from LT matrix, nearly 3 times greater than the solubility of the plain drug, was due to supersaturation generated by amorphous form of the drug. Results obtained from dissolution studies showed that LT of ketoprofen significantly improved the dissolution rate of the drug compared with the PM and the plain drug. More than 95% of ketoprofen in LT dissolved within 5 min compared to only 45% of ketoprofen plain drug dissolved during 60 min. Initial dissolution rate of ketoprofen in LT was almost tenfold higher than that of ketoprofen powder alone. Crystalline state evaluation of ketoprofen in LT was conducted through differential scanning calorimetry (DCS) and X-ray powder diffraction to denote eventual transformation to amorphous state during the process. Scanning electron microscopic (SEM) analysis was performed and results suggest reduction in ketoprofen particle size.

International Publications Awards
Cairo University

Name : **Prof . Mahmoud Ghorab**

Dep. : **Pharmaceutics**

Title : **Implication of inclusion complexation of glimepiride in cyclodextrin-polymer systems on its dissolution, stability and therapeutic efficacy**

H.O. Ammar , H.A. Salama , M. Ghorab and A.A. Mahmoud

Journal : **International Journal of Pharmaceutics 320 53-57 (2006)**

ISSN : 0378-5173 **Impact Factor :** 2.16

Abstract :

The effect of complexation of glimepiride, a poorly water-soluble antidiabetic drug with β-cyclodextrin and its derivatives (HP- β-CyD and SBE-p-CyD) in presence of different concentrations of water-soluble polymers (HPMC, PVP, PEG 4000 and PEG 6000) on the dissolution rate of the drug has been investigated. The results revealed that the dissolution rate of the drug from these ternary systems is highly dependent on polymer type and concentration. The dissolution rate of the drug from ternary systems containing PEG 4000 or PEG 6000 seems to be generally higher than from systems containing HPMC or PVP. An optimum increase in the dissolution rate of the drug was observed at a polymer concentration of 5% for PEG 4000 or PEG 6000 and at 20% concentration of HPMC or PVP. The dissolution rate of the drug from the ternary system glimepiride-HP-β-CyD-5% PEG 4000 was high compared to the other systems. Tablets containing the drug or its equivalent amount of this ternary system were prepared and subjected to accelerated stability testing at 40°C/75% R.H. to investigate the effect of storage on the chemical stability as well as therapeutic efficacy of the tablets. The results revealed slability of the tablets and consistent therapeutic efficacy on storage.

Key Words :

Glimepiride; Cyuloclextrins; Walcr-.soluble polymer: Complexation; Stability

Name : **Prof . Mahmoud Ghorab**

Dep. : **Pharmaceutics**

Title : **Design of a transdermal delivery system for aspirin as an antithrombotic drug**

H.O. Ammar , M. Ghorab , S.A. El-Nahhas and R. Kamel

Journal : **International Journal of Pharmaceutics 327 81-88 (2006)**

ISSN : 0378-5173 **Impact Factor :** 2.16

Abstract :

Aspirin has become the gold standard to which newer antiplatelet drugs are compared for reducing risks of cardiovascular diseases, while keeping low cost. Oral aspirin has a repertoire of gastrointestinal side effects even at low doses and requires high frequent dosing because it undergoes extensive presystemic metabolism. Transdermal delivery offers an alternative route that bypasses the gut and may be more convenient and safer for aspirin delivery especially during long-term use. This study comprised formulation of aspirin in different topical bases. Release studies revealed that hydrocarbon gel allowed highest drug release. In vitro permeation studies revealed high drug permeation from hydrocarbon gel. Several chemical penetration enhancers were monitored for augmenting the permeation from this base. Combination of propylene glycol and alcohol showed maximum enhancing effect and, hence, was selected for biological investigation. The biological performance of the selected formulation was assessed by measuring the inhibition of platelet aggregation relevant to different dosage regimens aiming to minimize both drug dose and frequency of application. The results demonstrated the feasibility of successfully influencing platelet function and revealed that the drug therapeutic efficacy in transdermal delivery system is dose independent. Biological performance was re-assessed after storage and the results revealed stability and persistent therapeutic efficacy.

Key Words :

Aspirin; Transdermal; Cardiovascular diseases; Platelet aggregation inhibition

International Publications Awards
Cairo University

Name : **Prof . Maissa yaakoub**

Dep. : **Analytical Chemistry**

Title : **Stability Indicating Methods for the Determination of Some Fluoroquinolones in the Presence of their Decarboxylated Degradates**

Maissa Y. Salem , Nabawia El- Guindi , Hanaa Karam and Laila E. Abd –El-Fattah

Journal : **Chemical Pharmaceutical Bulletin 54 - (12) 1625-1632 (2006)**

ISSN : 0009-2363 **Impact Factor :** 1.25

Abstract :

Two stability indicating methods, namely densitometric TLC and derivative spectrophotometry for the determination of the fluoroquinolone antibacterials lomefloxacin (Lfx), moxifloxacin (Mfx) and sparfloxacin (Sfx) in the presence of their acid degradates are described. Acid degradation was adopted and the main decarboxylated product separated by TLC. Degradation products were identified confirming a previously mentioned degradation scheme. The densitometric method is based on the separation of the intact drug from its acid degradation product on silica gel G plates using different mobile phases and the spots of the intact drugs were scanned at 288, 290 and 292 nm for Lfx, Mfx and Sfx, respectively. The derivative spectrophotometric method utilizes first derivative D1 UV spectrophotometry with zero crossing points at 295.2 nm for Lfx, 280.4 and 303.4 nm for Mfx and 280.8 nm for Sfx. Regression analysis of Beer's plots showed good correlation in the concentration ranges 0.2-1.2, 0.1-1.4 and 0.5-2.0 µg /spot for Lfx, Mfx and Sfx, respectively in the densitometric method and 2-16 µg /ml for all drugs in the derivative spectrophotometric method.The proposed methods were successfully applied for the determination of the investigated drugs in bulk powder with mean percentage accuracy ranges from 98.93 to 101.25 % for the TLC method and from 98.18 to 100.35 % for the D1 method. The proposed methods were also applied for the determination of the investigated drugs in their pharmaceutical dosage forms and their validity was assessed using the standard addition technique with mean percentage recovery ranging from 100.25% to 101.70% in the TLC method and from 99.27% to 102.12% in the D1 method. The selectivity of the proposed methods was tested by the analysis of laboratory-prepared mixtures containing different percentages of the studied drugs and their acid degradates. The proposed methods were found to be selective for the determination of the intact drugs in the presence of up to 90% of their degradates in the TLC method and 70% for Lfx and 90% for Mfx and Sfx in the D1 method.

International Publications Awards
Cairo University

Name : **Prof . Mohamed Ali Farag**

Dep. : **Pharmacognosy**

Title : **GC–MS SPME Profiling of Rhizobacterial Volatiles Reveals Prospective Inducers of Growth Promotion and Induced Systemic Resistance in Plants**

Mohamed A. Farag , Choong-Min Ryu , Lloyd W. Sumner and Paul W. Pare

Journal : **Phytochemistry 67 2262-2268 (2005)**

ISSN : 0031-9422 **Impact Factor :** 2.78

Abstract :

Chemical and plant growth studies of Bacilli strains GB03 and IN937a revealed that the volatile components 2,3-butanediol and acet- oin trigger plant growth promotion in Arabidopsis. Differences in growth promotion when cytokinin-signaling mutants are exposed to GB03 versus IN937a volatiles suggest a divergence in chemical signaling for these two bacterial strains. To provide a comprehensive chemical profile of bacterial volatiles emitted from these biologically active strains, headspace solid phase microextraction (SPME) cou- pled with software extraction of overlapping GC-separated components was employed. Ten volatile metabolites already reported from GB03 and IN937a were identified as well as 28 compounds not previously characterized. Most of the newly identified compounds were branched-chain alcohols released from IN937a, at much higher levels than in GB03. Principal component analysis clearly separated GB03 from IN937a, with GB03 producing higher amounts of 3-methyl-1-butanol, 2-methyl-1-butanol and butane-1-methoxy-3-methyl. The branched-chain alcohols share a similar functional motif to that of 2,3-butanediol and may afford alternative structural patterns for elicitors from bacterial sources.

Key Words :

Bacillus subtilis; B. amyliquefaciens; Ehrlich pathway; 3-Methyl-1-butanol; Plant growth promoting rhizobacteria (PGPR); Principal comp- onent analysis (PCA); Solid-phase microextraction (SPME); Volatile organic compound (VOC).

International Publications Awards
Cairo University

Name : **Prof . Mohamed Ali Farag**

Dep. : **Pharmacognosy**

Title : **Functional Analysis of Members of the Isoflavone and Isoflavanone O-Methyltransferase Enzyme Families from the Model Legume Medicago Truncatula**

Bettina E. Deavours , Chang-Jun Liu , Marina A. Naoumkina , Yuhong Tang , Mohamed A. Farag , Lloyd W. Sumner , Joseph P. Noel and Richard A. Dixon

Journal : **Plant Molecular Biology (2006)**

ISSN : 0167-4412 **Impact Factor :** 3.33

Abstract :

Previous studies have identified two distinct O-methyltransferases (OMTs) implicated in isoflavo- noid biosynthesis in Medicago species, a 7-OMT methylating the A-ring 7-hydroxyl of the isoflavone daidzein and a 4'-OMT methylating the B-ring 4¢-hy- droxyl of 2,7,4¢-trihydroxyisoflavanone. Genes related to these OMTs from the model legume Medicago truncatula cluster as separate branches of the type I plant small molecule OMT family. To better under- stand the possible functions of these related OMTs in secondary metabolism in M. truncatula, seven of the OMTs were expressed in E. coli, purified, and their in vitro substrate preferences determined. Many of the enzymes display promiscuous activities, and some ex- hibit dual regio-specificity for the 4¢ and 7-hydroxyl moieties of the isoflavonoid nucleus. Protein structure homology modeling was used to help rationalize these catalytic activities. Transcripts encoding the different OMT genes exhibited differential tissue-specific and infection- or elicitor-induced expression, but not al- ways in parallel with changes in expression of con- firmed genes of the isoflavonoid pathway. The results are discussed in relation to the potential in vivo func- tions of these OMTs based on our current under- standing of the phytochemistry of M. truncatula, and the difficulties associated with gene annotation in plant secondary metabolism.

Key Words :

Isoflavonoid; O-Methyltransferase; Secondary Metabolism; Molecular Modeling; Gene Family

International Publications Awards
Cairo University

Name : **Prof . Samah Sayed Abbas**

Dep. : **Analytical Chemistry**

Title : **Stability Indicating Methods for Determination of Donepezil Hydrochloride According to ICH Guidelines**

Samah S. Abbas, Yasmin M. Fayez and Laila S. Abdel Fattah

Journal : **Chem. Pharm. Bull. 1447-1450 (2006)**

ISSN : 0009-2363 **Impact Factor :** 1.25

Abstract :

Stability indicating assays for determination of Donepezil Hydrochloride in presence of its oxidative degradate were developed and validated. The first three are spectrophotometric methods depending on using zero order (D◦), first order (D1) and second order (D2) spectra. The absorbance was measured at 315nm for (D◦) while the amplitude was measured at 332.1nm for (D1) and 340nm for (D2) using deionized water as a solvent. Donepezil Hydrochloride (I) can be determined in the presence of up to 70% of its oxidative degradate (II) using (D◦), 80% using (D1) and 90% using (D2). The linearity range was found to be 8-56 µg ml-1 for (D◦), (D1) and (D2). These methods were applied for the analysis of I in both powder and tablet form. Also, a spectrofluorimetric method depending on measuring the native fluorescence of I in deionized water using λ excitation 226nm and λ emission 391nm is suggested. The linearity range was found to be 0.32-3.20 µg ml-1 using this method, I was determined in the presence of up to 90% of II. The proposed method was applied for the analysis of I in tablet form as well as in human plasma. The last method depends on using TLC separation of I from its oxidative degradate II and I was then determined spectrodensitometrically. The mobile phase was methanol: chloroform: 25% ammonia (16: 64:0.1 by volume). The linearity range was found to be 2-15 µg/spot. This method was applied to the analysis of I in both powder and tablet form using acetonitrile as a solvent.

Key Words :

Spectrophotometry; Spectrofluorimetry; Densitometry; Donepezil Hydrochloride; Stability indicating assay.

Faculty of Veterinary Medicine

International Publications Awards
Cairo University

Name : **Prof . Alaa El-Deen Eissa**

Dep. : **Fish**

Title : **Isolation of Flavobacterium psychrophilum from sea lamprey, Petromyzon marinus L., with skin lesions in Lake Ontario**

E E Elsayed , A E Eissa and M Faisal

Journal : **Fish Diseases 29 629-632 (2006)**

ISSN : 0140-7775 **Impact Factor :** 1.661

Abstract :

the current study reports a new non-salmonid host for F. psychrophilum infection for the first time in the Great Lakes and worldwide. The affected lampreys showed skin lesions similar to those reported in salmonids during CWD infection. Furthermore, the long-term natural cohabitation between clinically infected parasitic lampreys and salmonids residing in the same water suggests a potential for the spread of F. Psychrophilum through the Great Lakes basin fisheries. Despite the broad host range of F. psychrophilum in North America, it is difficult to assess the impact of lamprey infection on transmission of the infection and its subsequent effects on salmonid fish populations in the Great Lakes. Further studies are required to study the molecular similarities of the isolated F. psychrophilum strains with those from salmonids and to assess their pathogenicity to salmonids. Without conclusive evidence of the impacts of this infection, the risk–benefit margins of lamprey transfer or relocation programmes are uncertain.

Key Words :

characterization, Flavobacterium psychrophilum, Great Lakes, Petromyzon marinus, sea lamprey, skin lesions.

International Publications Awards
Cairo University

Name : **Prof . Mohamed Ismael**

Dep. : **Pharmacology**

Title : **Central Properties and Chemical Composition of Ocimum basilicum Essential Oil**

M. Ismail

Journal : **Pharmaceutical Biology 44NO8 619-626 (2006)**

ISSN : 1388-0209 **Impact Factor :** 0.39

Abstract :

Ocimum basilicum L. (Lamiaceae) is an Egyptian plant used as a folkloric remedy in Egyptian traditional medi- cine. In the current study, the aerial part of this plant was used, and its essential oil was obtained by hydrodistilla- tion. The essential oil of Ocimum basilicum (OB) was screened for its composition and some CNS activities (viz., sedative, hypnotic, anticonvulsant, local anes- thetic). When tested in mice, OB essential oil had no effect on motor activity up to a dose of 1.2 mL kg 1 at 90 min postadministration. However, higher doses pro- duced motor impairment at all time intervals. Pentobar- bitone sleeping time tested in mice was significantly increased by all doses of the essential oil higher than 0.2 mL kg 1. Intraperitoneal administration of OB essen- tial oil significantly increased in a dose-dependent man- ner the latency of convulsion and percent of animals exhibiting clonic seizures. Likewise, it reduced lethality in response to different convulsive stimulus used in this study. The ED50 values of the essential oil of OB were 0.61 mL kg 1, 0.43 mL kg 1, and 1.27 mL kg 1, against convulsions induced by pentylenetetrazole, picrotoxin, and strychnine, respectively. A study of the local anes- thetic activity of the OB essential oil by using a nerve block model employing in frog revealed that it had no local anesthetic effect. The LD50 of the essential oil was 3.64 mL kg 1 [correlation coefficient r ¼ 0.961 and linear regression y ¼ 147 ln(x)141.7]. Gas chromatography (GC)=mass spectrometry (MS) analysis of the essential oil revealed the presence of linalool (44.18%), 1,8-cineol(13.65%), eugenol (8.59%), methyl cinnamate (4.26%), iso caryophyllene (3.10%), and a-cubebene (4.97%) as the main components. The observed anticonvulsant and hypnotic activities in this study could be related to the presence of a variety of terpenes in the essential oil

Key Words :

Anticonvulsant; cineol; eugenol; linalool; local anesthetic; LD50; mass spectrometry;Ocimum basilicum; sedative; terpenes.

International Publications Awards
Cairo University

Name : **Prof . Mohammad Warda**

Dep. : **Chemistry**

Title : **Conserved and Non-Conserved Loci of the Glucagon Gene in Old World Ruminating Ungulates**

Mohamad Warda , Eman M. Gouda, Adel M. El-Behairy, and Said Z. Mousa

Journal : **Zeitschrift Fur Naturforschung C-A Journal of Biosciences 61 135-141 (2006)**

ISSN : 0939-5075 **Impact Factor :** 0.60

Abstract :

The homology and diversification of genomic sequence encoding glucagon gene among native Egyptian buffalos, camel and sheep were tested using cattle as model. Oligodeoxynu- cleotide primers designed from the available GenBank data were used for PCR probing of the glucagon gene encoding sequence at different loci. The DNA oligomer probes were constructed to flank either the whole gene encoding sequence or different intra-gene encod- ing sequences. The PCR products were visualized using agarose gel electrophoresis. All spe- cies showed a same size band of prepro-glucagon when PCR was used to amplify the whole gene encoding sequence. In contrary, amplifications of different intra-gene loci failed to give the same results. The results indicated variable degrees of diversity among old world ruminat- ing ungulates in the glucagon gene encoding sequence. Compared with other ruminants, the variation appears predominantly in camel. Surprisingly, the similarity in size between both amplification products of whole gene encoding sequence and the proposed size of glucagon cDNA definitely excludes the possibility of large intervening introns spanning the genomic sequence of the glucagon gene in these species. This indicates that, in contrast to other tested mammals, the glucagon gene includes an essentially full-length copy of glucagon mRNA. The study revealed a possible new aspect of glucagon gene evolution in order to correlate its corresponding protein function among different ruminant species.

Key Words :

Glucagon, PCR, Ruminants.

Name : **Prof . Mohammad Warda**

Dep. : **Chemistry**

Title : **Dromedary Glycosaminoglycans: Molecular Characterization of Camel Lung and Liver Heparan Sulfate**

Mohammad Warda and Robert J. Linhardt

Journal : **Comparative Biochemistry and Physiology B-Biochemistry & Molecular Biology 143 37-43 (2006)**

ISSN : 1096-4959 **Impact Factor :** 1.40

Abstract :

Glycosaminoglycans (GAGs) are the portion of a proteoglycan that determine its final shape and function. The molecular structure of predominant GAG species in camel liver and lung is reported for the first time. The one-humped camel survives in an extreme, arid habitat and, thus, offers a good model to study the role of glycomics on homeostasis. Heparan sulfate (HS) from the lung and liver of the one-humped camel were isolated. Characterization of these newly isolated glycosaminoglycans included 1H NMR spectroscopy and disaccharide compositional analysis. The relative molecular weight of these GAGs was estimated by gradient polyacrylamide gel electrophoresis and their degree of sulfation was also assessed. Anticoagulant activity was determined using an anti-factor Xa assay and the HS from camel lung shows ¨ 50% of heparin's activity. The structural differences of camel liver GAGs compared to human and porcine liver heparin and HS is discussed. Camel lung heparan sulfate resembles both heparin and HS in its structure and properties suggesting that it is either a highly sulfated form of HS, a mixture of heparin and HS or an undersulfated heparin.

Key Words :

Heparin; Heparan sulfate; Glycosaminoglycans; One-humped camel; Mammalian; Liver; Lung; Disaccharide; Anticoagulant; Factor Xa.

Name : **Prof . Mohammad Warda**

Dep. : **Chemistry**

Title : **Isolation and Characterization of Heparan Sulfate from Various Murine Tissues**

Mohamad Warda, Toshihiko Toida and Fuming Zhang

Journal : **Glycoconjugate Journal 23 555-563 (2006)**

ISSN : 0282-0080 **Impact Factor :** 3.61

Abstract :

Heparan sulfate (HS), is a proteoglycan (PG) found both in the extracellular matrix and on cell surface. It may represent one of the most biologically important gly- coconjugates, playing an essential role in a variety of differ- ent events at molecular level. The publication of the mouse genome, and the intensive investigations aimed at under- standing the proteome it encodes, has motivated us to initiate studies in mouse glycomics focused on HS. The current study is aimed at determining the quantitative and qualitative organ distribution of HS in mice. HS from brain, eyes, heart, lung, liver, kidney, spleen, intestine and skin was purified from 6–8 week old male and female mice. The recovered yield of HS from these organs is compared with the recovered whole body yield of HS. Structural characterization of the resulting HS relied on disaccharide analysis and 1 H-NMR spectroscopy. Different organs revealed a characteristic HS structure. These data begin to provide a structural understanding of the role of HS in cell-cell interactions, cell signaling and sub-cellular protein trafficking as well as a fundamental understanding of certain aspects of protein-carbohydrate interactions.

Key Words :

Heparan sulfate; Glycomics; Glycome ; Glycosaminoglycans.

International Publications Awards
Cairo University

Name : **Prof . Nesreen. Ezz El Deen**

Dep. : **Parasitology**

Title : **An investigational approach to an outbreak of Ichthyophthirius in two ornamental fish species**

E.E. Elsayed , N. Ezz El Dien and M.A.Mahmoud

Journal : **Bulletin Of The European Association Of Fish Pathologists 26(5) 211-216 (2006)**

ISSN : 0108-0288 **Impact Factor :** 0.72

Abstract :

Ichthyophthiriasis (white spot) is one of the economically important diseases affecting almost all freshwater fish and causing outbreaks associated with devastating losses. An outbreak of white spot occurred in an aquaria holding Siamese shark (Pangasius sutchi) and goldfish (Crassius auratus). Initial observation of the outbreak showed that only P. sutchi was affected with typical white spot associated with mortalities. However, C.auratus. a known susceptible species for Ich, in the same aquarium showed only mild erythema that disappeared during the course of infection with no mortalities. An experimental infection with Ichthyophthirius multifilis was induced in P.sutchi and cohabitation was performed with the infected fish and naïve P.sutchi and C. auratus to investigate the variation between the two species. Pangasius sutchi showed typical clinical signs with mortalities while cohabitant C. auratus showed only mild erythema without mortalities. Histopathological examination was performed to evaluate the infection variation. The study provides clinical evidence of the potential presence of more than one strain of I. multifilis of different species specificity.

Key Words :

Ichthyophthirius multifiliis; Pangasius sutchi; Carassius auratus; infection; protozoa; ciliates

The National Laser Institute

Name : **Prof . Yehia Badr**

Dep. : **Laser Sciences and Interactions**

Title : **Size-dependent spectroscopic, optical, and electrical properties of PbSe nanoparticles**

Y. Badr and M. A. Mahmoud

Journal : **Cryst. Res. Technol 41, No. 7 658 – 663 (2006)**

ISSN : 0232-1300 **Impact Factor :** 0.83

Abstract :

Stable crystalline Lead Selenide nanoparticles (PbSe NPs) were prepared with a cubic (sphalerite) phase in polyvinyl alcohol (PVA) matrix. Moreover, XRD was used to characterize the PbSe NPs in PVA. The size were controlled by Pb:Se ions ratio in which the particle size was found to be inversely proportional to this ratio up to 16:1. FT-Raman and FT-IR measurements indicated the decrease of crystallization of PVA due to doping with PbSe NPs as indicated by the appearance of a peak at 1124 cm-1 that increases by size reduction of PbSe NPs. The Photoluminescence and electrical measurements monitored the interaction of PbSe NPs with PVA which increased by decreasing the particle size.

Key Words :

PbSe: nanoparticles: properties

International Publications Awards
Cairo University

Name : **Prof . Yehia Badr**

Dep. : **Laser Sciences and Interactions**

Title : **Manifestation of the silver nanoparticles incorporated into the poly vinyl alcohol matrices**

Y. BADR and M. A. MAHMOUD

Journal : **Mater SCI 41 3947-3953 (2006)**

ISSN : 0022-2461 **Impact Factor :** 0.901

Abstract :

Electrical and optical properties of the silver nanoparticles (Ag NPs) incorporated into the polyvinyl alcohol (PVA) matrices were investigated as a function of Ag NPs. The intensities of FT-Raman bands have a maximum corresponding to the Ag NP amount about 3.6 mg.. The PVA doped with different amounts of Ag NPs shows UV-Visible peaks, were red shifted by Ag NPs increase, while their intensities according well with the FT-Raman spectra. The UV-Visible spectra for the 3.6 mg Ag NPs doped in PVA presented a small red shift and band intensity decrease by increasing temperature. C 2006 Springer Science+ Business Media, Inc.

International Publications Awards
Cairo University

Name : **Prof . Yehia Badr**

Dep. : **Laser Sciences and Interactions**

Title : **Effects of Sm3+/Yb3+ co-doping and temperature on the Raman, IR spectra and structure of [TeO2–GeO2–K2O–Sm2O3/Yb2O3] glasses**

I. Shaltout and Y. Badr

Journal : **Physica B 381 187–193 (2006)**

ISSN : 0921-4526 **Impact Factor :** 0.796

Abstract :

Effects of Sm3+/Yb3+ co-doping on Raman scattering, IR absorption, temperature dependence of the Raman spectra up to 210 1C and the structure of two glass systems of the composition (80TeO2–10GeO2–8K2O–2Sm2O3/Yb2O3) is discussed. It was found that the addition of Yb3+ to the glass very strongly enhances the intensities of the antistokes' Raman bands at 155, 375, 557 and 828 cm 1 and quenches both the intensities of the stokes' vibration modes of the TeO4 units in the range of 120–770 cm 1 and the intensities of the OH stretching vibration modes in the range of 2600–3300 cm 1.Sm2O3/Yb2O3 rare earth co-doping has a great influence on removing and/or changing the nature of the OH groups. The appearance and splitting of the stretching vibration modes of the OH groups at lower frequencies (2770, 2970 cm 1) for the Sm+3 singly doped glass sample, compared to the band at 3200 cm 1 for the Sm3+/Yb3+ co- doped glass sample, suggested that the OH groups are more strongly bonded and incorporated with the glass matrix for the singly doped glass. Heating the sample up continuously weakens the hydrogen bonding of the OH groups to the glass matrix leading to creation of NBO and breakdown of the connectivity of the OH groups to the TeO4, TeO3+1 and TeO3 structural units. Raman bands at 286, 477, 666 and 769 cm 1 were assigned to its respective vibrations of Te2O7, TeO4 4 species, the (Te–O–Te)bending vibrations of the
TeO4 triagonal bipyramids (tbps), the axial symmetric stretching vibration modes (Teax–O)s with bridging oxygen BO atoms and to the
(Te–O)nbo non-bridging stretching vibration modes of the TeO3+1 and/or TeO3 pyramids.

Key Words :

Raman spectra; IR; Structure; Tellurite glasses; Rare earth doping; Temperature dependence

International Publications Awards
Cairo University

Name : **Prof . Yehia Badr**

Dep. : **Laser Sciences and Interactions**

Title : **Effect of PVA surrounding medium on ZnSe nanoparticles: Size, optical, and electrical properties**

Y. Badr and M.A. Mahmoud

Journal : **Spectrochimica Acta Part A (65) 584-590 (2006)**

ISSN : 1386-1425 **Impact Factor :** 1.29

Abstract :

Polyvinyl alcohol (PVA) matrix was used to confine the particle size of ZnSe nanocrystallites as well as the variation of zinc (Zn) to selenium (Se) ion ratio which showed a remarkable decrease on the particle size as this ratio increased. The particle size decrease was monitored from the UV–vis absorption measurement as well as photoluminescence which suffered a blue shift with particle size decrease. The particle size was characterized with the aid of X-ray diffraction (XRD). The Raman spectra showed that, as the particle size increases, the peak position of the line centers (LO) mode were found to be red shifted from 239 to 234 cm−1 , accompanied by an increase in the full-width at half-maximum (FWHM). The electrical measurements and FT-IR spectra (overtone and normal) band vibration were used to study the effect of ZnSe NPs size on the PVA matrix.

Key Words :

ZnSe NPs; Raman spectra; IR spectra; PVA

Name : **Prof . Yehia Badr**

Dep. : **Laser Sciences and Interactions**

Title : **Effect of silver nanowires on the surface-enhanced Raman spectra (SERS) of the RNA bases**

Y. Badr and M.A. Mahmoud

Journal : **Spectrochimica Acta Part A (63) 639-645 (2006)**

ISSN : 1386-1425 **Impact Factor :** 1.29

Abstract :

RNA bases have a great importance in the biological and genetics applications. The surface-enhanced Raman scattering (SERS) was used to study the orientation and adsorption structure of RNA bases adsorbed on the surface of silver nanowires (Ag NWs). The Ag NWs were prepared and its UV–vis spectra were recorded. The RNA bases oriented perpendicularly on the surface of Ag NWs, as the coverage area decreases. Consequently, the in-plane bands were enhanced according to the SERS selection rule. Many bands were red shifted due to the chemisorption of RNA bases on the Ag NWs surface. New bands corresponding to the base–surface bond were appeared in the SERS spectra.

Key Words :

Silver nanowires; Surface-enhanced Raman spectra; RNA bases

Name : **Prof . Yehia Badr**

Dep. : **Laser Sciences and Interactions**

Title : **Enhancement of the Optical Properties of Poly Vinyl Alcohol by Doping with Silver Nanoparticles**

Y. Badr and M. A. Mahmoud

Journal : **Applied Polymer Science 99 3608-3614 (2006)**

ISSN : 0021-8995 **Impact Factor :** 1.07

Abstract :

Poly vinyl alcohol (PVA) incorporated with different weight percent of Silver nanoparticles (Ag NPs) were prepared. The enhancement factors for each band in the Raman spectra were calculated and the degree of en- hancement were found to be increased as the percent of Ag NPs increases up to 0.3%, and thereafter it decreases. Some bands were red shifted while others were blue shifted. The overtones FTIR bands and photoacoustic spectra were re- corded and show the same behavior as those bands. The X-ray diffraction pattern and Raman and photoacoustic spectra showed that PVA has a high degree of crystallinity. The UV–vis spectra of the same samples were red shifted and increase in their intensities up to 0.3% Ag NPs, there- after the band intensities of the peak corresponding to Ag NPs were diminished.

Key Words :

photoacoustic spectra; Raman spectra; PVA; silver nanoparticles

Name : **Prof . Yehia Badr**

Dep. : **Laser Sciences and Interactions**

Title : **On 308 nm photofragmentation of the silver nanoparticles**

Y. Badr , M.G. Abd El Wahed and M.A. Mahmoud

Journal : **Applied Surface Science 253 2502-2507 (2006)**

ISSN : 0169-4332 **Impact Factor :** 1.26

Abstract :

Silver nanoparticles (Ag NPs) were prepared by different chemical methods possessing different sizes 32, 82, and 205 nm. The influence the size of Ag NPs was demonstrated by the absorption and fluorescence spectra, the maximum absorption of Ag NPs increases as the particle size increases. When Ag NPs irradiated with 308 nm excimer laser; the maximum absorption and the full width at half maximum decreased as the number of pulses increased up to 100,000 pulse; due to the size reduction. The fluorescence spectra of Ag NPs and irradiated Ag NPs with 308 nm excimer laser were recorded after excitation at 441.5 nm He–Cd laser, showing a red shift increasing as the particle size is increased.

Key Words :

Photodegradation; Laser flouresence; Silver nanoparticles

Statistical Studies and Research Institute

Name : **Prof . Abd Allah Abd-El Fattah**

Dep. : **Applied Statistics and Econometrics**

Title : **Efficiency of Bayes Estimator for Rayleigh Distribution**

Abd-Elfattah, A. M. Amal S. Hassan and Ziedan, D. M.

Journal : **InterStat (2006)**

ISSN : -- **Impact Factor :** --

Abstract :

Comparisons of estimates between Bayes and frequenters methods are interesting and challenging topics in statistics. In this paper, Bayes and maximum likelihood estimates are discussed for Rayleigh distribution based on complete and type-II censored sampling. The prior knowledge which is adequately represented by the natural conjugate distribution and the Jeffreys non-informative prior distribution of the parameter for Rayleigh distribution are used. Moreover, the Bayes risk functions under squared error loss function and maximum likelihood risk functions for complete and type-II censored sampling schemes are compared. Finally, numerical study is given to illustrate the results.

Key Words :

Type -II censored sampling; Bayesian approach; Maximum likelihood procedure; Risk function .

International Publications Awards
Cairo University

Name : **Prof . Abd Allah Abd-El Fattah**

Dep. : **Applied Statistics and Econometrics**

Title : **On Sample Size Estimation for Lomax Disrtibution**

Abd-Elfattah, A.M. ,Alaboud, F.M. and Alharby A.H.

Journal : **InterStat (2006)**

ISSN : -- **Impact Factor :** --

Abstract :

For life testing when the life times of items are continuous randomvariables, it is important to know the total number of individuals in the samplewhich is drawn from an assumed failure model, the total number of individuals maybe unknown for many causes, either due to the omission in the records or perhaps because of physical conditions of the experiment, and then the sample size should be estimated. The Lomax distribution (Pareto distribution of the second kind) has, in recent years, assumed a position of importance in the field of life testing because of its uses to fit business failure data, Lomax(1954). In this paper we consider the Lomax distribution as an important model of lifetime models and will derive the non-Bayesian and Bayesian estimators of sample size in the case of type I censored samples according to Marcus and Blumenthal (1975) approach. Numerical results for these estimators are presented in the last section of this work. An iterative procedure is used to obtain the estimators numerically.

Key Words :

Conditional and unconditional maximum likelihood estimators; Bayesian estimator; Sample size; Censored samples; Lomax distribution.

International Publications Awards
Cairo University

Name : **Prof . Abd Allah Abd-El Fattah**

Dep. : **Applied Statistics and Econometrics**

Title : **Efficiency of Maximum Likelihood Estimators under Different Censored Sampling Schemes for Rayleigh Distribution**

Abd-Elfattah, A. M. Amal S. Hassan and Ziedan, D. M.

Journal : **InterStat (2006)**

ISSN : -- **Impact Factor :** --

Abstract :

The objective of this article is to study the effect of different types of censored sampling schemes on the estimation of the unknown parameter for Rayleigh distribution. The censored sampling schemes namely; type-I, type-II and progressive type-II censored sampling are to be considered. The comparisons made between the samples are based on the Fisher information, expected duration of the life test and the mean squared error of the maximum likelihood estimators. A numerical study is carried out to assess these effects. The results indicate that, if the experimenter would reduce the required time to conclude the test, then he should prefer type II censored sampling than type-I. Consequently, type II is more efficient than type I and type II in multistage is more efficient than type II in one stage.

Key Words :

Type-I, type-II and progressive type-II censored sampling; Maximum likelihood estimator; Mean square error; Fisher information; Expected duration .

International Publications Awards
Cairo University

Name : **Prof . Ahmed Hassan Youssef**

Dep. : **Applied Statistics and Econometrics**

Title : **Performance of Alternative Predictors for the Unit Root Process**

Ahmed H. Youssef

Journal : **InterStat (2006)**

ISSN : -- **Impact Factor :** --

Abstract :

A comparison between Ordinary Least Squares (OLS), Weighted Symmetric (WS), Modified Weighted Symmetric (MWS), Maximum Likelihood (ML), and our new Modification for Least Squares (MLS) estimator for the first order autoregressive are studied in the case of unit root using the Monte Carlo method. The Monte Carlo study sheds some light on how well the estimators, and the predictors on different samples size. We found that MLS estimator is less bias and mean squares error than any other estimators, while MWS predictor error performs well, in the sense of MSE, than any other predictors' methods. The sample percentiles for the distribution of the τ statistic for the first, the second, and the third periods in the future, for alternative estimators, are reported to know if it agrees with those of normal distribution.

Key Words :

First order autoregressive; Unit roots estimators; and Unit roots predictor

International Publications Awards
Cairo University

Name : **Prof . Ahmed Hassan Youssef**

Dep. : **Applied Statistics and Econometrics**

Title : **Performance of the Unit Root Estimators on Crude Birth Rate in Egypt**

Ahmed H. Yousse and Fuad A. Awwad

Journal : **For East Journal of Theoretical Statistic (2006)**

ISSN : -- **Impact Factor :** --

Abstract :

A comparison between Ordinary Least Squares (OLS), Weighted Symmetric (WS), Modified Weighted Symmetric (MWS), Maximum Likelihood (ML), and our New modification for Modified Weighted Symmetric (NMWS) estimators for the first order autoregressive are studied in the case of unit root using Crude Birth Rate (CBR) data from 1900 to 2003 in Egypt. We found that all previous estimators lead to accept the null hypothesis of a unit root at 5% level of significance. We also obtained the cumulative distribution of NMWS τ for unit root by using Monte Carlo method.

Key Words :

Application of first order autoregressive; Unit roots estimators; and Unit roots predictor.

International Publications Awards
Cairo University

Name : **Prof . Ahmed Hassan Youssef**

Dep. : **Applied Statistics and Econometrics**

Title : **Random Coefficient Regression in Simultaneous Linear Equations Model**

Ahmed H. Youssef

Journal : **For East Journal of Theoretical Statistic (2006)**

ISSN : -- **Impact Factor :** --

Abstract :

In this paper, we will consider a random coefficients regression in simultaneous equations model (SEM). Some facts about SEM in econometrics theory and practice are introduced. Estimation problems concerning double k-class in SEM which have random coefficients are considered. Bias and mean squared error (MSE) of double k-class estimators are derived for random coefficients in a single equation SEM. For given $1k$, we suggested four alternative values of $2k$. Three of them are better, in the sense of MSE, than the other values of $2k$.

Key Words :

Random coefficient regression model; Simultaneous iinear equation model; Double K class estimation.

International Publications Awards
Cairo University

Name : **Prof . Alaa Abdel Aziz**

Dep. : **Applied Statistics and Econometrics**

Title : **A Generalized Quasi-Likelihood Method for Estimation of Autoregressive Models**

A. A. Abed Azza, S .M. El- Sayed1, and Y. M. Selim.

Journal : **InterStat (2006)**

ISSN : -- **Impact Factor :** --

Abstract :

In this paper, generalized quasi-likelihood estimation for a semi-parametric model with a dependent structure is developed incorporating knowledge of skewness and kurtosis. This is a generalization of a similar idea proposed for independent
observations by Godambe and Thompson (1989). The generalized quasi-score function is constructed on the basis of non-orthogonal estimating function invoking the method of Durairajan (1992).

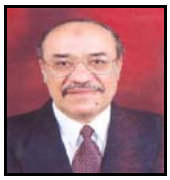
Key Words :

Generalized Linear Models; Quasi- likelihood method; Non-orthogonal estimating functions.

International Publications Awards
Cairo University

Name : **Prof . Samir Kamel Ashour**

Dep. : **Mathematical Statistics**



Title : **The Sampling Distribution of the Maximum Likelihood Estimators for the Parameters of Weibull Distribution Based on Upper Record Values**

Samir.K. Ashour and Amin, E.A.

Journal : **InterStat (2006)**

ISSN : -- **Impact Factor :** --

Abstract :

Record values and associated statistics are of great important in several real-live problems involving weather, economic, and sport data. Based on upper record values and for the two parameter s Weibull distribution, Ashour and Amin (2005) obtained the maximum likelihood estimators for the unknown parameters. In this paper the sampling distributions and their properties for these estimators will be investigated numerically

Key Words :

Weibull distribution; Upper record values; Maximum likelihood estimation; Sampling distribution .

Faculty of Economics and Political Science

Name : **Prof . Afaf Mahmoud Mady**

Dep. : **Statistics**

Title : **Some Extensions of Langenberg Model for Clinical Trials with Delayed Observations Normally Distributed Responses**

Afaf M. Mady

Journal : **Computational Statistics & Data Analysis 51 1384–1392 (2006)**

ISSN : 0167-9473 **Impact Factor :** 0.73

Abstract :

Langenberg and Srinivasan [1981. On the Colton model for clinical trials with delayed observations normally distributed responses. Biometrics 37, 143–148.] proposed two simple procedures for analyzing data from patients who arrive during the waiting period, caused by the lag, between the trial and treatment stages of the model. The relative performance of the procedures in the Bayesian framework is discussed when the responses to two treatments are normally distributed with unknown means and a common known variance. A generalization of the Langenberg and Srinivasan formulation of the two procedures to an arbitrary finite number of populations is proposed. Results for the special case of two populations, one of them known, are presented.

Key Words :

Decision theory; Delayed observations; Bayesian approach.

International Publications Awards
Cairo University

Name : **Prof . Ahmed Mahmoud Gad**

Dep. : **Statistics**

Title : **Linear Mixed Models for Longitudinal Data with Nonrandom Dropouts**

Ahmed M. Gad and Noha A. Youssif

Journal : **Data Science 4 447-460 (2006)**

ISSN : -- **Impact Factor :** --

Abstract :

Longitudinal studies represent one of the principal research strategies employed in medical and social research. These studies are the most appropriate for studying individual change over time. The prematurely withdrawal of some subjects from the study (dropout) is termed nonrandom when the probability of missingness depends on the missing value. Nonran- dom dropout is common phenomenon associated with longitudinal data and it complicates statistical inference. Linear mixed effects model is used to fit longitudinal data in the presence of nonrandom dropout. The stochastic EM algorithm is developed to obtain the model parameter estimates. Also, parameter estimates of the dropout model have been obtained. Standard errors of estimates have been calculated using the developed Monte Carlo method. All these methods are applied to two data sets.

Key Words :

Dropout; Longitudinal data; Mixed models; Stochastic EM.

International Publications Awards
Cairo University

Name : **Prof . Ahmed Mahmoud Gad**

Dep. : **Statistics**

Title : **Analysis of Longitudinal Data with Intermittent Missing Values Using the Stochastic EM Algorithn1**

Ahmed M. Gad and Abeer S. Ahmed

Journal : **Computational Statistics & Data Analysis 50 2702-2714 (2006)**

ISSN : 0167-9473 **Impact Factor :** --

Abstract :

Longitudinal data are not uncommon in many disciplines where repeated measurements on a response variable are collected for all subjects. Some intended measurements may not be available for some subjects resulting in a missing data pattern. Dropout pattern occurs when some subjects leave the study prematurely. The missing data pattern is defined as intermittent if a missing value followed by an observed value. When the probability of missingness depends on the missing value, and may be on the observed values. the missing data mechanism is termed as nonrandom. Ignoring the missing values in this case leads to biased inferences. The stochastic EM (SEM) algorithm is proposed and developed to find parameters estimates in the presence of intermittent missing values. Also. in this setting. the Monte Carlo method is developed to find the standard enol'S of parameters estimates. Finally, the proposed techniques are applied to a real data from the International Breast Cancer Study Group.

Key Words :

Repeated measures; Nonrandom intermittent missing; The stochastic EM algorithm: Standard errors; Quality of life; Breast cancer.

Faculty of Agriculture

Name : **Prof . Ahmed Saad Sami**

Dep. : **Animal Production**

Title : **Effects of the dietary energy source on meat quality and eating qualityattributesand fatty acid profile of Simmental bulls**

Ahmed .S. Sami , Josef Koegel , Hans Eichinger , Peter freudenreich and Frieder. J .Schwarz

Journal : **Anim. Res 55 287-299 (2005)**

ISSN : 1627-3583 **Impact Factor :** 0.79

Abstract :

Seventy-two Simmental bulls, weighing at the beginning of the experiment 408±24 kg, were fed fibrous or starch diets to a final weight of 622±34 kg. The animals were divided into three groups fed with the following: grass silage plus sugar beet pulp (GSS, n = 18) as a predominantly fibrous diet, maize silage plus wheat (MSW, n = 27) and maize silage plus corn (MSC, n = 27) as predominantly starch diets with different ruminal degradabilities of the starch. The dietary source of energy had no significant effects on the following meat characteristics: pH, colour, weight losses at ageing and grilling, grilling time and shear force values. These meat quality traits were also not affected by the dietary source of starch, rapid degradable (MSW) or slow degradable (MSC). In loin muscle steaks, sensory evaluation revealed no significant differences in tenderness and juiciness among the three groups. The steaks of the grass silage fed group (GSS) were rated lower for flavour than the steaks from the maize silage fed groups (MSW, MSC), with the difference between GSS and MSC being significant. The MSC group also had the highest intramuscular fat content with 1.96% ($P < 0.05$). Feeding the GSS diet significantly increased the saturated fatty acids in the intramuscular and kidney fat compared to the MSW and MSC diets. Also, most polyunsaturated fatty acids especially n-3 fatty acids were increased by feeding the GSS diet. The MSC diet significantly reduced the PUFA in the intramuscular and kidney fat compared to the GSS diet. MUFA content was significantly higher when feeding starchy diets

Key Words :

Energy; meat quality ; fatty acid profile ; Simmental bulls

International Publications Awards
Cairo University

Name : **Prof . Ashraf Barkawi**

Dep. : **Animal Production**

Title : **Seasonal changes in semen characteristics, hormonal profiles and testicular activity in Zaraibi goats**

A.H. Barkawi , Eitedal H. Elsayed , G. Ashour and E. Shehata

Journal : **Small Ruminant Research 66 209-213 (2006)**

ISSN : 0921-4488 **Impact Factor :** 0.78

Abstract :

Ten Zaraibi buck goats were used to study the effect of season on semen quality. Bucks were housed and fed according to standard recognized practices. Semen was collected twice a week for 7 consecutive weeks (starting from the 3rd to the 9th week) in the mid of the each season. During these periods scrotal circumference was measured fortnightly. The number of mounts terminating in ejaculation and the time interval between the first mount and ejaculation were also recorded. The physical parameters of semen and semen index (semen volume×spermatozoa concentration/ml×live spermatozoa%×progressive motility%) were measured for the first and the second ejaculates of each semen collection during the week. At the end of each season, testicular biopsies were obtained surgically from three bucks for histological evaluation. Plasma testosterone, FSH and LH concentrations were also determined twice weekly. Bucks demonstrated the highest libido in summer, using the least ($P < 0.01$) number of mounts and a shorter ($P < 0.01$) reaction time. This coincided with a higher ($P < 0.01$) level of plasma testosterone (10 ng/ml) and the best semen quality (semen index: 3354×106). During autumn, bucks recorded the highest ($P < 0.01$) ejaculate volume (0.98 ml) and the maximum output of sperm (4565×106), as well as a lower ($P < 0.01$) percentage of sperm abnormalities (8.8%). This was accompanied by high concentrations of plasma LH (average 2.9 mIU/ml). The histological structure of the testis indicated that during autumn (natural breeding season) seminiferous tubules (Sta) occupied the majority of the testicular tissues (76.6%) and the spermatic layers were highest. It can be said that Zaraibi bucks have distinct seasonal activity, with poor semen characteristics during winter and spring—which may be a critical obstacle for implementing intensive systems of three kidding in 2 years when natural mating is applied.

Key Words :

Zaraibi goat; Semen characteristics; Testosterone; FSH; LH; Testicular histological structure

International Publications Awards
Cairo University

Name : **Prof . Mohamed Helmy Belal**

Dep. : **Economic Entomology and Pesticides**

Title : **Fungicidal Activity of Artemisia Herba alba Asso (Asteraceae)**

Mahmoud A. Saleh , Mohamed H. Belal and Gamal El-Baroty

Journal : **Environmental Science and Health, Part B 3 237-244 (2006)**

ISSN : 0360-1234 **Impact Factor :** 0.86

Abstract :

The antifungal activity of Artemisia herba alba was found to be associated with two major volatile compounds isolated from the fresh leaves of the plant. Carvone and piperitone were isolated and identified by GC/MS, GC/IR, and NMR spectroscopy. Antifungal activity was measured against Penicillium citrinum (ATCC 10499) and Mucora rouxii (ATCC 24905). The antifungal activity (IC50) of the purified compounds was estimated to be 5 g/ml, 2 g/ml against Penicillium citrinum and 7 g/ml, 1.5 g/ml against Mucora rouxii carvone and piperitone, respectively.

Key Words :

Antifungal; Fungicide; Essential oil; Carvone; Piperitone; Compositae; Asteraceae; Artemisia herba alba

The National Cancer Institute

International Publications Awards
Cairo University

Name : **Prof . Ayman Amin**

Dep. : **Surgical Oncology**

Title : **Free Anterolateral Thigh Flap for Reconstruction of Major Craniofacial Defects**

Ayman Amin, M.D. , Mohammed Rifaat, M.D., FRCS , Francisco Civantos, M.D. , Donald Weed, M.D. , Mohammed Abu-Sedira, M.D. and Mahmoud Bassiouny, M.D.

Journal : **Reconstructive Microsurgery 22 No 2 97-104 (2006)**

ISSN : 0743-684X **Impact Factor :** 0.55

Abstract :

Free-tissue transfer has revolutionized skull-base surgery by expanding the ability to perform cranial base resection and by improving the quality of reconstruction. The anterolateral thigh flap has come recently into use in the field of head and neck reconstruction. Its role in craniofacial and midface reconstruction has not been specifically defined. This study involved a total of 18 patients who were treated over a 5-year period from 1998 to 2003. Seventeen patients had locally advanced head and neck cancer, requiring craniofacial resection, and one patient had a complicated gun shot wound of the forehead. Thirteen patients were treated at the National Cancer Institute, Cairo University, Egypt, and five patients at the University of Miami, Florida. The patients presented with defects of the anterior skull base (5), lateral skull base (3), scalp and calvarium (3), and the midface (7). The anterolateral thigh flap was used as a myocutaneous flap in 11 cases and as a perforator fasciocutaneous flap in seven cases. Musculocutaneous perforators supplied the majority of flaps (17/18). Total flap survival occurred in 17 cases; one patient developed complete flap necrosis. The most commonly used reciepient vessels were the facial vessels and the external jugular vein. Major complications included one case with meningitis; the patient died after failure of treatment. Another patient died 6 weeks postoperatively from pulmonary embolism. One patient developed CSF leak that stopped spontaneously. In addition, two patients developed minor wound dehiscence that healed spontaneously. The donor-site wound healed without problems except in two cases. One patient had an incomplete take of the skin graft; the other developed wound infection and superficial sloughing. Both wounds healed spontaneously. In addition to the feasibility of simultaneous flap harvesting with tumor resection, the flap's advantage in skull base reconstruction is its reliable blood supply, which can provide adequate dural cover and protection of the brain. Its size and moderate thickness are suitable for reconstruction of scalp and calvarial defects. The abundance of reliably vascularized fat in the flap may be an advantage in long-term maintenance of the volume of the flap in midface reconstruction. Similar to other soft tissue flaps, additional skeletal reconstruction may still be required to achieve an optimal functional and aesthetic result.

International Publications Awards
Cairo University

Name : **Prof . Mohamed Saad Zaghloul**

Dep. : **Radiation Oncology**

Title : **Long-term results of primary adenocarcinoma of the urinary bladder: A report on 192 patients**

Mohamed S. Zaghloul, Akram Nouh , Mohamed Nazmy, Samy Ramzy, Ashraf S. Zaghloul, Mohamed Abou Sedira and Ehab Khalil

Journal : **Urologic Oncology: Seminars and Original Investigations 24 13-20 (2006)**

ISSN : 1078-1439 **Impact Factor :** 1.07

Abstract :

Objectives: To evaluate the clinical presentation and treatment end results of primary adenocarcinoma of the urinary bladder, and to determine the significant independent prognostic factors that determine this outcome.
Patients and Methods: Of 3659 patients who underwent cystectomy, 192 had adenocarcinoma of the urinary bladder, with a relative frequency of 5.2%. Most of these patients (68.2%) presented in late stages (P3P4). The incidence of pelvic lymph nodes involvement was 25.5%. Mucinous adenocarcinoma was reported in 28 patients (14.6%), papillary in 20 (10.4%), signet ring in 14 (7.3%), while not otherwise specified was reported in 130 (67.7%) in the cystectomy specimens.
Results: Mucinous and signet-ring histologic subtypes showed increased frequency of high stages and high grades, and more nodal involvement than the papillary and not otherwise specified. All patients were treated with radical cystectomy and pelvic lymphadenectomy with (69 patients) or without (123) postoperative radiotherapy. The 5-year disease-free survival rate was 46 4% for all patients with adenocarcinoma. Postoperative radiotherapy improved the disease-free survival significantly. The 5-year disease-free survival rate for the postoperative radiotherapy group was 616% compared to 375% for the cystectomy alone group (P0.002). Local control rate was significantly improved from 537% for cystectomy alone to 963% for postoperative radiotherapy patients (P0.00001). Distant metastases were the leading cause of death in the postoperative radiotherapy group.
Conclusions: Within the limitations provided by retrospective studies, it could be concluded that postoperative radiotherapy improved the disease-free survival through its effect on local control. The disease-free survival independent prognostic variables were tumor stage, postoperative radiotherapy, nodal involvement, and adenocarcinoma subclassification. These factors, except the adeno-subclassification, were also found to determine the local control rate. On the other hand, the independent prognostic factors for distant metastasis were lymph nodal involvement, stage, and adeno-subclassification.

Faculty of Computers and Information

Name : **Prof . Assem Tharwat**

Dep. : **Decision Support System**

Title : **A comprehensive numerical algorithm for solving service points location problems**

A.A. Tharwat *, M. Saleh

Journal : **Applied Mathematics and Computation 176 44–57 (2006)**

ISSN : 0096-3003 **Impact Factor :** 0.816

Abstract :

This article introduces a numerical algorithm to solve the generalized max-separable optimization problem MinF(f1, f2, . . . , fn) under the set of constraints rij(xj) 6 0, where the function F is non-decreasing and continuous in each of its components, and the functions rij(xj) are continuous for each index. This work is motivated from the class of emergency service location problems, which were studied by various authors e.g. [R.A. Cuninghame-Green, The absolute centre of a graph, Disc. Appl. Math. 7 (1984) 275–283; Z. Drezener, On rectangular p-center problem, Naval Research Logisitics 34 (1987) 229–234], is considered. The general version of the considered problem is NP-hard [Z. Drezener, On rectangular p-center problem, Naval Research Logisitics 34 (1987) 229–234; M. Gavalec, O. Hudec, A polynomial algorithm for a balanced location on a graph optimization 35 (1995) 367–372.]. Finally a numerical example is given to illustrate the introduced algorithm.

Key Words :

Max-separable functions; Service location problems; Numerical methods

International Publications Awards
Cairo University

Name : **Prof . Hisham Mohamed Abdel Salam**

Dep. : **Decision Support System**

Title : **A Simulation-Based Optimization Framework for Product Development Cycle Time Reduction**

Hisham M. E. Abdelsalam and Han P. Bao

Journal : **IEEE Transactions on Engineering Management 53 (2006)**

ISSN : 0018-9391 **Impact Factor :** 0.864

Abstract :

By the mid-1990s, the importance of early introduction of new products to both market share and profitability became fully understood. Thus, reducing product time-to-market became an essential requirement for continuous competition. Since product development projects (PDPs) are based on information content and their accompanying information-dominated methods, an efficient methodology for reducing PDP time initially requires developing an understanding of the information flow among different project processes. One tool that helps achieving this understanding is the design structure matrix (DSM). Because much of the time involved in a complex PDP is attributable to its expensive iterative nature, resequencing project activities for efficient execution become the next requirement. This paper presents a simulation-based optimization framework that determines the optimal sequence of activities execution within a PDP that minimizes project total iterative time given stochastic activity durations. A mathematical model representing the problem is built as an MS Excel module and Visual Basic for Applications (VBA) is used to interface this module with a metaheuristic optimization algorithm called Simulated Annealing and commercial risk analysis software "Crystal Ball" to solve the model.

Key Words :

Terms—Manufacturing, Monte Carlo simulation, optimization, project management, sequencing.

Faculty of Commerce

International Publications Awards
Cairo University

Name : **Prof . Gamal Mohamed Shehata**

Dep. : **Business Administration**

Title : **Rethinking the Organizational Learning Cycle Model: The Impact of Informal Learning**

Gamal Mohamed Shehata

Journal : **Scientific Journal of Management 19-37 (2006)**

ISSN : -- **Impact Factor :** --

Abstract :

The intention of this paper is to examine the actual practices of collective learning inside the Boots Company. The management of such company demonstrates an interest in the phenomenon under examination. The collective learning cycle developed by Dixon (1994) is utilized as an analytical tool to investigate these learning practices. The attention is devoted to the context through which organizational learning is developed. According to Dixon (1994), organizations that can create a learning cycle that promotes collective learning will be able to transform themselves in response to an internal need for change and in response to external constraints. This proposition will be analytically verified throughout the course of discussion of this paper. The conceptual trustworthiness of Dixon's (1994) collective learning cycle will be debated in this paper. The tension between formal and informal learning will also be outlined. A qualitative research methodology is used. Data is gathered through in-depth interviews, documentation, and observation. An intense literature review is also conducted to shed more light on the state-of-art of the subject under study as well as to outline major gaps exist in the field of organizational learning. A number of management implications will be identified.

International Publications Awards
Cairo University

Name : **Prof . Wael Kortam**

Dep. : **Business Administration**

Title : **Exploring Foundations for the Diffusion of Internet Marketing Research and Practice: A Conceptual Framework and Empirical Analysis**

Wael Kortam

Journal : **Scientific Journal of Management 1 3-18 (2006)**

ISSN : -- **Impact Factor :** --

Abstract :

This paper aims to provide a conceptual framework that justifies the quick and quantum leap of Internet marketing in research and practice. So, the paper starts by a review of Internet marketing literature to reveal the need for and importance of building such a framework for the future of Internet marketing as an emerging marketing discipline and an area for professional marketing practice. Consequently, the proposed framework is introduced based on an argued configuration of the relationship between Internet-marketing-oriented-technologies and the strategic agenda of modern marketing thought and practice. The paper concludes by translating the arguments extended by the proposed conceptual framework into research hypotheses for subsequent empirical testing for substantiating and refining the framework. Empirical results suggest that some Internet technologies has been and still can fulfill strategic ends of modern marketing thought and practice at an unanticipated and unprecedented scale when and if deliberately and properly theorized and managed.

Key Words :

Internet Marketing, Rationale for diffusion, Strategic marketing agenda,

Faculty of Arts

Name : **Prof . Mohammed Fathy**

Dep. : **Library and information science**

Title : **Stressing te Fundamentlswile Moving Towad Auomated Applications**

Abdel Hady, Mohammed Fat'hy , Kamal Shaker, Ali

Journal : **Cataloging & Classification Quarterly(CCQ) 41 407-429 (2006)**

ISSN : -- **Impact Factor :** --

Abstract :

This paper focuses on the current state of cataloging and classification education in Egypt. It also moves back and forth in time to highlight the changes occurred in the past five years and also to envision anticipated changes within the next five years. The authors examine all the courses related inclusively to cataloging (both descriptive and subject) and classification of library materials. This, therefore, excludes courses like indexing and abstracting since many academic staff in Egypt tend to consider these courses – in addition to cataloging and classification – fall inside the technical services' frame.

International Publications Awards
Cairo University

Name : Prof . Mounira Gamal Ezz El-Deen

Dep. : English

Title : Criticism of the Works of Today, Snovelists, Poets, PlayWrights, Short Story Writers, Scriptwriters,and Other Creative Writers 313-321

Journal : Contemporary Literary Criticism 223 313-321 (2006)

ISSN : 0091-3421 **Impact Factor :** --

Abstract :

This paper investigates the representation of the famous West African abiku phenomenon in three works by three Nigerian writers namely J.P. Clark-Bekederemo's poem "Abiku" (1965), Wole Soyinka's poem also entitled "Abiku" (1967) and Ben Okri's novel The Famished Road (1991). The paper offers a socio-political reading of the abiku phenomenon as handled by the three writers and based on a traditional Yoruba theory. The paper concludes that the nature of the abiku phenomenon has attracted many writers who are engaged in various agendas of cultural nationalism and identity formation.

Faculty of Archaeology

International Publications Awards
Cairo University

Name : **Dr . Mahmoud Ebeid**

Dep. : **Egyptian Archaeology**

Title : **Demotic Inscriptions from the Galleries of Tuna El- Gebel (I)**

Mahmoud Ebeid

Journal : **Résumés en français et en anglais 57-75 (2006)**

ISSN : -- **Impact Factor :** --

Abstract :

In the course of the cleaning and excavations processes which were carried out by the archaeological mission of Munich University in the subterranean galleries of Tuna el Gebel (Ibiotapheion) since 1979 to 1988, and by the joint archaeological mission of Cairo and Munich Universities from 1989 until now - in order to complete, record and re-estimate the previous excavations in the galleries which have been already carried out by S. GABRA in the name of Cairo University (1931-1952) and others ( ), as well as making excavations in new spots - a lot of demotic inscriptions were found. The most interesting inscriptions were written on the exterior of the coffins of the sacred animals, made of limestone, wood, or pottery ( ). They were brought from places all over Egypt to be buried in the subterranean galleries of Tuna el Gebel (resting place of the Ibis, the Baboon, the Falcon and the gods who rest with them) ( ). A selected group from these demotic inscriptions is the subject of this article.

Key Words :

Tuna el Gebel; Ibis necropolis; Ptolematic Period; Demotic inscriptions; Sacred animals; Animal sarcophagus; onomastics.

Faculty of Dar El-Ulum

International Publications Awards
Cairo University

Name : **Prof . Al-Faris Ali**

Dep. : **Language Science**

Title : **Die Verbalstämme im Arabischen und Hebräischen**

Al-Faris Ali

Journal : **Semitica et Semitohamitica Berolinensia 7 (2006)**

ISSN : 1616-525X **Impact Factor :** --

Abstract :

Die Verbalstammableitungen der klassischen semitischen Sprachen bilden ein System von morphologisch und funktional-semantisch aufeinander bezogenen Einheiten. Die Darstellung in der klassischen arabischen und hebräischen Grammatik sowie in der modernen westlichen Grammatik unterscheiden sich in einigen Punkten. In der vorliegender Untersuchung werden nach einem Überblick über die Systematik der Verbalstämme insbesondere der einfache Grundstamm (mit seinen drei Vokalisierung), der Doppelungsstamm (II. bzw. Pic(c)ël), der Dehnungsstamm (III. bzw. Pôcël/Pôlël) und der Kausativstamm des Hebräischen und Arabischen vergleichend untersuch. Dabei stellen die syntaktisch-semantischen Funktionen dieser Stämme und darauf aufbauend die Beziehungen zwischen ihnen im Arabischen und Hebräischen ein zwar komplexes, aber auch weitgehend konsequentes und in sich geschlossenes semantisches System dar.

Key Words :

arabische Grammatik; hebräische Grammatik; Verbalsystem;arabisch; hebräisch; Verb

General Scientific Research Department
Information System Unit

Cairo University- University Administration Building,
Tharwat St., Giza, Egypt, Postal code: 12613.

Phone: +(202) 35704943 - 35676918 - 35675597
Fax: +(202) 37745324
Web site: www.gsrs.cu.edu.eg
www.cu.edu.eg
E-mail: info@gsrs.cu.edu.eg
resinfo@cu.edu.eg