International Publications Awards
Cairo University

Issue V

October 2009

Dear colleagues,

We are pleased to introduce this new issue of the international publications of Cairo University. It is a further step of our university, and the distinct contribution, reflecting the scientific ability of staff members, which conforms to international quality standards.

This is the fourth issue of the international publications of Cairo University staff members during the year 2008.

The purpose of issuing these publications is mainly to introduce this work to the academic community, demonstrate the different research abilities of Cairo University researchers, and encourage them to increase the quality and quantity of their research.

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 continue on publishing high quality research.

We would like to assure you that the administration will spare no effort to support and reinforce these goals. We congratulate all colleagues who were granted the awards for their international publications of the year 2008 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 2009.

Prof. Hussein M. Khaled

Vice - President for post-graduate studies and research
Cairo university

Prof. Hossam Kamel

President
Cairo university

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IF	Faculty	Name	م
7.254	Sci	Raffat Abd El-Gawad	1
6.46	Sci	Mohamed Ali Ahmed	2
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بيانات إحصائية

فى الإصدار الخامس للنشر العلمى ٢٠٠٨

Faculty	COUNT	%	TOT IF	%	Min	Max	Avg
Science	65	37.14	45.945	30.77	0.27	3.48	0.71
Veterinary Medicine	7	4.00	4.25	2.85	1.221	1.432	0.61
Agriculture	3	1.71	0	0.00			
Engineering	40	22.86	21.511	14.40	0.032	3.78	0.54
Medicine	25	14.29	41.29	27.65	0.614	5.561	1.65
Pharmacy	18	10.29	20.412	13.67	0.3	3.441	1.13
National Cancer Institute	4	2.29	14.471	9.69	0.3	6.954	3.62
Arts	8	4.57					
Economics and Political Science	4	2.29	0.209	0.14	0.3	6.954	0.05
Mass. Comm	1	0.57	1.253	0.84	1.253	1.253	1.25
Total	**175**	**100**	**149.34**	**100**			

2008

فى الإصدار الرابع للنشر العلمى ٢٠٠٨

Faculty	Count	%	TOT IF	%	Avg	Min	Max
Science	176	33.02	158.09	20.63	0.9	0.09	4.186
Agriculture	32	6	19.874	2.59	0.62	0.295	3.137
Veterinary Medicine	40	7.5	35.032	4.57	0.88	0.41	2.914
Statistical Studies and Research Institute	11	2.06	0.387	0.05	0.04	0.387	0.387
Engineering	69	12.95	39.684	5.18	0.58	0.13	3.427
Computers and Information	4	0.75	2.122	0.28	0.53	0.455	1.177
Medicine	99	18.57	335.1	43.73	3.38	0.13	52.589
Pharmacy	1	0.19	1.55	0.2	1.55	1.55	1.55
National Cancer Institute	59	11.07	140.919	18.39	2.39	0.145	17.6
Nursing	12	1.13	11.503	1.5	1.92	0.4	4.29
Oral and Dental Medicine	1	0.19	0	0	0	0	0
Arts	9	1.69	0	0	0	0	0
Archaeology	5	0.94	4.032	0.53	0.81	1.29	1.436
Economics and Political Science	9	1.69	0.788	0.1	0.09	0.229	0.302
Commerce	1	0.19	0	0	0	0	0
African Research and Studies Institute	2	0.38	0	0	0	0	0
National Institute of Laser Enhanced Sciences	9	1.69	17.169	2.24	1.91	0.827	2.957
Total	**539**	**100**	**766.25**	**100**	**1.44**		

2007

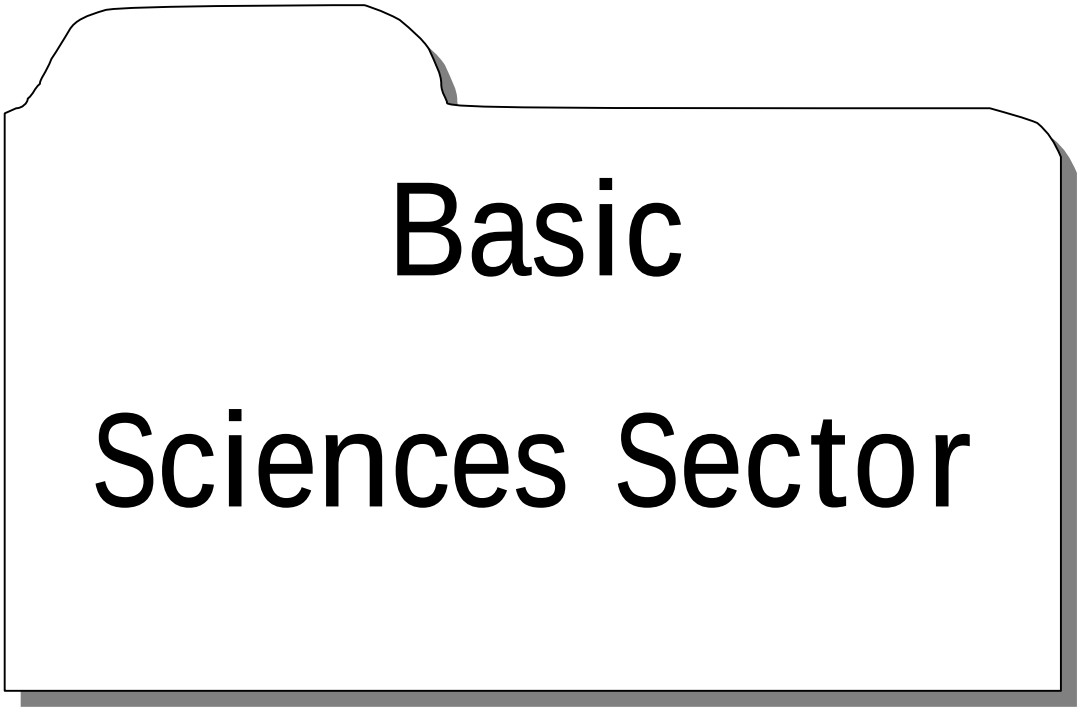
Faculty	Count	%	TOT IF	%	Avg	Min IF	Max IF
Science	**162**	**36.73**	**186.03**	**29.74**	**0.082**	**1.15**	**3.902**
Agriculture	**14**	**3.17**	**20.63**	**3.30**	**0.637**	**1.47**	**4.228**
Veterinary Medicine	**20**	**4.54**	**23.03**	**3.68**	**0.314**	**1.15**	**3.554**
Statistical Studies and Research Institute	**6**	**1.36**	**2.26**	**0.36**	**0.06**	**0.38**	**1.003**
Engineering	**79**	**17.91**	**60.63**	**9.69**	**0.034**	**0.77**	**2.905**
Computers and Information	**3**	**0.68**	**3.86**	**0.62**	**0.816**	**1.29**	**1.79**
Medicine	**64**	**14.51**	**135.39**	**21.65**	**0.248**	**2.12**	**6.19**
Oral and Dental Medicine							
Pharmacy	**40**	**9.07**	**126.06**	**20.15**	**0.225**	**3.15**	**9.6**
National Cancer Institute	**16**	**3.63**	**50.61**	**8.09**	**0.529**	**3.16**	**5.366**
Nursing							
Arts	**7**	**1.59**					
Archaeology	**2**	**0.45**					
Economics and Political Science	**14**	**3.17**	**1.27**	**0.20**	**0.38**	**0.09**	**0.508**
Commerce	**2**	**0.45**					
African Research and Studies Institute	**1**	**0.23**					
National Institute of Laser Enhanced Sciences	**11**	**2.49**	**15.73**	**2.51**		**1.43**	
Total	**441**	**100**	**625.48**	**100**			

2006

Faculty	Count	%	TOT IF	%	Avg	Min IF	Max IF
Science	142	40.46	164.32	28.59	1.16	0.22	3.809
Agriculture	8	2.28	8.57	1.49	1.07	0.719	2.161
Veterinary Medicine	11	3.13	15.51	2.70	1.41	0.39	3.61
Statistical Studies and Research Institute	8	2.28					
Engineering	56	15.95	45.30	7.88	0.81	0.07	4.054
Computers and Information	2	0.57		0.00	0.00	0.816	0.816
Medicine	49	13.96	241.25	41.98	4.92	0.58	29.273
Oral and Dental Medicine		0.00		0.00			
Pharmacy	27	7.69	54.72	9.52	2.03	0.687	5.854
National Cancer Institute	9	2.56	28.47	4.95	3.16	0.55	11.81
Nursing		0.00					
Arts	7	1.99					
Archaeology	1	0.28					
Economics and Political Science	13	3.70				0.73	0.73
Commerce	4	1.14					
African Research and Studies Institute		0.00					
National Institute of Laser Enhanced Sciences	13	3.70	16.54	2.88	1.27	0.796	2.695
Dar Al-Oloum	1	0.28					
Total	**351**	**100**	**574.67**	**100**			

Publication From 2006-2008

Faculty	2006	2007	2008	Total
Science	142	162	241	**545**
Agriculture	8	14	35	**57**
Veterinary Medicine	11	20	47	**78**
Statistical Studies and Research Institute	8	6	11	**25**
Engineering	56	79	109	**244**
Computers and Information	2	3	4	**9**
Medicine	49	64	124	**237**
Oral and Dental Medicine			1	**1**
Pharmacy	27	40	77	**144**
National Cancer Institute	9	16	16	**41**
Nursing			1	**1**
Arts	7	7	17	**31**
Archaeology	1	2	5	**8**
Economics and Political Science	13	14	13	**40**
Commerce	4	2	1	**7**
Mass Communication			1	**1**
African Research and Studies Institute		1	2	**3**
National Institute of Laser Enhanced Sciences	13	11	9	**33**
Dar Al-Oloum	1			**1**
Total	**351**	**441**	**814**	**1506**


Basic
Sciences Sector

Faculty of Science

Faculty of Science

Dep. **:** Astronomy

Name **:** **M. I. Wanas**

Title **:** Geometry of Parallelizable Manifolds in the Context of Generalized Lagrange Spaces

Authors : N. L. Youssef and A. M. Sid-Ahmed

Published In **:** Balkan Journal Geom. App

ISSN 1224-2780 ***Impact Factor***

Abstract :

In this paper, we deal with a generalization of the geometry of parallelizable manifolds, or the absolute parallelism (AP-) geometry, in the context of generalized Lagrange spaces. All geometric objects defined in this geometry are not only functions of the positional argument x, but also depend on the directional argument y. In other words, instead of dealing with geometric objects defined on the manifold M, as in the case of classical AP-geometry, we are dealing with geometric objects in the pullback bundle $\_^{-1}$(TM) (the pullback of the tangent bundle TM by _ : TM −! M). Many new geometric objects, which have no counterpart in the classical AP-geometry, emerge in this more general context. We refer to such a geometry
as generalized AP-geometry (GAP-geometry). In analogy to AP-geometry, we define a d-connection in $\_^{-1}$(TM) having remarkable properties, which we call the canonical d-connection, in terms of the unique torsion-free Riemannian d-connection. In addition to these two d-connections, two more d-connections are defined, the dual and the symmetric d-connections. Our space, therefore, admits twelve curvature tensors (corresponding to the four defined d-connections), three of which vanish identically.

Simple formulae for the nine non-vanishing curvatures tensors are obtained, in terms of the torsion tensors of the canonical d-connection. The different W-tensors admitted by the space are also calculated. All contractions of the h- and v-curvature tensors and the W-tensors are derived. Second rank symmetric and skew-symmetric tensors, which prove useful in physical applications, are singled out. This paper, however, is not an end in itself, but rather the beginning of a research direction. The physical interpretation of the geometric objects in the GAP-space that have no counterpart in the classical AP-space will be further investigated in forthcoming papers.

Keywords: Parallelizable manifold; Generalized Lagrange space; AP-geometry; GAPgeometry; Canonical d-connection; W-tensor.

Faculty of Science

Dep. **:** Botany

Name **:** **Ahmad Kamel Hegazy**

Title **:** Population dynamics of Moringa peregrina along altitudinal gradient in the northwestern sector of the Red Sea

Authors **:** Ahmad K. Hegazy, M. A. Medany, H. F. Kabiel and M. M. Maez

Published In **:** Arid Environments

ISSN 0140-1963 ***Impact Factor*** 1.349

Abstract :

Moringa peregrina (Forssk.) Fiori is a desert tree of economic and medicinal importance.Because of the severe drought and the over-exploitation of seeds and cutting of trees for firewood, the species is threatened. The survival, mortality and reproduction were studied for eight populations of M. peregrina distributed along the species altitudinal range (550–1000ma.s.l.) in the northwestern sector of the Red Sea. Survivorship curves, life tables and fecundity schedules are constructed for the studied populations. Populations are dominated by adult individuals and the seedling recruitment is extremely limited. The survivorship curves approach Deevey type III in which the highest mortality occurs in the early life stages. The highest expectation for future life is exhibited by juveniles. The net reproductive rate (R_0) ranges from 0.0023 to 0.0040. The intrinsic rate of increase per capita per year (r) varies between $^{-}$0.121 and $^{-}$0.081, suggesting that the populations are declining and their survival cannot be ensured without conservation measures. The plant density, seed output, average number of seeds per individual (b_x), net reproductive rate (R_0) and intrinsic rate of increase (r) of populations decrease significantly with elevation.

The phenological development of M. peregrina is delayed with increasing altitude. The results indicated that the populations of M. peregrina in the northwestern sector of the Red Sea are threatened, in particular those located at the highest elevations of the species altitudinal range. Due to the very limited seedling recruitment, conservation efforts should be directed mainly to the established individuals. Efforts should be made to minimize the uncontrolled exploitation of the species by local people. In situ and ex situ conservation of Moringa populations are strongly recommended.

Keywords:

Conservation; Desert; Fecundity; Life table; Survivorship.

Faculty of Science

Dep. **:** Botany

Name **:** **Ahmad Kamel Hegazy**

Title **:** Spatial and Temporal Projected Distribution of Four Crop Plants in Egypt

Authors : Ahmad K. Hegazy, M. A. Medany, H. F. Kabiel and M. M. Maez

Published In **:** Natural Resources Forum

ISSN 0165-0203 ***Impact Factor*** 0.709

Abstract :

This investigation focuses on the management of the local agroecosystems in order to adapt cultivation practices for the projected climate change scenarios. Generally, there was a trend towards increase in temperature, in the four seasons, from the southern parts towards the northern parts of Egypt in the coming 100 years. The objective is to investigate the influence of the projected increase in temperature on the spatial and temporal distribution of four of the major economic crops in Egypt. The study species are cotton (Gossypium barbadense L., cv. Giza 89), wheat (Triticum aestivum L., cv. Gemiza 9), rice (Oryza stiva L., cv. Sakha 101) and maize (Zea mays L., cv. Hybrid 10). Optimum temperature allowing maximum growth for each of the study crop cultivars and the current and projected temperature patterns in the future years were used for projection of seasonal and crop distribution maps in the years: 2005, 2025, 2050, 2075 and 2100. The study showed that cultivation dates of a crop may be managed in order to allow maximum predicted cultivation area in the same region. The current maximum area suitable for cultivation by the cotton crop in Egypt (104 thousand fadden year-1) showed few variations over the coming hundred years. In this case, the cultivation dates should be changed from the hotter months (February to April) to the cooler months (January to February). On the other hand, a great reduction in the area cultivated by the wheat crop was predicted in the coming 100 years. In spite of early cultivation, a reduction of about 147 thousand fadden year-1 was projected by the year 2075. on the other hand, with earlier sowing dates, the maximum areas that are cultivated by the rice and maize crop may not be greatly affected by the projected increase in temperature.

Keywords:

Global worming; Projected crop distribution; Cultivation areas; Cultivation dates; Crop management.

Faculty of Science

Dep. **:** Botany

Name **:** **Zeinat Kamel Mohamed**

Title **:** biodegrading and Detoxification of Malsthion by Egytion Strain of Bacillus Thuringiensis MOS-5

Authors : Zeinat Kamel and Sherif el-nagdy

Published In **:** Algebra

ISSN 1991-8178 ***Impact Factor***

Abstract :

Efficiency of a strain of B thuringiensis MOS-5 (Bt), isolated from agricultural waste water near Berket EI-Sabaa Egypt contaminated with organophosphorus insecticide, for degradation of malathion was investigated, It was able to utilize malathion as a sole carbon and energy source and to degrade it cometabolically, In a minimal salt medium supplied with 250 mg 1^{-1} malathion either alone or incombination with glucose or yeast extract MOS-5 caused 99,32% reduction in malathion after 30 days, Addition of glucose (5 g I^{-1}) and yeast extract (0,5 g 1^{-1}) increased the growth rate 10^5 and 10^4; fold, respectively, compared to malathion alone, Results of HPLC, gas chromatography/ mass spectrometry (GC/MS) and infrared spectroscopic analysis revealed that one malathion-derived compound mal-monocarboxylic acid (MMA) was producted after three days, Two additional malathion derivatives, mal-dicarboxylic acid (MDA) and unidentified mal-x were detected after 7 days, MMA and MDA were the major degrading compounds, Esterase activity involved in malathion degradation was also determined in culture filtrate of MOS-5, Results indicated that esterase activity was two folds more in the presence of yeast extract compared to glucose, These results indicate that Bt MOS-5 may consider as highly potential candidate in the biodegradation of organophosphorus in contaminated soil.

Keywords:

Degradation of Malathion; Cometabolism; Estrase.

Faculty of Science

Dep. **:** Botany

Name **:** **Mohamed Ibrahim Ahmed Ali**

Title **:** A new preferential medium for enumeration and isolation of desert actinomycetes

Authors : Wael N. Hozzein, Mohamed Ibrahim A. Ali and Walaa Rabie

Published In **:** World Journal Microbiol. Biotechnol

ISSN 0959-3993 ***Impact Factor***

Abstract :

In order to facilitate the discovery of novel actinomycetes from the Egyptian deserts, which can be useful as new sources for bioactive metabolites, different media for enumeration and isolation of desert actinomycetes have been tested. For this purpose, 30 soil samples from different six sites representing the Western and Eastern deserts of Egypt were collected. The two deserts are considered hyper-arid and the soil characteristics were determined. The media used were glucose-yeast extract agar, soil extract agar and a new minimal medium (MM) containing glucose, yeast extract and mineral salts. The effects of the soil characteristics on the total viable actinomycete counts on the three media were evaluated. The results showed that the highest actinomycete count in samples from five out of six sites was obtained on MM. Also MM was more selective for actinomycetes and significantly decreased the number of fungal colonies and to a lower extent the number of bacterial colonies. Moreover, it supported the development of different and diverse groups of actinomycetes. From the results obtained in this study, MM is a new useful medium for enumeration and selective isolation of actinomycetes from the desert soils.

Keywords:

Desert actinomycetes; New medium; Enumeration; Selective isolation.

Faculty of Science

Dep. **:** Botany

Name **:** **Nahed Z. Haikal**

Title **:** Effect of Filtrates of Pathogenic Fungi of Soybean on Seed Germination and Seedling Parameters

Authors : Nahed Z. Haikal

Published In **:** Applied Sciences Research

ISSN 1816-157X ***Impact Factor***

Abstract :

This work was carried out at the Girls College of Education, Jeddah, Saudi Arabia. Apparently healthy looking seeds of soybean (Gylcin max) pre-soaked in 25, 50, 75 and 100% concentration of 4, 8 and 12-day- old cell-free culture filtrates of seed-borne Aspergillus niger, Fusarium culmorium, Penicillium sp. and Rhizoctonia solani of soybean seeds for 2, 4, 6, 8 and 24 h were investigated for phytotoxicity. Results showed that all the fungal filtrates irrespective of filtrate concentrations, filtrate age and presoaking period significantly ($P \leq 0.05$ and $P \leq 0.01$) reduced percentages seed germination and seedling development when compared with the control. Percentage seed germination and seedling growth decreased with increase in filtrate concentration, filtrate age and presoaking time in all the fungal filtrates. Sterilized filtrate of A. niger, F. culmorium, Penicillium sp and Rhizoctania solani lost some of their phytotoxicity than non-sterilized filtrates.

Keywords:

Seed-borne Pathogenic Fungi; Soybean; Seed Germination; Seedling Parameters.

Faculty of Science

Dep. **:** Botany

Name **:** **Nahed Z. Haikal**

Title **:** Control of Rhizoctonia solani in Soybean (Glycin max L) by seed-coating with Trichoderma viride and Gliocladium virens spores

Authors : Nahed Z. Haikal

Published In **:** Applied Biosciences

ISSN 1997-5902 ***Impact Factor***

Abstract :

Objectives: The study evaluated biocontrol of root-rot disease caused by Rhizoctonia solani on soybean using two antagonistic fungal species Trichoderma viride and Gliocladium virens, applied as seed coating or culture filtrate.

Methodology and Results: Pathogenic R. solani was added to sterile vermiculite in pots to give an inoculum density of 1- 5 g fresh weight mycelium/kg of sterile vermiculite. Sterilized soybean seeds were treated before planting by soaking for 30 min in 4 x106 CFU/ ml spore suspensions of either T. viride or G. virens. Coating soybean seeds with T. viride spores reduced the incidence of root-rot disease by up to 83% in the greenhouse experiment. Coating seeds with G. virens spores also decreased disease incidence but to a lesser extent than T. viride. Cell free culture filtrates of both T. viride and G. virens also significantly inhibited the growth of R. solani, with effect increasing as the concentration of the filtrates in the culture media increased. The root exudates of soybean seedlings increased the growth of the pathogenic fungus.

Potential application of findings: The results show that coating soybean seeds with the spore suspension of T. viride or G. virens can effectively control R. solani on soybean.

Keywords:

Biocontrol; Gliocladium; Rhizoctonia; Soybean; Trichoderma.

Faculty of Science

Dep. **:** Botany

Name **:** **Nagwa Mohamed Atef**

Title **:** Bacillus subtilits and Trichoderma harzianum as Wheat Inoculants for Biocontrol of Rhizoctonia solani

Authors : Nagwa M. Atef

Published In **:** Australian Journal of Basic and Applied Sciences

ISSN 1991-8178 ***Impact Factor***

Abstract :

This study evaluated the effectiveness of applying the fungal isolate Trichoderma harzianum and Bacillus subtilis either alone or in combination to control wheat root rot pathogen Rhizoctonia solani in vitro and in greenhouse. T. harzianum and B. subtilis were selected for their strong antagonists to R. solani in in vitro experiments.B. subtilis and T. harzianum were applied to wheat grains and sown in soil infested with R. solani and tested in greenhouse experiments. The treatments were compared with a synthetic fungicide such as carbomar. Parameters observed were seed germination, plant height, fresh and dry weight of seedlings. Photosynthetic pigments, carbohydrates, total amino acids and total soluble sugars decreased due to infection. Application of T. harzianum, B. subtilis either alone or in combination or the application of carbomar, improved the biochemical parameters in the treated seedlings.A combination of B. subtilis and T. harzianum was most effective than using each alone in controlling the pathogen in greenhouse. Conclusion and application of findings: Chemical and biological control were efficient against root rot pathogen in vitro and in greenhouse. Application of T. harzianum with the coating of wheat grains with B. subtilis is a promising approach.

Keywords:

Bacillus subtilis; Trichoderma harzianum; Rhizoctonia solani; Biocontrol; Wheat; Carbomar.

Faculty of Science

Dep. **:** Botany

Name **:** **Nagwa Mohamed Atef**

Title **:** Efficacy of Seed Treatment with Microbial Agents and/or Waste Products for the Control of Cucumber Damping – off

Authors : Nagwa Mohamed Atef and Nahed Haikal

Published In **:** Australian Journal of Basic and Applied Sciences

ISSN 1991-8178 ***Impact Factor***

Abstract :

The present study aims to suggest a safe method to control damping – off disease in cucumber seedlings caused by the fungus Pythium ultimum, as a biocontrol method by using the microbial isolates Bacillus subtilis and Trichoderma harzianum, and also to improve the efficacy of this method by using some waste products. Positive correlation between added B. subtilis or T. harzianum and percentage of healthy cucumber seedlings were detected. Farm wastes were more effective in controlling soilborne pathogen, when added to soil sown by bacterized seeds and T. harzianum treatments. Similarly significant increase in photosynthetic pigments and a significant increase in element content in leaves.

Keywords:

Biocontrol; Damping- off; cucumber; Bacillus subitilis; Trichoderma harzianum; Waste products.

Faculty of Science

Dep. **:** Chemistry

Name **:** **Ebtisam Abdel-Aziz Hafez**

Title **:** Studies with 2-arylhydrazono-3-oxopropanals: routes for routes for the synthesis of pyridazine-3,4- dicarboxylate and 3,5-diaroyl pyrazoles

Authors : Mariam A. Al-Shiekh, Hanady Y. Medrassi, Mohamed H. Elnagdi, and Ebtisam A. Hafez

Published In **:** Arkivok

ISSN 1424-6376 ***Impact Factor*** 1.253

Abstract :

The title compounds **3a-j** were synthesized via coupling of enaminones **2a-d** with aromatic diazonium salts. The reaction of **3b-f,h-j** with dimethyl acetylenedicarboxylate and triphenylphosphine afforded dimethyl 2-aryl-6-aroyl-2,3-dihydropyridazine-3,4-dicarboxylates **7b-f,h-j**. . The reaction of **3b,d,f,g** with phenacyl bromide afforded 3-aroyl-5-benzoylpyrazoles **9b,d,f,g**.,while compound 3i condensed with benzoylacetonitrile to yield pyridazin-6-imine **11**.Reaction of **3c-e,h,j** with p-toluidine yielded the enamineazo **12c-e,h,j**. The structures of **7b,d,i** and **9b** were confirmed by X-ray crystal structure determination.

Keywords:

2-Arylhydrazonopropanals; Enaminones; Pyridazine-3,4-dicarboxylate; 3,5-diaroylpyrazoles.

Faculty of Science

Dep. **:** Chemistry

Name **:** **Ahmed H. M. Elwahy**

Title **:** Synthesis of N-Pivot Lariat Ethers 1

Authors : Ahmed H. M. Elwahy and Ashraf A. Abbas

Published In **:** Journal of Heterocyclic Chem

ISSN 0022-152X ***Impact Factor*** 0.813

Abstract :

Since Pedersen discovered crown ethers in 1967, there has been great interest in the synthesis of crown compounds in an attempt to find molecules with superior properties and proper applications in various areas. Different kinds of crown ligands have been synthesized including azacrown ethers, lariat ethers, cryptands, spherands and calixarenes and their applications have been studied and reviewed. Our last reviews focused on the chemistry and applications of condensed azacrown ethers as well as macrocyclic crown formazans. This review casts light on the main strategies for the synthesis of N-pivot lariat ethers as well as their specific syntheses.

Keywords:

Crown ethers; Azacrown ethers; N-Pivot lariat ethers; Cyclization; Alkylation.

Faculty of Science

Dep. **:** Chemistry

Name **:** **Ahmed Helmy Mahmoud Elwahy**

Title **:** Synthesis of the first mixed-donor spiro-linked macrocyclic tetralactams

Authors : Ahmed H. M. Elwahy

Published In **:** Arkivoc

ISSN 1424-6376 ***Impact Factor*** 1.25

Abstract :

A synthesis of spiro-linked macrocyclic tetraamides 1 and 2 was accomplished by the reaction of pentaerythrityl tetrabromide 13 with two moles of the appropriate dipotassium salts 5a and 5b in refluxing DMF. Treatment of 1 and 2 with Lawesson`s reagent in refluxing toluene afforded the novel spiro-linked macrocyclic tetrathiotetraamides 14 and 15, respectively.

Keywords:

Alkylation; Thiation; Macrocyclic Diamides; Macrocyclic Dithiodiamides; Spiro-Linked Macrocycles.

Faculty of Science

Dep. **:** Chemistry

Name **:** **Ahmad Mahmoud Farag**

Title **:** Hypoglycemic Activity of Ailanthus excelsa Leaves in Normal and Streptozotocin-induced Diabetic Rats

Authors : W. Cabrera, S. Genta, A. Said, Ahmad M. Farag, K. Rashed and S. Sanchez

Published In **:** Phytotherapy Research

ISSN 0951-418X ***Impact Factor*** 1.43

Abstract :

The hypoglycemic activity of a 70% methanol extract from the leaves of Ailanthus excelsa Roxb. (Simaroubaceae) was studied in normal, transiently hyperglycemic and streptozotocin (STZ)-induced diabetic rats. Oral administration of the extract at doses of 14, 70 and 350 mg/kg body weight caused no significant changes in fasting blood glucose levels of normal rats. In an oral glucose tolerance test, the extract produced a significant decrease in glycemia 90 min after the glucose pulse. Daily administration of A. excelsa extract for 60 days produced a significant hypoglycemic effect in diabetic animals.

In addition, this treatment improved the altered renal function observed in diabetic control rats. This study suggests that Ailanthus leaf extract could be potentially useful for post-prandial hyperglycemia treatment.

Keywords:

Ailanthus Excelsa; Hypoglycemic Effect; Streptozotocin-Induced Diabetes.

Faculty of Science

Dep. **:** Chemistry

Name **:** **Ismail Abdel-Shafy Abdel-Hamid**

Title **:** Bicyclic 5-6 Systems: Other Four Heteroatoms 2 : 2

Authors **:** Ismail Abdelshafy Abdelhamid, Mohamed Hilmy Elnagdi

Published In **:** Comprehensive in Heterocyclic chemistry III

ISSN ***Impact Factor***

Abstract :

This chapter deals with 59 ring systems, 50 of which have been dealt with earlier in CHEC-II(1996), while nine are covered for the first time. Initially, theoretical methods for determining structure of important derivatives of these ring systems are discussed, then available X-ray data are surveyed and discussed. Solid-state NMR data of sildenafil citrate have been recorded and utilized for tracing the drug in tablets. Reactivity of substituents in the title ring systems is discussed. Ring syntheses are divided according to the number of combining atoms in every reacting unit, starting with annelation of the six-membered ring onto a preformed five-membered one, then synthesis of five-membered rings based on a preformed six-membered one. The discussed ring systems are biologically interesting. It is sufficient to indicate that Viagra, the best-known male erectile dysfunction drug, is a derivative of these ring systems. Recent research in this area aiming to minimize side effects of the drug is surveyed. Finally, a brief discussion upon utility of ring systems as organic conductors is reported.

Keywords:

Bicyclic 5-6 Systems; Other Four Heteroatoms.

Faculty of Science

Dep. **:** Chemistry

Name **:** **Tamer Tawhid El-Idreesy**

Title **:** 1,2,5,10,11,14-Hexaoxadispiro[5.2.5.2]hexadecanes: Novel Spirofused Bis-Trioxane Peroxides

Authors : Axel G. Griesbeck, Lars-Oliver Höinck, Johann Lex, Jörg, Neudörfl, Dirk Blunk, and Tamer T. El-Idreesy

Published In **:** Molecules

ISSN 1420-3049 ***Impact Factor*** 0.94

Abstract :

A set of new bis-spirofused 1,2,4-trioxanes 4a-d was obtained from the reaction of cyclohexane-1,4-dione with allylic hydroperoxides 2a-d, bearing an additional hydroxyl group in the homoallylic position, by diastereoselective photooxygenation of allylic alcohols 1a-d and subsequent BF3-catalyzed peroxyacetalization with the diketone. From the reaction of a monoprotected cyclohexane-1,4-dione 5 with the allylic hydroperoxide 6 derived from the singlet oxygenation of methyl hydroxytiglate, one monospiro compound was obtained, the 1,2,4-trioxane ketone 7, as well as a mixture of the diastereoisomeric syn- and anti bis-1,2,4-trioxanes 8. The structures of bis-1,2,4-trioxanes were examined theoretically by DFT methods and compared with X-ray structural data in order to evaluate the preferential trioxane ring conformational orientation.

Keywords:

Bis-spiro compounds; Peroxides; Singlet oxygen; DFT calculations; X-ray Structure Determination.

Faculty of Science

Dep. **:** Chemistry

Name **:** **Said S. El-Kholy**

Title **:** Chemical and Radiation-Induced Grafting of p-Carboxy N-Phenyl Maleimide onto Chitosan

Authors :

Published In **:** Polymer-Plastics Technology and Engineering

ISSN 0360- 2559 ***Impact Factor*** 0.342

Abstract :

Chitosan was grafted with p-carboxy N-phenyl maleimide (PCPM) using a redox initiator potassium persulfate (K2S2O8) and sodium bisulfite (NaHSO3) and also by c irradiation. The effects of monomer concentration, initiator concentration, pH value, and temperature on the extent of grafting were studied. The grafting percentage reached maximum at 1.0 mol/l monomer concentration and an initiator mixture ratio of 0.004:0.004 mol/l of K2S2O8:NaHSO3 respectively. Maximum grafting percentage was achieved at 30.0KGy using dioxane as solvent. The grafted chitosan samples were insoluble in all known solvents. The complexation of the grafted chitosan with Cd(II) ion at different pH has been investigated using atomic absorption spectrometry. The grafted samples show a higher chelation capacity than chitosan itself. Thermogravimetric analysis of grafted chitosan showed an enhancement of the thermal stability of the graft copolymers.

Keywords:

Chitosan; Grafting; Metal uptake; p-carboxy N-phenyl maleimide; Thermogravimetric analysis.

Faculty of Science

Dep. **:** Chemistry

Name **:** **Sobhi Mohamed Gomha**

Title **:** A Facile One-pot Synthesis of 4,5,6,7-Tetrahydro-benzo[4,5]thieno[2,3-d]-1,2,4-triazolo[4,5-*a*]pyrimidin-5-one

Authors : Sobhi Mohamed Gomha

Published In **:** Monatshefte fur Chemie

ISSN 0026-9247 ***Impact Factor*** 0.972

Abstract :

The reaction of 2-mercapto-5,6,7,8-tetrahydro-3H-benzo[4,5]thieno[2,3-d]pyrimidin-4-one(3) or its 2-methylthio derivative 4 with hydrazonoyl halides 5a-u in dioxane under reflux, in the presence of triethylamine, yielded tetrahydro-benzo[4,5]thieno[2,3-d]-1,2,4-triazolo[4,5-*a*]pyrimidin-5-ones 8a-u. The structure of compound 8a-u was further confirmed by the reaction of 3 with the appropriate active chloromethylenes 10a-c followed by coupling the products with benzenediazonium chloride to afford the azo-coupling products 6b, g, l which converted in situ to 8b, g, l. The reaction mechanism was proposed and the products were screened for their biological activity. Some of the newly synthesized compounds showed a moderate effect against some bacterial and fungal species.

Keywords:

Heterocycles; Cyclizations; Hydrazonyl chlorides.

Faculty of Science

Dep. **:** Chemistry

Name **:** **Fathy M. Abdel-Razek**

Title **:** Synthesis and Molluscicidal Activity of Some Newly Substituted Chromene and Pyrano[2,3-c]pyrazole Derivatives

Authors : Fathy M. Abdelrazek, Nadia H. Metwally and Nehal A. Sobhy

Published In **:** Afinidad

ISSN 0001-9704 ***Impact Factor*** 0.17

Abstract :

The arylidene derivatives **3a-f** react with 1,3-cyclohexanedione and dimedone **4a,b** to afford the 4-(2- or 3-pyridyl) or 4-pipronyl-chromene derivatives **6a-l** respectively. The arylidene derivatives **3a-c** react with the pyrazolone derivatives **7a,b** to afford the pyrano[2,3-c]pyrazole derivatives **9a-f**. The molluscicidal activity of the synthesized compounds towards Biomphalaria alexandrina snails, the intermediate host of Schistosoma mansoni, was investigated and most of them showed weak to moderate activity.

Keywords:

4-Pyridyl-chromenes; 4-Pyridyl-pyrano[2,3-c]pyrazoles; 4-Pipronyl chromenes4 -Pipronyl- pyrano [2,3-c] pyrazoles; Molluscicidal activity.

Faculty of Science

Dep. **:** Chemistry

Name **:** **Fathy M. Abdelrazek**

Title **:** Heterocyclic Synthesis with ώ-bromoacetoplenone: Synthesis of Some New Pyrazole, Pyridazine and Furan Derivatives

Authors : Tayseer A. Abdallah, Nadia H Metwally and Fathy M. Abdelrazek

Published In **:** Afinidad

ISSN 0001-9704 ***Impact Factor*** 0.177

Abstract :

p-Bromophenacylnitrile derivatives **3a,b** react with hydrazine derivatives under different conditions to afford the diaminopyrazoles **4a,b**; the pyridazine-6-imines **5a,b**, and 5-aminopyrazoles **11a,b** respectively. Refluxing of **5a** in ethanol/hydrochloric acid mixture furnished its transformation into the pyridazine-6-one **6** while **5b** under the same reaction conditions, underwent ring contraction expelling phenyl hydrazine to afford the furan derivative **7**. Compound **7** could also be obtained from **3a** upon reflux in ethanol catalyzed by triethylamine. Ethyl phencylcyanoacetate **3b** reacts with hydrazine hydrate and phenyl hydrazine to afford the 4-phenacylpyrazole derivatives **11a,b** respectively.

Keywords:

p-Bromophenacylnitriles; Pyridazineimines; Pyridazinone; 3,5-Diaminopyrazoles; Furans.

Faculty of Science

Dep. **:** Chemistry

Name **:** **Fathy M. Abdelrazek**

Title **:** Reinvestigation of the Reaction of PhenacylMalononitrile with Hydrazines under Solvent Conditions

Authors : Fathy M. Abdelrazek and f M. Mohamed

Published In : Afinidad

ISSN 0001-9704 ***Impact Factor*** 0.17

Abstract :

Phenacylmalononitrile **3** reacts with hydrazine hydrate in refluxing dioxan to afford the iminopyridazine derivative **6** and the pyrazolo[3,4-c]pyridazine derivative **7**. Compound **3** reacts also with phenylhydrazine in refluxing ethanol to afford the iminopyridazine derivative **11** along with the phenylhydrazone derivative **12**. Compound **12** could be cyclized into the pyrazolo[3,4-c]pyridazine derivative **13** upon reflux with sodium ethoxide.

Keywords:

Phenacylmalononitrile.3,5-Diamino-4-phenacylpyrazoles; Aminopyridazines and pyrazolo [3,4-c] pyridazines.

Faculty of Science

Dep. **:** Chemistry

Name **: Fathy M. Abdelrazek**

Title **:** Synthesis of some new thieno[2,3-d]pyrimidine derivatives

Authors : Fathy M. Abdelrazek, Ashraf M. Mohamed and Akram N. Elsayed

Published In **:** Afinidad

ISSN 0001-9704 ***Impact Factor*** 0.177

Abstract :

The thiophene derivative **3** reacts with formamide, phenyl isothiocyanate, benzoyl isothiocyanate, trichloroacetonitrile, malononitrile and benzoyl acetonitrile to afford the thieno[2,3-d]pyrimidine derivatives **4, 6, 7, 8, 9, 10, 13** and **18** respectively. The reaction of **3** with ethyl cyanoacetate afforded however the thieno[2,3-b]pyridine derivative **16;** and with phenacyl thiocyanate led to the 2-thiazol-2-ylamino thiophene derivative **20a**.

Keywords:

Thiophenes; thieno[2,3-d]pyrimidines; thieno[2,3-b]pyridine.

Faculty of Science

Dep. **:** Chemistry

Name **:** **Mohamed Rabie Shaaban**

Title **:** Synthesis and antimicrobial evaluation of novel pyrazolo[1,5-a]pyrimidine, pyrimido[1,2-a]benzimidazole, triazolo[4,3-a]pyrimidine and pyrido[1,2-a]benzimidazole derivatives incorporated phenylsulfonyl moiety

Authors : Mohamed R. Shaaban

Published In **:** Heterocycles

ISSN 0385- 5414 ***Impact Factor*** 1.066

Abstract :

Phenylsulfonylacetonitrile (1) reacts with dimethylformamide- dimethylacetal (DMF-DMA) to afford 3-(dimethylamino)-2-(phenylsulfonyl)acrylonitrile (2). Enaminonitrile 2 reacts with 5-aminopyrazole derivatives 3a-e, 2-amino-1,2,4-triazole (7) and 2-aminobenzimidazole (11) to afford new pyrazolo[1,5-a]pyrimidine, triazolo[4,3-a]pyrimidine and pyrimido[1,2-a]benzimidazole derivatives 4a-e, 9 and 12, respectively. Also, 3-(dimethylamino)-2-(phenylsulfonyl)acrylonitrile (2) reacts with 2-(1H-benzimidazol-2-yl)acetonitrile (13) to give the corresponding pyrido[1,2-a]benzimidazole derivative 15. Some of the newly synthesized compounds were tested in vitro for their antibacterial and antifungal activities, and showed promising results.

Keywords:

Sulfones; Dmf-Dma; Enaminonitrile; Heterocyclic amines; Antimicrobial; antifungal activity.

Faculty of Science

Dep. **:** Chemistry

Name **:** **Mohamed Rabie Shaaban**

Title **:** Microwave-assisted synthesis of fused heterocycles incorporating trifluoromethyl moiety

Authors : Mohamed R. Shaaban

Published In **:** fluorine Chemistry

ISSN 0022- 1139 ***Impact Factor***

Abstract :

4,4,4-Trifluoro-1-(thien-2-yl)butane-1,3-dione (1) reacts with 5-aminopyrazole, 1,2,4-aminotriazole and 2-aminobenzimidazole derivatives, in the presence of triethylorthoformate under pressurized microwave irradiation to afford the corresponding trifluoromethyl derivatives of pyrazolo[1,5-a]pyrimidine, 1,2,4-triazolo[1,5-a]pyrimidine, and pyrimido[1,2-a]benzimidazoles. Also, compound 1 couples readily with azole diazonium salts to give pyrazolo[5,1-c]triazine, benzimidazo[5,1-c]1,2,4-triazine, and triazolo[3,4-c]1,2,4-triazine derivatives incorporating trifluoromethyl group.

Keywords:

4,4,4-Trifluoro-1-(thien-2-yl) butane-1,3-dione Fluorine building blocks; Trifluoromethyl fused heterocycles; Hetrocyclic amines; Hetrocyclic diazonium salts; and Microwave irradiation.

Faculty of Science

Dep. **:** Chemistry

Name **:** **Mohamed M. Shoukry**

Title **:** Complex-formation reactions of dichloro(S-methyl-L-cysteine)palladium(II) with bio-relevant ligands. Labilization induced by S-donor chekates

Authors : Mohamed R. Shehata, Mohamed M. Shoukry, Fatma M. H. Nasr and Rudi van Eldik

Published In **:** Dalton Transactions

ISSN 1477- 9226 ***Impact Factor*** 3.21

Abstract :

The complex-formation equilibria of $[Pd(SMC)(H_2O)_2]^+$, where SMC = S-methyl-L-cysteinate, with bio-relevant ligands such as amino acids, peptides, dicarboxylic acids and DNA constituents were studied and their formation constants were determined. The binding mode of the ligands containing various functional groups was studied and the speciation diagrams were evaluated. The kinetics of base hydrolysis of amino acid esters bound to $[Pd(SMC)(H_2O)_2]^+$ was studied in aqueous solution at 25 °C and 0.1 M ionic strength. The effect of solvent polarity and temperature on the hydrolysis of coordinated glycine methyl ester was investigated. The activation parameters are evaluated and discussed.

Keywords:

S-methyl-L-cysteine; palladium(II); complex formation.

Faculty of Science

Dep. **:** Chemistry

Name **:** **Mohamed M. Shoukry**

Title **:** Coordination properties of hydralazine Schiff base Synthesis and equilibrium studies of some metal ion complexes

Authors : Azza A. Shoukry and Mohamed M. Shoukry

Published In : Spectrochimica Acta

ISSN 1386- 1425 ***Impact Factor*** 1.51

Abstract :

In the present study, a new ligand is prepared by condensation of hydralazine (1-Hydralazinophthalazine) with 2-butanon-3-oxime. The acidbase equilibria of the schiff-base and the complex formation equilibria with the metal ions as Cu(II), Ni(II), Co(II), Cd(II), Mn(II) and Zn(II) are investigated potentiometrically. The stability constants of the complexes are determined and the concentration distribution diagrams of the complexes are evaluated. The effect of metal ion properties as atomic number, ionic radius, electronegativity and ionization potential are investigated.

The isolated solid complexes are characterized by conventional chemical and physical methods. The potential coordination sites are assigned using the i.r. and ^{1}H NMR spectra. The structures of the isolated solid complexes are proposed on the basis of the spectral and magnetic studies.

Keywords:

2-Hydralzonobutane-3-oxime; Metal complexes; I.r; UV–vis; Potentiometry.

Faculty of Science

Dep. **:** Chemistry

Name **:** **Mohamed M. Shoukry**

Title **:** Coordination properties of dehydroacetic acid – binary and ternary complexes

Authors : A. Sh. Al Alousi, M. R. Shehata, M. M. Shoukry, S. A. Hassan and N. Mahmoud

Published In **:** Coordination Chemistry

ISSN 0095- 8972 ***Impact Factor*** 0.87

Abstract :

Complex formation equilibria of dehydroacetic acid with Cu^{2+}, Ni^{2+}, Co^{2+}, Zn^{2+} and Mn^{2+} and the ternary complexes involving Cu^{2+}, dehydroacetic acid and some amino acids containing different functional groups are investigated. Stoichiometry and stability constants for the complexes are estimated at 25°C and 0.1M ionic strength in 25% dioxane-water mixtures. The concentration distribution diagrams of the complexes were evaluated. The effect of temperature and organic solvent on the acid dissociation constant of dehydroacetic acid and the formation constant of Cu^{2+} complex was studied and thermodynamic parameters calculated.

Keywords:

Dehydroacetic acid; Binary complexes; Ternary complexes.

Faculty of Science

Dep. **:** Chemistry

Name **: M. Ismail**

Title **:** On the accuracy of multipole expansion of deformed density distribution

Authors : W. M. Seif, A. Y. Ellithi and F. Salah

Published In : Nuclear And Particle Physics
ISSN 0954- 3899 ***Impact Factor*** 3.485

Abstract :

The interaction potential for a deformed-spherical pair of nuclei is calculated using the folding model derived from different range nucleon–nucleon (NN) interactions. Five spherical projectiles of different mass numbers scattered on the ^{238}U deformed target are considered. The error in the heavy ion (HI) potential by using the truncated multipole density expansion is evaluated for each case. We find systematic trends of the percentage error in the HI potential depending on the number of multipoles considered; this percentage decreases if the mass number of the projectile or the range of the NN force increases, and it becomes smaller for small values of the separation distance between two nuclei or when higher deformation parameters vanish. The maximum error in using the truncated density expansion is estimated in the case of two deformed interacting nuclei.

Faculty of Science

Dep. **:** Mathematics

Name **:** **Tarek Sayed Ahmed**

Title **:** Reducts of Polyadic Equality Algebras without the Amalgamation Proper ty

Authors : Tarek Sayed Ahmed

Published In : Algebra

ISSN 1312-8868 ***Impact Factor***

Abstract :

Let $G \subseteq {}^{\omega}\omega$ be a monoid such that $\{[ilj] : i, j \in \omega\} \subseteq G$. Let RP EA_G be the reduct of representable polyadic equality algebras obtained by restricting the similarity type of RP EAω to substitutions in G and P EA_G be the class of abstract polyadic algebras obtained from PEAw by restricting the similarity type and axiomatization of PEAω to substitutions in *G* and to finite quantifiers. Assume that *G* consists only of finite transformations. Then for any K, $RPEA_G \subseteq K, \subseteq PEA_G$, K fails to have the amalgamation property with respect to PEA_G.

Keywords:

Algebraic Logic; Polyadic; Algebras; Amalgamation.

Faculty of Science

Dep. **:** Mathematics

Name **:** **Tarek Sayed Ahmed**

Title **:** $\mathfrak{Ra}CA_n$ is not elementary for $n \geq 5$

Authors : Tarek Sayed Ahmed

Published In : Bulletin of the Section of Logic,

ISSN 0138- 0680 ***Impact Factor***

Abstract :

We show that the class $\mathfrak{Ra}CA_n$ of relation algebra reducts of cylindric algebras of dimension n is not elementary when $n \geq 5$. This answers a long standing open question in algebraic logic posed by Nemeti and independently by Maddux.

Keywords:

Algebraic logic; relation algebra reducts; elementary.

Faculty of Science

Dep. **:** Mathematics

Name **:** **Tarek Sayed Ahmed**

Title **:** Variations on Martin's axiom and omitting types from algebraic logic, lattice theory and topology

Authors : Tarek Sayed Ahmed

Published In **:** Bulletin of the Section of Logic

ISSN 0138- 0680 ***Impact Factor***

Abstract :

Several statements in algebraic logic, lattice theory and topology, that are closely related to Martin's axiom and the Baire Category Theorem are formulated. Provability and independendence in *ZFC* of such statements are investigated.

Keywords:

Algebraic logic; Martin's axiom; omitting types; Baire category.

Faculty of Science

Dep. **:** Mathematics

Name **:** **Tarek Sayed Ahmed**

Title **:** Classes of representable algebras with the amalgamation property

Authors : Tarek Sayed Ahmed

Published In **:** Bulletin of the Section of Logic

ISSN 0138 -0680 ***Impact Factor***

Abstract :

We introduce a class of algebras that is a proper reduct of both Pinter's substitution algebras and cylindric algebras. We show that the class of representable algebras have the amalgamation property.

Keywords:

Algebraic logic; Pinter's algebras; amalgamation.

Faculty of Science

Dep. **:** Mathematics

Name **:** **Tarek Sayed Ahmed**

Title **:** The Super Amalgamation property via Neat Embeddings, and a Problem of Henkin and Monk

Authors : Tarek Sayed Ahmed

Published In **:** International Journal of Algebra

ISSN 1312- 8868 ***Impact Factor***

Abstract :

We give a sufficient condition for a class of representable cylindric algebras to have the super amalgamation property. We show that the class of representable algebras (RCA_α) does not satisfy this condition when $\alpha > 1$, but if we restrict ourselves to the class of dimension complemented algebras (Dc_α) then this condition is satisfied when $\alpha \geq w$. Hence Dc_α's super amalgamate with respect to RCA_α for $\alpha \geq w$. An Open problems of Henkin Monk and Tarski are solved.

Keywords:

Algebraic logic; cylindric algebras; super amalgamation.

Faculty of Science

Dep. **:** Mathematics

Name **:** **Tarek Sayed Ahmed**

Title **:** The class of neat reducts is not Boolean closed

Authors : Tarek Sayed Ahmed

Published In **:** Bulletin of the Section of Logic

ISSN 0138- 0680 ***Impact Factor***

Abstract :

Call a class of algebra K Boolean closed if whenever Д ε K and B »= Д in some Boolean valued extension of the universe of sets, then B 2 K. SC;CA;QA and QEA stand for the classes of Pinter's substitution algebras, Tarski's cylindric algebras, Halmos quasi-polyadic and quasi-polyadic equality algebras, respectively. Let $1 < n \cdot \leq \omega, n<m$ and K € fSC;CA; QA;QEAg. We show that the class NrnKm of neat n reducts of algebras in Km (m-dimensional algebras in K) is not Boolean closed. We also show that NrnCAm and NrnSCm regarded as concrete categories are not ¯nitely complete (closed under ¯nite limits).

Keywords:

Algebraic logic; neat reducts; Boolean closed.

Faculty of Science

Dep. **:** Mathematics

Name **:** **Tarek Sayed Ahmed**

Title **:** On Complete Representations of Reducts of Polyadic Algebras

Authors : Tarek Sayed Ahmed

Published In **:** Studia Logica

ISSN 0039-3215 ***Impact Factor***

Abstract :

Following research initiated by Tarski, Craig and Németi, and futher pursued by Sain and others, we show that for certain subsets G of ${}^{\omega}\omega$, atomic countable G polyadic algebras are completely representable. G polyadic algebras are obtained by restricting the similarity type and axiomatization of ω-dimensional polyadic algebras tofinite quantifiers and substitutions in G. This contrasts the cases of cylindric and relation algebras.

Keywords:

Algebraic Logic; polyadic algebras; complete representations.

Faculty of Science

Dep. **:** Mathematics

Name **:** **Tarek Sayed Ahmed**

Title **:** Amalgamation for reducts of polyadic algebras, a negative result

Authors : Tarek Sayed Ahmed

Published In **:** Bulletin of the Section of Logic

ISSN 0138- 0680 ***Impact Factor***

Abstract :

Let $G \subseteq {}^{\omega}\omega$ polyadic algebras, or simply *G* algebras, are reducts of polyadic equality algebras obtained by restricting the similarity type and axiomatization of polyadic algebras to substitutions in *G*. Such algebras were introduced in the context of 'finitizing' first order logic with equality. We show that when *G* is the semigroup generated by $f[ijj] : [i; j]; suc; predg$ then the class of *G* algebras fails to have the amalgamation property.

Keywords:

Algebraic logic; polyadic algebras; amalgamation.

Faculty of Science

Dep. **:** Mathematics

Name **:** **Tarek Sayed Ahmed**

Title **:** Omitting types for Finite variable fragments and complete representa- tions of algebras

Authors : Tarek Sayed Ahmed, Hajnal Andreka and Istvan Nemeti

Published In **:** Symbolic Logic

ISSN 0022 - 4812 ***Impact Factor*** 0.609

Abstract :

We give a novel application of algebraic logic to ¯first order logic. A new flexible construction is presented for representable but completely representable atomic relation and cylindric algebras of dimension n (for finite n > 2) with the additional property that they are one generated and the set of all n by n atomic matrices forms a cylindric basis. We use this construction to show that the classical omitting types theorem fails for finite variable fragments of first order logic as long as the number of variables available is > 2 and we have a binary relation symbol in our language. We also prove a stronger result to the effect that there is no finite upper bound for the extra variables needed in the witness formulas. This result further emphasizes the ongoing interplay between algebraic and first order logic.

Keywords:

Algebraic Logic; Relation Algebras; Cylindric Algebras; Cylindric Basis; Completions; Omitting Types.

Faculty of Science

Dep. **:** Mathematics

Name **:** **Tarek Sayed Ahmed**

Title **:** The Class $SN_{r3}CA_k$ is Not Closed under Completions

Authors : Tarek Sayed Ahmed

Published In **:** Logic Journal of IGPL

ISSN 1368- 9894 ***Impact Factor***

Abstract :

We show that for for $K \geq 6$, the class $SN_{r3}CA_k$ is not closed under completions and is not Sahlqvist axiomatizable. This generalizes previously known results for RCA_n when $n = 3$. [1].

Keywords:

Algebraic Logic; Relation Algebras; Cylindric Algebras; Cylindric Basis; Completions; Omitting Types.

Faculty of Science

Dep. **:** Mathematics

Name **:** **Tarek Sayed Ahmed**

Title **:** Weakly representable atom structures that are not strongly representable with an application to First order logic

Authors : Tarek Sayed Ahmed

Published In **:** Mathematical Logic Quarterly

ISSN 0942- 5616 ***Impact Factor*** 0.317

Abstract :

Let $n > 2$. A weakly representable relation algebra that is not strongly representable is constructed. It is proved that the set of all n by n basic matrices forms a cylindric basis that is also weakly but not a strongly representable atom structure. This gives an example of a binary generated atomic representable cylindric algebra with no complete representation. An application to First order logic is given.

Keywords:

Algebraic Logic; Relation Algebras; Cylindric Algebras; Cylindric Basis; Completions; Omitting Types.

Faculty of Science

Dep. Mathematics

Name **Tarek Sayed Ahmed**

Title **:** A Note on Atom Structures of Relation and Cylindric Algebras

Authors : Tarek Sayed Ahmed

Published In **:** International Journal of Algebra

ISSN 1312 - 8868 ***Impact Factor***

Abstract :

RRA stands for the class of representable relation algebras, while *RCAn* stands for the class of cylindric algebras of dimension *n*. We give a simple new proof to the following.

1. There exist two atomic relation algebras with the same atom structure, only one of which is representable.
2. *RRA* is not closed under completions and is not atom-canonical.
3. There exists a non-representable relation algebra with a dense representable subalgebra.
4. *RRA* is not Sahlqvit axiomatizable.
5. There exists an atomic relation algebra with no complete representation.

And same for *RCAn* for $2 < n < \omega$, in place of *RRA*.

Keywords:

Algebraic Logic; Relation Algebras; Cylindric Algebras; Completions.

Faculty of Science

Dep. **:** Mathematics

Name **:** **E.H. Doha**

Title **:** Explicit formulae for the coefficients of integrated expansions of Laguerre and Hermite polynomials and their integrals

Authors : E.H. Doha, H.M. Ahmed and S.I. El-Soubhy

Published In **:** Integ. Trans. & Special Functions

ISSN 1065-2496 ***Impact Factor*** 0.322

Abstract :

Two new formulae expressing explicitly the integrals of Laguerre (Hermite) polynomials of any degree and for any order in terms of the Laguerre (Hermite) polynomials themselves are proved.

Another two new explicit formulae relating the Laguerre (Hermite) coefficients of an expansion for an infinitely differentiable function that has been integrated an arbitrary number of times in terms of the coefficients of the original expansion of the function are also established.

An application of these formulae for solving ordinary differential equations with varying coefficients is discussed.

Keywords:

Laguerre and Hermite polynomials; spectral methods; expansion coefficients AMS Classification: 42C10; 33A50; 65L50; 65L10

Faculty of Science

Dep. **:** Mathematics

Name **:** **E.H. Doha**

Title **:** Efficient spectral-Galerkin algorithms for direct solution of fourth-order differential equations using Jacobi polynomials

Authors : A.H. Bhrawy

Published In **:** Applied Numerical Mathematics

ISSN 0168-9274 ***Impact Factor***

Abstract :

It is well known that for the discretization of the biharmonic operator with spectral methods (Galerkin, tau, or collocation) we have a condition number of $O(N^8)$, where N is the number of retained modes of approximations.

This paper presents some efficient spectral algorithms, for reducing this condition number to $O(N^4)$, based on the Jacobi–Galerkin methods for fourth-order equations in one variable.

The key to the efficiency of these algorithms is to construct appropriate base functions, which lead to systems with specially structured matrices that can be efficiently inverted. Jacobi–Galerkin methods for fourth-order equations in two dimension are considered. Numerical results indicate that the direct solvers presented in this paper are significantly more accurate at large N values than that based on the Chebyshev– and Legendre–Galerkin methods.

Keywords:

Biharmonic operator; Spectral methods; Jacobi polynomials; Direct solver; Fourth-order differential equations.

Faculty of Science

Dep. **:** Mathematics

Name **:** **Fatma Mohamed Ismail**

Title **:** Induced and Coinduced Representations of Hopf Group Coalgebras

Authors : Ahmad Hegazi, Fatma Ismail, and Mahmoud Elsofy

Published In **:** Applied Category Structure

ISSN 0927-2852 ***Impact Factor*** 0.46

Abstract :

The induction theory for a Hopf group coalgebra is outlined.

Given a Hopf group coalgebra H, the notions of a quotient Hopf group coalgebra and group coisotropic quantum subgroup of H are introduced.

The properties of (co)induced representations are studied and the geometric interpretation and simplicity theory of such representations are given.

Keywords:

Algebra; Coalgebra; Hopf algebra; Representation theory; Hopf group coalgebra.

Faculty of Science

Dep. **:** Mathematics

Name **:** **M. Asaad**

Title **:** Finite Groups Whose Minimal Subgroups are $_C$-Supplemented

Authors : M. Ramadan

Published In **:** Communications in Algebra

ISSN 0092-7872 ***Impact Factor*** 0.297

Abstract :

All groups considered in this article will be finite. Recall that a minimal subgroup of a group is a subgroup of prime order.

Many authors have investigated the structure of a finite group G under the assumption that all minimal subgroups of G are well-situated in G.

Gaschütz and Ito (Huppert, 1967) proved that a finite group all of whose minimal subgroups are normal is a solvable group. Buckley (1970), proved that a finite group of odd order all of whose minimal subgroups are normal is a supersolvable group.

Following Ballester-Bolinches et al. (2000), a subgroup H of a group G is said to be c-supplemented in G if there exists a subgroup K of G such that G = HK and $H \cap K \leq H_G$, where $H_G = Core_G(H)$ is the largest normal subgroup of G contained in H.

In the recent years, there has been much interest in investigating the influence of c-supplemented subgroups of prime order and cyclic subgroups of order 4 on the structure of the groups (see Ballester-Bolinches et al., 2000; Wang et al., 2002; Wei et al., 2004). In this article, we drop the assumption that every cyclic subgroup of order 4 is c-supplemented.

Thus, we aim to use a c-supplemented condition on the minimal subgroups to determine the structure of the group. Moreover, we analyze the structure of a group G when the minimal subgroups of the generalized Fitting.

Keywords:

c-Supplemented; Supersolvable groups.

Faculty of Science

Dep. **:** Mathematics

Name **:** **M. Asaad**

Title **:** Normal π-Complements For Finite Groups

Authors : P. Csörg.2 and M. Ramadan

Published In **:** Acta Math. Hungar

ISSN 0236-5294 ***Impact Factor***

Abstract :

Let G be a finite group. For a finite p-group P the subgroup generated by all elements of order p is denoted by Ω1(p). Zhang [5] proved that if P is a Sylow p-subgroup of G, Ω 1(P) 5 Z(P) and NG¡ Z(P)¢ has a normal p-complement, then G has a normal p-complement. The object of this paper is to generalize this result.

Keywords:

Normal p-complement; Normal ¼-Complement.

Faculty of Science

Dep. **:** Mathematics

Name **:** **M. Asaad**

Title **:** Some results on supersolvability of finite groups

Authors : Piroska Cso¨rgo¨

Published In **:** Monatsh Math

ISSN ***Impact Factor***

Abstract :

We get new characterizations of finite supersolvable groups based on the structure of the generalized Fitting subgroup. Then we extend our results to the saturated formations containing the class of all supersolvable groups.

Keywords:

Supersolvability; Generalized Fitting subgroup; _ Quasinormal subgroup.

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Faculty of Science

Dep. **:** Mathematics

Name **:** **M. Asaad**

Title **:** Some classes of finite groups and mutually permutable Products

Authors : A. Ballester-Bolinches, J.C. Beidleman and R. Esteban-Romero

Published In **:** Algebra
ISSN 0021- 8693 ***Impact Factor*** 0.63

Abstract :

This paper is devoted to the study of mutually permutable products of finite groups.

A factorised group G = AB is said to be a mutually permutable product of its factors A and B when each factor permutes with every subgroup of the other factor.

We prove that mutually permutable products of *Y*-groups (groups satisfying a converse of Lagrange's theorem) and SC-groups (groups whose chief factors are simple) are SC-groups, by means of a local version.

Next we show that the product of pairwise mutually permutable *Y*groups is supersoluble. Finally, we give a local version of the result stating that when a mutually permutable product of two groups is a PST-group (that is, a group in which every subnormal subgroup permutes with all Sylow subgroups), then both factors are PST-groups.

Keywords:

Mutually permutable product; Permutability; *Y*-group; PST-group; SC-group.

Faculty of Science

Dep. **:** Mathematics

Name **:** **Nabil. L. Youssef**

Title **:** Extended Absolute Parallelism Geometry

Authors : A. M. Sid-Ahmed

Published In : Int.j.gecm.math.mod. phys
ISSN 1793-6977 ***Impact Factor***

Abstract :

In this paper, we study Absolute Parallelism (AP-) geometry on the tangent bundle TM of a manifold M. Accordingly, all geometric objects defined in this geometry are not only functions of the positional argument x but also depend on the directional argument y. Moreover, many new geometric objects, which have no counterpart in the classical AP-geometry, emerge in this different framework. We refer to such a geometry as an Extended Absolute Parallelism (EAP-) geometry.

The building blocks of the EAP-geometry are a nonlinear connection assumed given a priori and 2n linearly independent vector fields (of special form) defined globally on TM defining the parallelization. Four different d-connections are used to explore the properties of this geometry. Simple and compact formulae for the curvature tensors and the W-tensors of the four defined d-connections are obtained, expressed in terms of the torsion and the contortion tensors of the EAP-space.

Further conditions are imposed on the canonical d-connection assuming that it is of Cartan type (resp. Berwald type). Important consequences of these assumptions are investigated. Finally, a special form of the canonical d-connection is studied under which the classical AP-geometry is recovered naturally from the EAP-geometry. Physical aspects of some of the geometric objects investigated are pointed out and possible physical implications of the EAP-space are discussed, including an outline of a generalized field theory on the tangent bundle TM of M.

Keywords:

Parallelizable manifold; Absolute Parallelism; Extended Absolute Parallelism, Metric d-connection; Canonical d-connection; W-tensor; Field equations; Cartantype; Berwald type.

Faculty of Science

Dep. **:** Mathematics

Name **:** **Nabil Labib Youssef**

Title **:** Cartan and Berwald connections in the pullback formalism

Authors : Nabil L. Youssef, Sayed H. Abed and A. Soleiman

Published In **:** Algebras, Groups and Geometries

ISSN 0471-9937 ***Impact Factor***

Abstract :

Adopting the pullback approach to global Finsler geometry, the aim of the present paper is to provide new intrinsic (coordinate-free) proofs of intrinsic versions of the existence and uniqueness theorems for the Cartan and Berwald connections on a Finsler manifold.

To accomplish this, the notions of semi-spray and nonlinear connection associated with a given regular connection, in the pullback bundle, is introduced and investigated. Moreover, it is shown that for the Cartan and Berwald connections, the associated semi-spray coincides with the canonical spray and the associated nonlinear connection coincides with the Barthel connection.

An explicit intrinsic expression relating both connections is deduced.

Although our treatment is entirely global, the local expressions of the obtained results, when calculated, coincide with the existing classical local results.

Keywords:

Pullback bundle; π-vector field; Semispray; Nonlinear connection; Barthel connection; Regular connection; Cartan connection; Berwald connection.

Faculty of Science

Dep. **:** Mathematics

Name **:** **Nabil Labib Youssef**

Title **:** A global approach to the theory of special Finsler spaces

Authors : Nabil L. Youssef, Sayed H. Abed and Amr Soleiman

Published In **:** Journal Math. Kyoto Univ

ISSN 0023-603X ***Impact Factor*** 0.272

Abstract :

The aim of the present paper is to provide a global presentation of the theory of special Finsler manifolds. We introduce and investigate globally (or intrinsically, free from local coordinates) many of the most important and most commonly used special Finsler manifolds : locally Minkowskian, Berwald, Landesberg, general Landesberg, P-reducible, C-reducible, semi-C-reducible, quasi-C-reducible, P*-Finsler, C^h-recurrent, C^v-recurrent, C^0-recurrent, S^v-recurrent, S^v-recurrent of the second order, C_2-like, S_3-like, S_4-like, P_2-like, R_3-like, P-symmetric, hisotropic, of scalar curvature, of constant curvature, of p-scalar curvature, of s-ps-curvature.

The global definitions of these special Finsler manifolds are introduced. Various relationships between the different types of the considered special Finsler manifolds are found. Many local results, known in the literature, are proved globally and several new results are obtained.

As a by-product, interesting identities and properties concerning the torsion tensor fields and the curvature tensor fields are deduced.

Although our investigation is entirely global, we provide; for comparison reasons, an appendix presenting a local counterpart of our global approach and the local definitions of the special Finsler spaces considered.

Faculty of Science

Dep. **:** Mathematics

Name **:** **Nabil Labib Youssef**

Title **:** A global theory of conformal Finsler geometry

Authors : Nabil L. Youssef, Sayed H. Abed and A. Soleiman

Published In **:** Tensor, N. S.,

ISSN 0040-3504 ***Impact Factor***

Abstract :

The aim of the present paper is to establish a global investigation of conformal changes in Finsler geometry. Under this change, we obtain the relationships between some geometric objects associated to (M, L) and the corresponding objects associated to (M, $\tilde{L}$), $\tilde{L}= e^{\sigma(x)}L$ being the Finsler conformal transformation. We have found explicit global expressions relating the two associated Cartan connections ∇ and $\tilde{\nabla}$, the two associated Berwald connections D and $\check{D}$ and the two associated Barthel connections Γ and $\acute{\Gamma}$. The relationships between the corresponding curvature tensors have been also found. The relations thus obtained lead in turn to several interesting results.

Some important local results are proved intrinsically and various new results are obtained. Among the results obtained are: a characterization of conformal changes, a characterization of homotheties, some conformal invariants and conformal _-invariants. In addition, several useful identities have been found.

Although our treatment is entirely global, the local expressions of the obtained results, when calculated, coincide with the existing classical local results.

Keywords:

Conformal change; Cartan connection; Berwald connection; Barthel connection; Nonlinear connection; Spray; Jacobi field; π-tensor field; Klein – Grifone formalism; Pullback formalism.

Faculty of Science

Dep. **:** Physics

Name **:** **Momen Ahmad Orabi**

Title **:** Global-vector representation of the angular motion of few-particle systems II

Authors : M. Orabi

Published In **:** Few-Body Systems

ISSN ***Impact Factor***

Abstract :

The angular motion of a few-body system is described with global vectors which depend on the positions of the particles.

The previous study using a single global vector is extended to make it possible to describe both natural and unnatural parity states. Numerical examples include three- and four-nucleon systems interacting via nucleon-nucleon potentials of AV8 type and a 3α system with a nonlocal αα potential.

The results using the explicitly correlated Gaussian basis with the global vectors are shown to be in a good agreement with those of other methods.

A unique role of the unnatural parity component, caused by the tensor force, is clarified in the 0_1^- state of ^{4}He. The two-particle correlation function is calculated in the coordinate and momentum spaces to show different characteristics of the interactions employed.

Keywords:

Global vectors; few-body systems; Correlated Gaussian.

Faculty of Science

Dep. **:** Physics

Name **:** **Momen Ahmad Orabi**

Title **:** 3α description of ^{12}C with microscopic nonlocal potentials

Authors : M. Orabi

Published In **:** Physics: Conference Series

ISSN 1477- 9226 ***Impact Factor***

Abstract :

The well known αα local potentials Buck-Friedrich-Wheatley and Ali-Bodmer which reproduce very well the αα phase shifts are not successful for describing the ^{12}C nucleus as a 3α system.

The nonlocal nature of the αα interaction seems to be indispensable.

Keywords:

αα potentials; nonlocal potentials; BFW – AB.

Faculty of Science

Dep. **:** Physics

Name **:** **Mohamed Ali Ahmed**

Title **:** Effect of pressure on the resistivity of spinel ferrite

Authors : M.A. Ahmed, S.F. Mansour and S.I El-Dek

Published In **:** Physica B: Condensed Matter

ISSN 0921-4526 ***Impact Factor*** 0.752

Abstract :

The far-infrared spectra of six mixed ferrites ($Cd_xCo_{1-x+t}Ti_tFe_{2-2t}O_4$; x = 0.2, $0.00 \leq t \leq 0.25$) in the range 200–1000 cm^{-1} are reported.

Two strong high-frequency bands ν_1 and ν_2 are observed. The first one ν_1 is assigned to the tetrahedral and the second ν_2 is assigned to the octahedral site.

A small kink ν_3 around near ν_2 is observed and its intensity increases with divalent octahedral metal ion concentration.

Seebeck coefficient measurements showed that the substitution of tetravalent ion Ti^{4+} does not change the polarity of the Seebeck coefficient from p- to n-type.

The activation energy and the carrier mobility μ were also calculated.

The effect of mechanical pressure on the dc resistivity was investigated.

Keywords:

CoCd ferrite; FTIR; Dc resistivity; Pressure effect.

Faculty of Science

Dep. **:**

Name **:** **Mohamed Ali Ahmed**

Title **:** Influence of Rare Earth Ions on the Structure and Magnetic Properties of Barium W-type hexaferrite

Authors : M.A. Ahmed, N. Okasha and R.M. Kershi

Published In **:** Magnetism and Magnetic Materials
ISSN 0304-8853 ***Impact Factor*** 1.70

Abstract :

Barium W-type hexaferrite with composition $Ba_{0.95}R_{0.05}Mg_{0.5}Zn_{0.5}CoFe_{16}O_{27}$ where R = Y, Er, Ho, Sm, Nd, Gd, and Ce ions has been prepared by the double-sintering ceramic technique. Structure of the prepared samples has been characterized by the X-ray diffraction (XRD) technique.

The XRD patterns at room temperature show the presence of secondary phase with the intensity of the secondary phase increasing with increasing ionic radius of the rare earth (RE) ions.

The variation of the magnetic susceptibility (χM) with temperature in the range 300–750K at different magnetic field intensities (1280, 1733 and 2160 Oe) was studied by using Faraday's method.

The results show that the Curie temperature (T_C) increases regularly with increasing RE ionic radius then decreases again, after which it reaches maximum value at Sm ion of radius 1.04Å. This behavior was explained on the basis of the changes in Fe^{3+}–O–Fe^{3+} superexchange interaction.

The effective magnetic moment μ_{eff}. of the investigated samples was discussed in view of varying the RE element as well as the magnetization of different sublattices.

Keywords:

W-type hexaferrite; Magnetic properties; Rare-earth substitution; Curie temperature.

Faculty of Science

Dep. **:** Physics

Name **:** **Mohamed Ali Ahmed**

Title **:** Preparation and Characterization of Nanometric Mn-Ferrite Via Different Methods

Authors : M.A.Ahmed, N.Okasha and S.I.El-Dek

Published In **:** Nanotechnology
ISSN 0957-4484 ***Impact Factor*** 3.

Abstract :

The structure and magnetic properties of $MnFe_2O_4$ ferrites have been investigated using five different preparation methods, including the ceramic technique, flash combustion, co-precipitation, sol–gel and citrate methods.

The characteristics of one sample prepared by different methods have been studied to select the better method, i.e. the one that is the simplest and does not require an elaborate instrumental set-up.

The results indicated that the citrate method gives the lowest value for the lattice parameter and particle size (14.1 nm), while the highest values are obtained with the ceramic method.

The smallest nanosizes were obtained in the citrate and flash methods (14.1 and 40.7 nm, respectively).

Keywords:

Nanometric $MnFe_2O_4$; Five different preparation methods; Structural properties; Magnetic properties.

Faculty of Science

Dep. **:** Physics

Name **:** **Mohamed Ali Ahmed**

Title **:** Dielectric Relaxation and Poole–Frenkel Conduction in Poly(vinyl chloride) Blends with Bisphenol A/Egyptian Corncob Resin

Authors : M.A.Ahmed and T. A. Hanafy

Published In **:** Applied Polymer Science

ISSN 0021-8995 ***Impact Factor*** 1.008

Abstract :

The dielectric constant (ε/), dielectric loss index (ε//), direct-current conductivity, and current–voltage (I–V) characteristics of pure poly(vinyl chloride) (PVC) and blends of PVC and bisphenol A/Egyptian corncobs (BCC) were investigated at different temperatures.

The relaxation processes for PVC and its blends revealed that PVC and BCC had an incompatible phase. PVC blends with 5 wt % BCC exhibited a peculiar I–V behavior. Both e0 and e00 were used to study miscibility and phase behavior in blends of PVC.

The activation energies of all PVC samples were calculated. At higher voltages, the conduction mechanism could be identified as the Poole–Frenkel type. In addition, the ionic groups of BCC could enhance the PVC conductivity.

Keywords:

Activation Energy; Charge Transport; Conjugated Polymers; Dielectric Properties; Immiscibility.

Faculty of Science

Dep. **:** Physics

Name **:** **M. Y. M. Hassan**

Title **:** Elastic and inelastic proton - nucleus scattering using eikonal phase for the Symmetrized Woods-Saxon optical potential

Authors : H. Hosny, I. A. Abdallah and A. El-Nahhas

Published In **:** Nuclear and Particlephysics

ISSN 0954- 3899 ***Impact Factor***

Abstract :

In the framework of the high energy approximation, an approximate analytic expression of the eikonal phase for the potential in the form of the Symmetrized Fermi function is used to calculate the proton-nucleus scattering at specified intermediate energy. We compare the results with that obtained by numerical calculations.

It's found that the approximate analytic expression gives results close to the numerical ones applied to proton-nucleus scattering.

Keywords:

Nucleon-Nuceus Scattering; eikonal approximation.

Faculty of Science

Dep. **:** Physics

Name **:** **Hesham Mohamed Mohamed Mansour**

Title **:** Asymmetric Nuclear Matter and Skyrme Interaction

Authors : H. M. M. Mansour and Z. Metawei

Published In **:** Physics of atomic nuclei (yadernayaPhysik**)**

ISSN 1063-7788 ***Impact Factor*** 0.515

Abstract :

The binding energy, symmetry energy,pressure,incompressibility, and the velocity of sound are calculated for asymmetric nuclear matter using Skyrme interaction SkO′. The behavior of these physical quantities is studied for different values of the asymmetry parameter $\alpha\tau$, the density ρ, and the temperature T . Good agreement is obtained in comparison with previous theoretical estimates and experimental data.

Keywords:

Binding energy; Skyrme interaction; Nuclear matter; Pressure**.**

Faculty of Science

Dep. **:** Physics

Name **:** **Hesham Mohamed Mohamed Mansour**

Title **:** Elastic and Inelastic Scattering for ^{12}C-^{12}C Reactions

Authors : Hesham Mohamed, Mohamed mansour and Zeinab Metaw

Published In **:** Ukrainian journal of Physics

ISSN 2071-0194 ***Impact Factor***

Abstract :

The double folding potential proposed by Wilson and the M3Y potential are used for the calculation of elastic and inelastic differential cross-sections.
These calculations are performed for the ^{12}C–^{12}C reactions at the energies E_{lab} = 1016, 1440, and 2400 MeV with regard for the Pauli correlation effect.
A satisfactory agreement with the experimental data is obtained.
The agreement is better,as the energy is increased.

Keywords:

Double folding potential; Elastic and inelastic cross sections.

Faculty of Science

Dep. **:** Physics

Name **:** **Walaa Mohamed Seif**

Title **:** Probing the equation of state for cold nuclear matter in fusion reactions

Authors : W. M. Seif

Published In **:** The European Physical Journal A

ISSN 1434-6001 ***Impact Factor*** 1.801

Abstract :

To probe the nuclear equation of state, several fusion cross-sections have been analyzed using microscopic nucleus-nucleus potentials calculated in the framework of the Hamiltonian energy density approach through the well-known Skyrme nucleon-nucleon effective interaction with eighteen different parameterizations which express various equations of state.

Three density-dependent M3Y-Paris effective forces are examined also within the double-folding model.

The various effective forces give incompressibility modulus values which vary over a rather wide range between 188MeV and 372MeV.

The extracted fusion barrier distributions are examined too with the same aim.

The most successfully investigated interactions in deriving satisfactory fusion excitation functions as well as barrier distributions are those giving equations of state with nuclear incompressibility values in the range of 230–241MeV, according to the isospin asymmetry of the interacting nuclei.

Keywords:

Fusion reactions; Nuclear forces; Nuclear reaction models; Nuclear equation of state; fusion reactions.

Faculty of Science

Dep. **:** Zoology

Name **:** **Rashika El Ridi**

Title **:** Schistosoma mansoni glyceraldehyde 3-phosphate dehydrogenase is a lung-stage schistosomula surface membrane antige

Authors : Hatem Tallima

Published In **:** Folia Parasitologica

ISSN 0015- 5683 ***Impact Factor*** 1.00

Abstract :

We have previously reported that Schistosoma mansoni larvae emerging from host lung at pH 7.5-7.8 and then fixed with diluted formaldehyde (HCHO) readily bind radiation-attenuated cercariae (RA) vaccine serum antibodies, as assessed by indirect membrane immunofluorescence (IF). Here we show that S. mansoni schistosomula emerging from lung pieces under 5% CO_2 ($pH \leq 7.3$) readily bind RA vaccine serum antibodies, provided they have been incubated for 12 h at pH 7.5-7.8 in foetal calf serum-free RPMI medium, and fixed with diluted HCHO. Ex vivo larvae exposed during incubation to GW4869, a specific inhibitor of tegument-bound, neutral sphingomyelinase (nSMase) displayed significantly diminished binding of RA vaccine serum antibodies, thus suggesting that nSMase activity at $pH \geq 7.5$ leads to exposure of lung-stage larvae surface membrane antigens to specific antibody detection. More importantly, ex vivo larvae readily bound antibodies directed to dipeptidic multiple antigen peptide constructs, based on S. mansoni-specific sequences in S. mansoni glyceraldehyde 3-phosphate dehydrogenase (SG3PDH).

Lung-stage schistosomula IF reactivity was diminished following antiserum absorption with recombinant SG3PDH. The data together indicated that intact ex vivo, as well as, 5-day-old in vitro-grown larvae express SG3PDH on their surface membrane. The findings were discussed in relation to the importance of surface membrane proteins as candidate vaccine antigens.

Keywords:

Schistosoma mansoni; lung-stage schistosomula; glyceraldehyde 3-phosphate dehydrogenase; schistosome surface membrane antigens; neutral sphingomyelinase.

Faculty of Science

Dep. **:** Zoology

Name **:** **Fathy A. Abdel Ghaffer**

Title **:** Neem seed extract shampoo, Wash Away Louse, an effective plant agent against Sarcoptes scabiei mites infesting dogs in Egypt

Authors : Fathy Abdel-Ghaffar, Saleh Al-Quraishy, Hassan Sobhy and Margit Semmler

Published In **:** Parasitology Research

ISSN 0932-0113 ***Impact Factor*** 1.512

Abstract :

In the present study, the efficacy of water-free neem seed extract shampoo Wash Away Louse®, provided by Alpha-Biocare GmbH, Düsseldorf (Germany), was investigated against Sarcoptes scabiei infesting dogs in Egypt. Ten naturally infested dogs were collected from different areas in the Nile delta.

The occurrence of lesions, hair loss, and skin inflammation were regarded as signs of infestation and proved by detection of adult parasites and their developmental stages in scrapings of infested lesions.

Adequate amount of the provided shampoo was applied topically and spread on the infested areas daily for 14 successive days. Scraping examinations were used to follow up the healing process.

At day 7 of application, four dogs were completely free of mites as was proven by the disappearance of adults and/or any developmental stages of mites.

The remaining six dogs showed a clear decrease in mite counts.

By the end of the treatment (after 14 days), only a small number of mites were found in two dogs, while eight dogs were completely cured as was proven by mite counts and disappearance of clinical signs. No remarkable signs of side effects or adverse reactions were observed throughout the study.

Keywords:

Mites; Neem seed; Scarping; Sarcopes scabiei.

Faculty of Science

Dep. **:** Zoology

Name **:** **Fathy A. Abdel Ghaffer**

Title **:** Field study on the efficacy of an extract of neem seed (Mite -Stop) against the red mite Dermanyssus gallinae naturally infecting poultry in Egypt

Authors : Fathy Abdel-Ghaffar, Hassan M. Sobhy Saleh Al-Quraishy and Margit Semmler

Published In **:** Parasitology Research

ISSN 0932-0113 ***Impact Factor*** 1.512

Abstract :

Infestations with the poultry red mite Dermanyssus gallinae represent a major ectoparasite problem in poultry and affects egg and meat production worldwide. The effects of the neem seed product Mite-Stop® against the red poultry mite were investigated. Five primitive poultry farms in two small villages in the Nile Delta and Giza district were selected for the study. The neem extract was diluted 1:40 and 1:50 with tap water just prior to use. Application of the two dilutions of the provided product was performed to soil, cracks and crevices of the examined area as well as to mite-infested birds on day 0 and day 7. Two hours after treatment soil dust was collected from sprayed regions of the stable and from unsprayed control regions of the same stable. The treated chickens were also checked for mites 2 h after each treatment. The examination of the chickens 2 h after spraying showed that they were free of mites.

The examination of treated soil with the Tullgren funnel apparatus 2 h after the first spraying on day 0 already showed a considerable reduction of living mites compared to controls. Seven days after the first treatment of the soil the number of living mites was reduced for 80% in the treated soil and decreased even more after the second spraying, since those larvae that had hatched from eggs in the meantime were killed. The 1:40 dilution of the neem seed extract with tap water was superior to the 1:50 dilution. These results clearly show a very high killing rate of the extract, if the mites come in direct contact with the compound. However, in order to obtain extinction also of hidden and freshly hatched stages repeated spraying should be done three times within 8-10 days.

Keywords:

Neem extract; Ectoparasite; Tullgren funnel; Hatched.

Faculty of Science

Dep. **:** Zoology

Name **:** **Mona Mostafa Mohamed**

Title **:** Human monocytes augment invasiveness and proteolytic activity of inflammatory breast cancer

Authors : Mona Mostafa Mohamed, Dora Cavallo-Medved and Bonnie F. Sloane

Published In **:** Biological Chemistry

ISSN 1431-6730 ***Impact Factor*** 2.84

Abstract :

Inflammatory breast cancer (IBC) is the most aggressive form of breast cancer, and here, we examined in vitro the interactions between the human IBC cell line SUM149 and U937 human naive monocytes. We found an altered morphology, enhanced invasiveness and proteolytic activity of SUM149 cells when cultured with U937 cells or in U937-conditioned media (U937-CM). Increases in expression and activity of the cysteine protease cathepsin B and expression of caveolin-1 were also detected in SUM149 cells grown in U937-CM, thus suggesting a contribution of these proteins to the augmented invasion through and proteolysis of the extracellular matrix by the IBC cells.

Keywords:

Cathepsin B; Caveolin-1; Co-culture; Extracellular matrix; Proteolysis.

Faculty of Science

Dep. **:** Zoology

Name **:** **Nawal Abd El Hay Ahmed**

Title **:** Effect of Three Different Intensities of Infrared Laser Energy on the Levels of Amino Acid Neurotransmitters in the Cortex and Hippocampus of Rat Brain

Authors : Nasr Mahmoud Radwan, Khayria Mansour Ibrahim, Mona Emam Khedr, Mona A. El Aziz, and Yasser Ashry Khadrawy.

Published In **:** Photomedicine and Laser Surgery

ISSN 1549-5418 ***Impact Factor*** 1.13

Abstract :

Objective: The aim of this study is to investigate the effects of three different intensities of infrared diode laser radiation on amino acid neurotransmitters in the cortex and hippocampus of rat brain.

Background Data: Lasers are known to induce different neurological effects such as pain relief, anesthesia, and neurosuppressive effects; however, the precise mechanisms of these effects are not clearly elucidated. Amino acid neurotransmitters (glutamate, aspartate, glutamine, _-aminobutyric acid [GABA], glycine, and taurine) play vital roles in the central nervous system (CNS).

Materials and Methods: The shaved scalp of each rat was exposed to different intensities of infrared laser energy (500, 190, and 90 mW) and then the rats were sacrificed after 1 h, 7 d, and 14 d of daily laser irradiation. The control groups were exposed to the same conditions but without exposure to laser. The concentrations of amino acid neurotransmitters were measured by high-performance liquid chromatography (HPLC).

Results: The rats subjected to 500 mW of laser irradiation had a significant decrease in glutamate,aspartate,

and taurine in the cortex, and a significant decrease in hippocampal GABA. In the cortices of rats exposed to 190 mW of laser irradiation, an increase in aspartate accompanied by a decrease in glutamine were observed. In the hippocampus, other changes were seen. The rats irradiated with 90 mW showed a decrease in cortical glutamate, aspartate, and glutamine, and an increase in glycine, while in the hippocampus an increase in glutamate, aspartate, and GABA were recorded.

Conclusion: We conclude that daily laser irradiation at 90 mW produced the most pronounced inhibitory effect in the cortex after 7 d. This finding may explain the reported neurosupp.

Faculty of Agriculture

Dep. **:** Agricultural Economic

Name **:** **Sahra Khaleel Ata**

Title **:** The Role of Fiscal and Monetary Policies in Achieving the Economic Development in Egypt

Authors : Ezzat Molouk Kenawy, Sahra Khaleel Ata and Emad Abd Elmessih Shehata

Published In **:** Dalton Transactions

ISSN 1991-8178 ***Impact Factor***

Abstract :

The economic policies play an important and effective role in achieving the economic equilibrium. The fiscal policy by a way of the government expenditure and taxes affect the aggregate demand and hence the overall economic variables. The monetary policy plays an important role as well in achieving higher rates of economic growth by a way of changing the money supply and the interest rate. The state has faced several prominent problems that hindered the economic development such as: the general state budget's deficit, the increase of deficit in the balance of payments, the higher rate of inflation either by demand inflation or by production costs inflation, the higher rates of unemployment and in addition to the existence of structural defects between the fiscal and monetary policies. The study problem statement dwells on a main question related to the role of the applied fiscal and monetary policies' tools in achieving the economic objectives related to growth, stability and employment and to what extent could these policies implement the development plans with the required efficiency and effectiveness?

Is it possible to achieve the economic stability, dominance on the structural defects and the general economic equilibrium? As such the research aims to know the extent of cooperation and interaction of the most influential national variables on the behavior and the equilibrium of the Egyptian economy, through finding out the relationship among variables under the mechanism of the applied fiscal and monetary policies in the model framework of the general equilibrium. The research relies on the inductive method of economic analysis both: descriptive and quantitative. The research has made use of the simple linear regression analysis technique and "Simultaneous Equation" through the technique of "Three Stages Least Squares" (3SLS). Data were elicited from various sources during the (1990-2006) period. To clarify the extent of the fiscal and monetary policy's effectiveness on the Egyptian economy structure, the research has relied on the estimation of the

General equilibrium model" i.e. "Liverpool Model", which is concerned with investigating the impacts of both fiscal and monetary policies on the overall economic variables in Egypt. In the light of the concluded results, certain recommendations related to the effectiveness of both fiscal and monetary policies were provided in order to achieve the general economic equilibrium, namely, (1) the implementation of an expanding fiscal policy based on the reduction of taxes in order to increase consumption, encourage the investments and, subsequently, increase and create further job opportunities and also increase the government expenditure in order to increase the aggregate demand and, hence, increase the production of goods and services necessary for pushing forward the economic development's wheel; (2) the implementation of an expanding monetary policy based on the reduction of the interest rate in order to encourage the investment necessary for pushing forward the economic development's wheel

Keywords:

Economic Development; Economic policies; Fiscal and monetary policies; General equilibrium model; Liverpool Model.

Faculty of Agriculture

Dep. **:** Biochemistry

Name **:** **Hazem M. M. Hassan**

Title **:** Palm Pollen Extracts as Plant Growth Substances for Banana Tissue Cult

Authors : Hassan, H. M. M.; Ahmed, O. K.; El-Shemy, H. A. and Afify, A. S.

Published In **:** World Journal of Agricultural Science

ISSN 1817-3047 ***Impact Factor***

Abstract :

Pollen extracts of date palm were used in tissue culture medium for banana as growth substances in comparison with growth regulators. Pollen extracts contain auxin (IBA) and tryptophan (auxin precursor).

Water pollen extract (WPE) contains higher concentration of indoles compared with ethanol pollen extract (EPE). Most of treated plants showed highly growth characteristics such as shoot number, shoot length, root number, root length, fresh weight and dry weight compared to either the cytokinin (benzyl adenine) and/or the auxin (indole butyric acid and naphthalene acetic acid).

On the other hand, high concentration of pollen extracts concentration in banana tissue culture medium inhibited the growth.

The electrophoretic profile of subunits of explants obtained from different treatments was similar to the profile of MS explants. In conclusion, natural extracts such as pollen extract of date palm provided to be an excellent economic resources as growth substances.

Keywords:

Pollen extract; Date palm; Plant growth substances; Banana; Tissue culture.

Faculty of Agriculture

Dep. **:** Biochemistry

Name **:** **Hazem Mohamed Mahmoud Hassan**

Title **:** Effect of Soybean Galactomannan on the Activities of α-Amylase, Trypsin, Lipase and Starch Digestion

Authors : Kashef, R. K. H., Hassan, H. M. M., Afify, A. S., Ghabbour, S. I. and Saleh, N. T.

Published In **:** World Journal of Agricultural Science

ISSN 1816-2762 ***Impact Factor***

Abstract :

The present study was aimed to investigate the effect of galactomannan from soybean hulls on the activities of α-amylase, trypsin, lipase and starch digestion.

The galactomannan was incubated at different concentrations with enzyme for suitable period and starch digestion was studied using inverted sac technique at one concentration of galactomannan (200 mg).

Data revealed that the pre-incubation of digestive enzymes with different concentrations of galactomannan led to inhibition of enzyme activity.

Also, the galactomannan at concentration 200 mg inhibited the starch digestion in the mucosal side and inhibited glucose absorption into the serosal side. In conclusion, the galactomannan can be used in medical and pharmaceutical fields to decrease the activities of digestive enzymes and starch digestion.

Keywords:

Soybean; Galactomannan; α-Amylase; Trypsin, Lipase; Starch Digestion.

Faculty of Veterinary Medicine

Dep. **:** Pharmacology

Name **:** **Abd El-Aty M. Abd El-Aty**

Title **:** Determination of Methoxyfenozide Residues in Water and Soil by Liquid Chromatography: Evaluation of its Environmental Fate Under Laboratory Conditions

Authors : Jeong-Heui Choi, M. I. R. Mamun, Eun-Ho Shin, Hee Kwon Kim, A. M. Abd El-Aty and Jae-Han Shim

Published In **:** Toxicological Research

ISSN 1976-8257 ***Impact Factor***

Abstract :

Pesticide residues play several key roles as environmental and food pollutants and it is crucial to develop a method for the rapid determination of pesticide residues in environments. In this study, a simple, effective, and sensitive method has been developed for the quantitative analysis of methoxyfenozide in water and soil when kept under laboratory conditions.

The content of methoxyfenozide in water and soil was analyzed by first purifying the compound through liquid-liquid extraction and partitioning followed by florisil gel filtration. Upon the completion of the purification step the residual levels were monitored through high performance liquid chromatography (HPLC) using a UV absorbance detector.

The average recoveries of methoxyfenozide from three replicates spiked at two different concentrations and were ranged from 83.5% to 110.3% and from 98.1% to 102.8% in water and soil, respectively. The limits of detection (LODs) and limits of quantitation (LOQs) were 0.004 vs. 0.012 ppm and 0.008 vs. 0.024 ppm, respectively. The method was successfully applied to evaluate the behavioral fate of a 21% wettable powder (WP) methoxyfenozide throughout the course of 14 days.

A first-order model was found to accurately fit the dissipation of methoxyfenozide in water with and a DT50 value of 3.03 days was calculated from the fit. This result indicates that methoxyfenozide dissipates rapidly and does not accumulate in water.

Keywords:

Insecticide; Fate; Method validation; Residue analysis; Experimental conditions.

Faculty of Veterinary Medicine

Dep. **:** Pharmacology

Name **:** **Abd El-Aty M. Abd El-Aty**

Title **:** Analysis of Residual Triflumizole, an Imidazole Fungicide, in Apples, Pears and Cucumbers Using High Performance Liquid Chromatography

Authors : Sathya Khay, A.M. Abd El-Aty, Jeong-Heui Choi and Jae-Han Shim

Published In **:** Toxicological Research

ISSN 1976-8257 ***Impact Factor***

Abstract :

The present study was conducted to monitor the level of triflumizole residues in fruits (apple and pear) and vegetable (cucumber) samples in order to assess risk posed by the presence of such residues to the consumer. Triflumizole was applied at a recommended dose rate to apple and pear pulps and to a cucumber sample. The samples were collected at harvesting time following several treatments (three and/or four treatments). Triflumizole was extracted with methanol and re-extracted into dichloromethane. The presence of triflumizole was determined by HPLC with UV detection at 238 nm following the cleanup of the extract by open preparative chromatographic column with Florisil. The versatility of this method was evidenced by its excellent linearity (> 0.999) in the concentration range between 0.2 and 4.0 mg/kg. The mean recoveries evaluated from the untreated samples spiked at two different fortification levels, 0.1 and 0.4 mg/kg, and ranged from 87.5 ± 0.0 to 93.3 ± 2.6 for the tested fruits and vegetable, respectively, and the repeatability (as relative standard deviation) from three repetitive determinations of recoveries were no larger than 6%. The calculated limit of detection was 0.02 mg/kg and the minimum detectable level of 4 ng for triflumizole was easily detected. When triflumizole was sprayed onto the apple trees three times at 50-40-30 and 40-30-21 days prior to harvesting and four times onto the pear trees at 40-30-21-14 days prior to harvesting, the mean residual amounts of 0.05 and 0.06 mg/kg for apples and pears, respectively, were not detected in all of the treatments. When the cucumber sample was fumigated four times at 7, 5, 3 and 1 day prior to harvesting, the mean residual amount was not detectable. Triflumizole can be used safely when sprayed (wettable powder, 30% active ingredient) and fumigated (10%) 4 times at 14 and 1 day prior to harvesting to protect the fruits and vegetable, respectively.

Keywords:

Fungicide; Analysis; Liquid chromatography**.**

Faculty of Veterinary Medicine

Dep. **:** Pharmacology

Name **:** **Abd El-Aty M. Abd El-Aty**

Title **:** A Survey of Ectoparasite Infestations in Stray Dogs of Gwang-ju City, Republic of Korea

Authors : Jeong-Hyun Chee, Jung-Kee Kwon, Ho-Seong Cho, Kyoung-Oh Cho, Yu-Jin Lee, A. M. Abd El-Aty and Sung-Shik Shin

Published In **:** Korean Journal of Parasitology

ISSN 0023-4001 ***Impact Factor***

Abstract :

This study was designed to investigate the incidence of ectoparasite infestation among stray dogs in Gwang-ju City, Republic of Korea.

A total of 103 stray dogs collected in the Animal Shelter of Gwang-ju City from November 2003 to August 2005 were investigated in this study.

Ectoparasites of one or more genera were detected in 45.6% (47 / 103) of the dogs examined for dermatologic lesions and/or skin scrapings (from 3-5 affected areas). Otodectes cynotis was found to be the most frequent parasite (22.3%, 23 / 103), followed by Sarcoptes scabiei var canis (19.4%, 20 / 103), Ctenocephalides canis (6.8%, 7 / 103), Demodex canis (4.9%, 5 / 103), and Trichodectes canis (1.0%, 1 / 103). Monospecific infestation was found in 83.0% (39 / 47) of the affected dogs, whereas concurrent infestations with 2 or more ectoparasites per animal were found in 17.0% (8 / 47) of the affected dogs.

Trichodectes canis is reported for the first time in the Republic of Korea. Dogs less than 1 yr old were more heavily infected than other age groups (66.7%), and small-sized dogs of less than 3 kg body weight were more heavily infected than larger dogs (41.7%).

Keywords:

Trichodectes canis; Otodectes cynotis; Sarcoptes scabiei var. canis; Ctenocephalides canis; Demodex canis; Stray dog, Ectoparasite; Animal shelter; Korea.

Faculty of Veterinary Medicine

Dep. **:** Pharmacology

Name **:** **Mohamed Moawad Aly El-Bahy**

Title **:** Toxoplasma gondii: Virulence of tachyzoites in serum free media at different temperatures

Authors : Mohamed Moawad Ali El-Bahy

Published In **:** Experimental Parasitology

ISSN 0014-4894 ***Impact Factor*** 1.597

Abstract :

Highly virulent Toxoplasma gondii tachyzoite multiplication was recorded on the 4th and 5th days post cultivation (dpc) in seven selected cell lines either with or without fetal calf serum (FCS) in the maintenance media.

The multiplication rate was slightly lower in the absence of FCS.

The cell line mono-layers collapsed dying by the 6th day of infection both in presence or absence of FCS at 37 C. Carcinoma of human larynx (Hep2) and Madian Darby Bovine Kidney (MDBK) cell lines were the most suitable for in vitro multiplication, followed by that of African green monkey kidney cells (VERO), pooled kidney from 1-day-old hamster (BHK), rabbit kidney cells (RK13) and human rhabdomyosarcoma (RDA), while Chicken embryo cells (CER) were the least suitable. In absence of FCS, CER, BHK, Hep2, RDA and MDBK were able to maintain virulent tachyzoites at +4 oC for 14 days.

The infectivity of the tachyzoites was however lower, killing 40% of the inoculated mice. Tachyzoites survived at room temperature, in the dark, for 14 days in Hep2, RDA and MDBK. However, Hep2 was the only one able to keep virulent tachyzoites until 21 dpc at room temperature and at +4 oC. Hep2 propagated tachyzoites were still alive but with low infectivity up to 28 dpc. The cell-lines failed to support the development of tachyzoites after 7 dpc at 37 oC and after the 35 dpc at lower temperatures.

Keywords:

Oxoplasm; Cell Lines; Temperature; Serum Free Media; T. Gondii; Tachyzoites; Low Temperature.

Faculty of Veterinary Medicine

Dep. **:** Surgery, Anesthesiology, and Radiology

Name **:** **Ayman A. M. A. Mostafa**

Title **:** Proximodistal Alignment of the Canine Patella: Radiographic Evaluation and Association with Medial and Lateral Patellar Luxation.

Authors : Ayman A. Mostafa, Dominique J. Griffon, Michael W. Thomas, and Peter D. Constable

Published In **:** The American College of Veterinary Surgeons

ISSN 0161-3499/08 ***Impact Factor*** 1.432

Abstract :

Objectives—To evaluate the contribution of proximodistal alignment of the patella to patellar luxation, and to evaluate the structures contributing to proximodistal alignment of the patella relative to the femoral trochlea.

Study Design—Retrospective study using a convenience sample.

Animals—Medium to giant breed dogs (n=106).

Methods—Medical records and stifle radiographs of 106 dogs were reviewed. Radiographic measurements evaluated the proximodistal alignment of the patella with respect to the femoral trochlea, distal aspect of the femur, and proximal aspect of the tibia. Measurements were compared between dogs with clinically normal stifles (controls; n=51 dogs, 66 stifles), and dogs with a clinical diagnosis of medial patellar luxation (MPL, n=46 dogs, 65 stifles) or lateral patellar luxation (LPL, n=9 dogs, 11 stifles) using ANOVA.

Results—In dogs with MPL, the ratio of patellar ligament length (PLL) to patellar length (PL) was increased, as was the ratio of the distance from the proximal aspect of the patella to the femoral condyle (A) to PL (P<.0001). Dogs with LPL had a decreased A:PL (P= 003) and an increased ratio of the proximal tibial length (PTL) to distal tibial width (DTW; P= 009).

Conclusions—MPL is associated with a relatively long patellar ligament and patella alta in medium to giant breed dogs. LPL is associated with a relatively long proximal tibia and patella baja. Values for PLL:PL>2.06 and A:PL>2.03 are suggestive of the presence of patella alta, whereas a value for A:PL<1.92 is suggestive of patella baja.

Clinical Relevance—Measurements of both PLL:PL and A:PL are recommended in dogs with patellar luxation, and surgical correction should be considered in those with abnormal values.

Keywords:

Proximodistal; Alignmentl; Canine; Patella.

Faculty of Veterinary Medicine

Dep. **:** Surgery, Anesthesiology, and Radiology

Name **:** **Ayman A. M. A. Mostafa**

Title **:** Noninvasive determination of body segment parameters of the hind limb in Labrador Retrievers with and without cranial cruciate ligament diseas

Authors : Chantal A. Ragetly, J. Griffon, Jason E. Thomas, Ayman A. Mostafa, David J. Schaeffer, J. Pijanowski and Elizabeth T. Hsiao-Wecksler.

Published In **:** American Journal of Veterinary Research

ISSN 0002-09645 ***Impact Factor*** 1.221

Abstract :

Objective—To determine mass, center of mass (COM), and moment of inertia (ie, body segment parameters [BSPs]) of hind limb segments by use of a noninvasive method based on computerized tomography (CT) in Labrador Retrievers with and without cranial cruciate ligament (CCL) disease and to provide regression equations to estimate BSPs of normal, CCL-deficient, and contralateral hind limbs.

Animals—14 clinically normal and 10 CCL-deficient Labrador Retrievers.

Procedures—Bone, muscle, and fat areas were identified via CT. Mass, COM, and moment of inertia were determined on the basis of tissue densities in the thigh, crus, and foot segments. Regression models were developed to determine predictive equations to estimate BSP on the basis of simple morphometric measurements.

Results—The thigh and crus of CCL-deficient limbs weighed less than in contralateral segments. Thighs weighed less in CCL-deficient than in normal limbs. The thigh moment of inertia was less in CCL-deficient than in contralateral limbs. The crural COM was located more distally in normal limbs, compared with other limbs. Predictive equations to estimate

BSP varied by parameter, body segment, and limb status.

Conclusions and Clinical Relevance—BSPs of the thigh and crus varied with segment and status of the hind limb in **Labrador** Retrievers with or without CCL disease. Equations to estimate BSP on the basis of simple morphometric measurements were proposed, providing a basis for nonterminal studies of inverse dynamics of the hind limbs in Labrador Retrievers. This approach may offer new strategies to investigate the pathogenesis of nontraumatic joint diseases.

Keywords:

Noninvasive; body segment; Labrador Retrievers; cruciate ligament.

Faculty of Veterinary Medicine

Dep. **:** Zoo noses

Name **:** **Maha Ahmed Sabry Mahmoud**

Title **:** Infection by cyst producing protozoa among human and food producing animals in Egypt.

Authors : Maha Ahmed Sabry Mahmoud and Wafaa Waheed Mohmed Reda

Published In **:** Biological Sciences

ISSN 1727-3048 ***Impact Factor***

Abstract :

The infection by cyst-producing protozoa (Toxoplasmosis, Sarcosporediosis and Neosporosis) in human and animals in Egypt was high (28.8%) in human who work in continuous contact with animals, followed by patients visit hospitals (18.0%), complained by Mayligia, arthritis and gastro-intestinal disturbances and they usually live in in-direct contact with animals while the lowest incidence of infection (2.0%) was recorded in random samples of non-complained youth, 16-18 years old.

This was investigated using EITB & micro ELISA technique after elution and concentration for two specific & sensitive protein fractions, 32kD from Toxoplasma gondii tachyzoites (TTA) and 53 kD from Sarcocystis bradyzoites antigen (SBA).

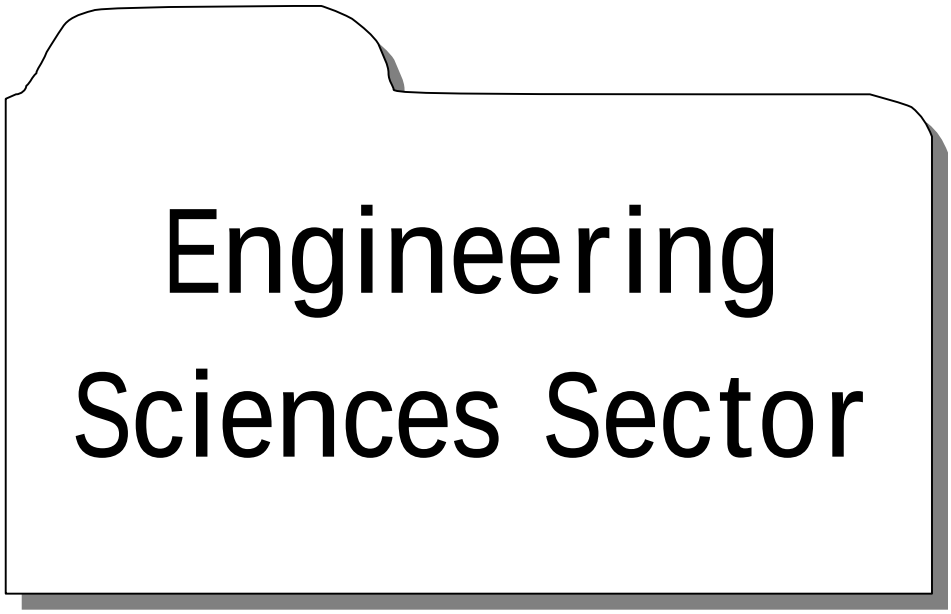
The mean rate of infection by the three parasites was high in the examined apparently healthy old buffaloes, cattle & sheep reached to 46.5%, 22.5% and 25.6% respectively. Sarcosprodiosis is the most common one followed by toxoplasmosis, while the infection by Neospora is the lowest one.

Toxoplasmosis is high in women's and female animals. Sarcosprodiosis is high in men's while no effect for sex in animals.

High sensitivity and specificity of these fractions will improve the diagnostic utilities of these parasites, the matter which improves capability of the related ministries to minimize their distribution in Egypt.

Keywords:

Toxoplasma; Sarcocystis; Neospora; EITB; Specific fractions; Micro; ELISA.


Engineering
Sciences Sector

Faculty of Engineering

Faculty of Engineering

Dep. **:** Computer Engineering

Name **:** **Amir Fuad Atiya**

Title **:** Tourism Demand Foreacsting Using Machine Learning Methods

Authors : Nesreen Kamel, Amir F. Atiya. Neamat El Gayar, and Hisham El-Shishiny

Published In **:** ICGST International Journal on Artificial Intelligence and Machine Learning

ISSN 1687-4846 ***Impact Factor***

Abstract :

Tourism demand forecasting has attracted the attention of researchers in the last decade. However, most of research focused on traditional quantitative forecasting techniques, such as ARIMA, exponential smoothing, etc. Although these traditional methods have achieved certain levels of success in the tourism research, it would be useful to study the performance of alternative models such as machine learning methods. This is the topic considered in this paper. The goal is to investigate how different machine learning models can be applied in the tourism prediction problem and to assess the performance of seven well known machine learning methods. Furthermore, we investigate the effect of including the time index as an input variable. Specifically, we consider the tourism demand time series for Hong Kong inbound travel.

Keywords:

Tourism Forecasting; Machine Learning.

Faculty of Engineering

Dep. **:** Computer Engineering

Name **:** **Amir Fuad Atiya**

Title **:** A Comparative Study of the Pickup Method and its Variations Using a Simulated Hotel Reservation Data

Authors : Athanasius Zakhary, Neamat El Gayar and Amir F. Atiya

Published In **:** ICGST International Journal on Artificial Intelligence and Machine Learning

ISSN 1687-4846 ***Impact Factor***

Abstract :

Detailed forecasts are major inputs to modern Hotel Revenue Management Systems. Accurate forecasts are crucial to improve rate and availability recommendations for rooms. The data used for hotel demand forecasting are based on current booking activities (Reservations), historical information regarding daily arrivals or rooms sold.

Bookings are recent data that if used adequately can make the forecasting process more responsive to demand shifts. Very little work has been done on forecasting techniques using reservation data. In this paper, we examine in more details a popular forecasting model that uses reservation data, referred to in the literature as the .pickup. method. In particular, we present a new framework for the pickup technique with 8 different variations and compare the results of these variations using a variety of simulated hotel reservations data.

Keywords:

Tourism Forecasting; Machine Learning.

Faculty of Engineering

Dep. **:** Electrical Power and Machines

Name **:** **Hisham M. Soliman**

Title **:** A particle swarm optimization- based deadbeat on- line speed control for sensorless induction motor drives

Authors: E. H.E.Bayoumi and H.M..Soliman

Published In **:** Electromotion, 15 141-120, (2008)

ISSN 0021-8669 ***Impact Factor*** 0.45

Abstract :

Particle swarm optimization (PSO) is utilized to derive a deadbeat speed control for sensorless induction motors (IM) drive system. The accuracy of the rotor speed estimation is sensitive to motor parameters variations. To alleviate the computation burden of such parameters, they are divided into two groups: on-line and off-line. Rotor flux angular speed is estimated using Proportional Integral (PI) flux observer (estimator). The observer is on-line designed to cope with the updated parameters. A PI current controller is similarly designed. Both controller and observer are tuned to achieve a deadbeat performance. The method guarantees accurate and precise steady-state speed estimation in addition to high dynamic performance. A comparative study is done between the proposed design and the conventional PI current controller and flux observer with/without parameters update. The results show the superiority of the proposed design under zero and very low speed operations.

Faculty of Engineering

Dep. **:** Aerospace

Name **:** **Hani Mohammed Negm**

Title **:** Thermoacoustic Random Response of Shape Memory Alloy Hybrid Composite Plates

Authors : Hani Mohammed Negm

Published In **:** Aircraft

ISSN 0021-8669 ***Impact Factor*** 0.45

Abstract :

Random dynamic response and thermal buckling of a shape memory alloy hybrid composite plate subjected to combined thermal and random acoustic loads are investigated.Anonlinear finite element model was developed using the first-order shear-deformable plate theory, von Kármán strain-displacement relations, and the principle of virtual work. The thermal load was assumed to be a steady-state constant-temperature distribution, whereas the acoustic excitation was modeled as a white-Gaussian pressure with zero mean and uniform magnitude over the plate surface. To account for the nonlinear temperature dependence of material properties, the thermal strain was stated as an integral quantity of the thermal expansion coefficient with respect to temperature. The static nonlinear equations of motion are solved by the Newton–Raphson iteration technique to obtain the thermal postbuckling deflection, whereas the dynamic nonlinear equations of motion were transformed to modal coordinates and solved by employing.

Newmark implicit integration scheme. Finally, the critical buckling temperatures, static thermal postbuckling deflections, and random dynamic responses of a shape memory alloy hybrid-composite-plate panel are presented, illustrating the effect of shape memory alloy fiber embedding, sound pressure level, and temperature rise on the panel response.

Faculty of Engineering

Dep. **:** Electronics and Communications Engineering

Name **:** **Ahmed Ali Abouelsoud**

Title **:** On Semiglobal Stabilization of Bilinear Systems Subject to Input Time Delay and Magnitude

Authors **:** A.A.Abouelsoud

Published In **:** The Mediterranean Journal of Measurement and Control

ISSN 1743-9310 ***Impact Factor***

Abstract :

This paper proposes a state feedback controller to semi-globally stabilize bilinear systems subject to input constraint based on algebraic Reccati Equation (ARE), two cases are considered. First, a bilinear system with no input time delay. Second, a bilinear system with input time delay. The designed controller in both cases is bounded in magnitude. Semi-global asymptotic stability is proven using Lyapunov function in the first case and Lyapunov- Krasovskii function in the second case. Simulation results show robustness of the proposed controller to uncertainty in the time delay.

Keywords:

Bilinear systems; Bounded Control; Time Delay; Lyapunov- Krasovskii function; Semi-Global Asymptotic Stability.

Faculty of Engineering

Dep. **:** Electronics and Communication Engineering

Name **:** **Ahmed Mohamed Soliman**

Title **:** History And Progress Of The Kerwin–Huelsman–Newcomb Filter Generation And Op Amp Realizations

Authors : Ahmed Soliman

Published In **:** Circuits Systems and Computers

ISSN 0218-1266 ***Impact Factor*** 0.13

Abstract :

The history of Kerwin–Huelsman–Newcomb (KHN) second-order filter is reviewed. A generation method of the KHN filter from passive RLC filter is presented. Two alternative forms of the KHN circuit using operational amplifier are reviewed. The effect of finite gain-bandwidth of the op amps is considered and expressions of the actual ω0 and Q are given. Two KHN circuits with inherently stable Q factor are also included. Two new partially compensated inverted KHN circuits are introduced. Active compensation methods to improve the KHN and the inverted KHN circuit performance for high Q designs are summarized. Spice simulation results are given. The progress of the KHN realizations using the current conveyor is also summarized briefly.

Keywords:

KHN circuit; active filters; op amps.

Faculty of Engineering

Dep. **:** Electronics and Communication Engineering

Name **: Ahmed Mohamed Soliman**

Title **:** History And Progress Of The Tow Thomas Bi-Quadratic Filterpart Ii: Otra, Ccii And Dvcc Realizations

Authors : Ahmed Soliman

Published In **:** Circuits Systems and Computers

ISSN 0218-1266 ***Impact Factor*** 0.13

Abstract :

The realization of the Tow Thomas (TT) circuit using the Operational Transresistance Amplifier (OTRA) is reviewed. The circuit employs two OTRA and all passive elements are floating as the original Tow Thomas circuit. The Current Conveyor (CCII) Tow Thomas circuits are reviewed next. The progress in the realization of the TT circuit using CCII is demonstrated clearly by summarizing eight different circuits. . One of the circuits has the advantage of very high input impedance and using all grounded resistors and capacitors. The Differential Voltage Current Conveyor (DVCC) as the active building block in realizing the TT circuit is also considered. Finally current mode TT circuits using balanced output CCII are summarized. Top Spice (level 49), simulation results using technology SCN 05 feature size 0.5 m from MOSIS vendor: AGILENT are included to demonstrate the magnitude and phase frequency response of the TT circuits. Additional simulation results for the total power dissipation, total harmonic distortion, intermodulation IM3, input and output referred noise spectral densities are also included for comparison purposes.

Keywords:

Tow Thomas Circuit; Operational Transresistance Amplifier; Current Conveyor.

Faculty of Engineering

Dep. **:** Electronics and Communication Engineering

Name **: Ahmed Mohamed Soliman**

Title **:** CMOS Realization of the Operational Mirror Amplifier

Authors : A. Soltan, A. H. Madian, A. M. Soliman

Published In **:** Wseas Transactions On Electronics

ISSN 1109-9445 ***Impact Factor***

Abstract :

The design of a CMOS operational mirrored amplifier (OMA) suitable for high frequency applications is proposed. The CMOS operational mirrored amplifier is developed using class AB operational amplifier and two current mirrors. To obtain a wide bandwidth and high stability, HF feed-forward techniques have been used. These techniques made the proposed circuit suitable for continuous – time analog signal processing. Simulation results for the proposed CMOS operational mirror amplifier circuit using PSpice are presented. Also, a performance comparison with pervious realization using BJT is given.

Keywords:

Operational mirror amplifier; Nullor; Nullator; Darlington pair; CMOS; operational floating amplifier.

Faculty of Engineering

Dep. **:** Electronics and Communication Engineering

Name **:** **Ahmed Mohamed Soliman**

Title **:** New Grounded Capacitor Current Mode Bandpass Lowpass Filters Using Two Balanced Output ICCII

Authors : Ahmed Soliman

Published In **:** Journal of Active and Passive Electronic Devices

ISSN 1555-0281 ***Impact Factor***

Abstract :

The Four new grounded capacitor current mode filters with high output impedance and using two balanced output Inverting Current Conveyors (ICCII) are introduced. The circuits are classified to two classes, in class one the input current is injected at port X of the ICCII .In class two the input is applied to port Y of the ICCII. All reported circuits employ grounded resistors also except one minimal passive component circuit which uses one floating resistor. Spice simulation results for all reported circuits using technology: SCN 05 feature size 0.5micronsMOSISVendor: AGILENT are given.

Keywords:

Active filters; Inverting current conveyors.

Faculty of Engineering

Dep. **:** Electronics and Communication Engineering

Name **: Ahmed Mohamed Soliman**

Title **:** Kerwin Huelsman Newcomb Filter Using Inverting CCII

Authors : Ahmed Soliman

Published In **:** Journal of Active and Passive Electronic Devices

ISSN 1555-0281 ***Impact Factor***

Abstract :

A voltage mode Kerwin-Huelsman-Newcomb filter (KHN) using the Inverting CCII (ICCII) is given. The filter has high input impedance, employs two grounded capacitors, six grounded resistors and has independent control on Q and on the gain. A current mode KHN filter is generated from the voltage mode circuit. The current mode circuit has very low input
impedance; employs grounded capacitors, grounded resistors and has independent control on Q and on the gain. Spice simulation result is included to demonstrate the practicality of the KHN circuit are given.

Keywords:

Voltage mode; current mode; Inverting Current Conveyor; Filters.

Faculty of Engineering

Dep. **:** Electronics and Communication Engineering

Name **: Ahmed Mohamed Soliman**

Title **:** CMOS Realizations of the Operational Mirrored Amplifier

Authors : A. Soltan and Ahmed M Soliman

Published In **:** Journal of Electrical Engineering

ISSN 1582-4594 ***Impact Factor***

Abstract :

Ahmed Soliman

Keywords:

Operational mirrored amplifier; floating current source; bandpass; highpass; lowpass; dynamic biasing; current mode circuits; voltage-to-current converter; simulated inductor.

Faculty of Engineering

Dep. **:** Electrical Power and Machines

Name **:** **Hisham M. Soliman**

Title **:** Robust controller design for active suspensions using particle swarm optimisation

Authors: H.M..Soliman, M.A.Awadallah and M.Nadim Emara

Published In **:** Int. Journal. modeling, identification and control, 15 (1), 66-76 (2008)

ISSN ***Impact Factor***

Abstract :

The paper presents a design technique for a fixed-structure PD robust controller of car active suspension systems. The design takes into consideration the uncertainty of system parameters, particularly tyre stiffness and body mass. Robustness is achieved by tuning the controller over a set of operating conditions covering the whole range of system parameters, e.g., body mass and tyre stiffness. Particle swarm optimisation (PSO) is used to attain different performance objectives of the system. Settling time of body displacement is minimised, system damping is maximised, and actuator saturation is avoided via control effort reduction. The design of controller parameters is cast in a multi-objective non-linear optimisation problem, and described to ensure the best possible performance. Simulation results show the superiority of the proposed system relative to the classical passive suspension, and signify robustness of the active controller design.

Keywords:

active suspension; robust control; particle swarm optimisation; PSO.

Faculty of Engineering

Dep. **:** Electronics and Communication Engineering

Name **: Ahmed Mohamed Soliman**

Title **:** Configurable Analog Block based on CFOA and its Application

Authors : A. H. Madian, S. A. Mahmoud and Ahmed M. Soliman

Published In **:** Wseas Transactions On Electronics

ISSN 1109-9445 ***Impact Factor*** 0.13

Abstract :

A proposed configurable analog block (CAB) is presented, simulated and analyzed. The CAB consists of a CMOS current feedback operational amplifier (CFOA), presented by the authors, as the main active block, programmable four MOS nonlinearity cancellation cells, programmable capacitor array and MOSFET switches. Using the CABs, the universal field programmable analog array (FPAA) could be constructed, which can realize many signal-processing functions including variable gain amplifiers, filters. To show the reliability of the proposed CAB, a low-pass, band-pass, high-pass filter structure has been realized using the proposed CAB.

Keywords:

CMOS; current feedback operational amplifier; configurable analog blocks; nonlinearity cancellation; filters.

Faculty of Engineering

Dep. **:** Electronics and Communications

Name **:** **Mohsen Abdel-Razik Ali Rashwan**

Title **:** A Compact Arabic Lexical Semantics Language Resource Based on the Theory of Semantic Fields

Authors : Mohamed Attia, Mohsen Rashwan, Ahmed Ragheb, Mohamed Al-Badrashiny, Husein Al-Basoumy and Sherif Abdou

Published In **:** Springer-Verlag Berlin Heidelberg

ISSN 0302-9743 ***Impact Factor***

Abstract :

Applications of statistical Arabic NLP in general, and text mining in specific, along with the tools underneath perform much better as the statistical processing operates on deeper language factorizations than on raw text. Lexical semantic factorization is very important in this regard due to its feasibility, high level of abstraction, and the language independence of its output. In the core of such a factorization lies an Arabic lexical semantic DB. While building this LR, we had to go beyond the conventional exclusive collection of words from dictionaries and thesauri that cannot alone produce a satisfactory coverage of this highly inflective and derivative language. This paper is hence devoted to the design and implementation of an Arabic lexical semantics LR that enables the retrieval of the possible senses of any given Arabic word at a high coverage. Instead of tying full Arabic words to their possible senses, our LR flexibly relates morphologically and PoS-tags constrained Arabic lexical compounds to a predefined limited set of semantic fields across which the standard semantic relations are defined. With the aid of the same large-scale Arabic morphological analyzer and PoS tagger in the runtime, the possible senses of virtually any given Arabic word are retrievable.

Keywords:

Arabic, AWN; coverage; language factorization; language resource; lexical compounds; lexical semantics; LR; morphology; morpho-PoS constraining; PoS tagging; semantic fields; semantic mapping; semantic relations; text mining; word net; word senses.

Faculty of Engineering

Dep. **:** Electronics and Communications Engineering

Name **:** **Mohamed Mahmoud Abdallah**

Title **:** Beamforming Algorithms for Information Relaying in Wireless Sensor Networks

Authors : Mohamed Abdallah and Haralabos Papadopoulos

Published In **:** IEEE Transactions on Signal Processing

ISSN 1053- 587X ***Impact Factor*** 1.291

Abstract :

We develop beamforming algorithms for information relaying over shared slowly nonselective fading channels in wireless sensor networks. We assume that, prior to beamforming their received data to a destination, the relays preprocess them by either data amplifying or decoding. The beamforming weights are broadcasted by the destination to the relays and are formed based on the individual relay-destination channel coefficients and an m-bit description of the quality of each source-relay channel. For both relay data-preprocessing models, we present methods for optimizing the m-bit quantizer employed at each relay for encoding its source-relay channel quality level, and for choosing the beamforming weights at the destination, so as optimize the destination uncoded bit error rates. As our simulations and analysis reveal, a coarse single-bit description of each source-relay channel coefficient at the destination may suffice, as it results in only a small increase in uncoded bit error rates with respect to the case where full knowledge of the source-relay channel coefficients are exploited at the destination.

Keywords:

Beamforming; cooperative communication; relay networks; sensor networks.

Faculty of Engineering

Dep. **:** Engineering Math

Name **: Said R.Grace**

Title **:** Oscillation Criteria for Second Order Differential Inclusions

Authors : R.P.Agarwal,Said R.Grace and D.O'Regan

Published In **:** Advanced Studies in Contemporary Math

ISSN 1229-3067 ***Impact Factor*** 0.1

Abstract :

Some new Criteria for the Oscillation of Second order Differential inclusion

$$(a(t)y'(t))' \in F(t, y(t)) \quad \text{for a.e.} \quad t \geq t_0 \geq 0$$

are established.

Keywords:

Oscillation; monoscillation; superlincar; differential inclusion AMS Subject Classification: 34A60.

Faculty of Engineering

Dep. **:** Engineering Math

Name **:** **Said R.Grace**

Title **:** On the Oscillation of Second Order Half-Linear Dynamic Equations

Authors : Said R.Grace, M.Bohner and Ravi P.Agarwal,

Published In : Difference Equations and Applications

ISSN 1023-6198 ***Impact Factor*** 0.92

Abstract :

We obtain some oscillation criteria for solutions to the second-order half-linear dynamic equation

$$\left(a(x^{\Delta})^{\alpha}\right)^{\Delta}(t) + q(t)x^{\alpha}(t) = 0,$$

when $\int^{\infty} a^{-1/\alpha}(s)\Delta s = \infty$ or $\int^{\infty} a^{-1/\alpha}(s)\Delta s < \infty$. These criteria unify and extend known criteria for corresponding half-linear differential and difference equations. Some of our results are new even in the continuous and the discrete cases.

Keywords:

Dinamic equation; half- linear; oscillation; second- order.

Faculty of Engineering

Dep. **:** Engineering Math

Name **:** **Said R.Grace**

Title **:** On the Oscillaition of Third Order Functional Differential Equations

Authors : Ravi P. Agarwal,Said R.Grace and M.F.Aktas

Published In **:** Indian J. of Pure and Applied Math

ISSN 0019-5588 ***Impact Factor*** 0.125

Abstract :

Some new criteria for the oscillation of third order functional differential equations of the form

$$\left(a(t)\left(x'(t)\right)^{a}\right)'' + q(t)f\left(x[g(t)]\right) = 0$$

and

$$\left(a(t)\left(x'(t)\right)^{a}\right)'' = q(t)f\left(x[g(t)]\right) + p(t)h\left(x[s(t)]\right),$$

where

$$\int_0^{\infty} a^{-1/a}(s)\,ds < \infty$$

are established.

Keywords:

Functional differential equation; oscillation; nonoscillation; comparison.

Faculty of Engineering

Dep. **:** Engineering Math. & Phys

Name **:** **Abdel-Raouf Awad Helaly**

Title **:** Radiation Conductance and Pattern of Array Antenna on a Non-Confocal Dielectric- Coated Elliptec Cylinder

Authors: A. Helaly and A. Sebak

Published In **:** WSEAS Transactions on Communications

ISSN 1109-2742 ***Impact Factor***

Abstract :

The formulation for the radiation pattern and conductance of axial slots array antenna on a dielectric-coated elliptic cylinder is presented. The coating is assumed to be non-confocal. The analytical solution, given here, is based on the eigen function technique and the addition theorem of Mathieu functions. The excited apertures are assumed to generate a TM polarized wave. Accordingly, the obtained series solution is truncated to generate numerical results. Sample of calculated azimuthal radiation patterns and radiation conductance are presented for different antenna and coating parameters. The elliptic cylinder has one extra degree of freedom compared to a circular cylinder to control the radiation pattern and conductance. The computed results show the flexibility of the antenna to control the shape and direction of its radiation pattern by changing the frequency, the excitation, the coating thickness of the cylinder, and the constitutive parameters of The coating.

Keywords:

Axial slot antennas; non-confocal coating; analytical methods.

Faculty of Engineering

Dep. **:** Irrigation and Hydraulics

Name **:** **Ahmed Emam Ahmed Hassan**

Title **:** Uncertainty Assessment of a Stochastic Groundwater Flow Model using GLUE Analysis

Authors : Ahmed E. Hassan, Hesham M. Bekhit, and Jenny B. Chapman

Published In **:** Hydrology

ISSN 0022-1694 ***Impact Factor*** 2.161

Abstract :

The use of the generalized likelihood uncertainty estimation (GLUE) methodology in analyzing the results of stochastic groundwater models is evaluated. The ability of the GLUE methodology to mitigate the effect of the selection of the input parameter prior distributions on the modeling results is investigated. This is important when no prior information is available or when significantly different priors come from different sources or experts. The different approaches that can be used to implement the GLUE methodology in analyzing the stochastic results of such models and quantifying the uncertainty in model prediction are evaluated. Recent debates about the GLUE methodology and the problem of using "less formal likelihood" functions are discussed in terms of the applicability of such issues to groundwater studies in general and a given field site specifically. These issues are investigated using a density-driven groundwater flow model of a nuclear testing site (Milrow) on Amchitka Island, Alaska. Results of the analysis highlight the subjectivity of the choice of the shape factor associated with the GLUE likelihood measures. However, the arbitrary choice of this factor can be tied to the level of confidence one can place on the available observations. While traditional GLUE applications focus on displaying prediction quantiles, GLUE can be used to develop uncertainty bounds that are qualitatively similar to predictive uncertainty. Interestingly, for the case study shown here the traditional GLUE quantiles and the uncertainty bounds are almost identical. Results also show that the GLUE-based ensemble averaging yields results that are controlled by the data more than by the prior distributions. The GLUE quantiles or GLUE-developed uncertainty bounds provide conditional predictions that are free from the artificial smoothing associated with ensemble averaging.

Keywords:

Monte Carlo; GLUE analysis; Conditioning; Groundwater flow; Numerical modeling.

Faculty of Engineering

Dep. **:** Irrigation and Hydraulics

Name **:** **Ahmed Emam Ahmed Hassan**

Title **:** On Mapping Fracture networks onto Continuum

Authors : Farag E. Botros, Ahmed E. Hassan, Donald M. Reeves, and Greg

Published In **:** Water Resources Research

ISSN 0047-1397 ***Impact Factor*** 2.154

Abstract :

Discrete fracture network (DFN) and stochastic continuum (SC) are two common modeling approaches used for simulating fluid flow and solute transport in fractured media. Fracture continuum approaches combine the merits of each approach; details of the fracture network are preserved and a computationally efficient grid is utilized for the solution of fluid flow by assigning a conductivity contrast between the grid cells representing the rock matrix and those representing fractures. In this paper, we propose a fracture continuum approach for mapping individual fractures onto a finite-difference grid as conductivity fields. We focus on several issues that are associated with this approach such as enhanced connectivity between fractures that would otherwise not be in connection in a DFN simulation and the influence of grid cell size. To addresses these issues, both DFN and the proposed approach are used to solve for fluid flow through two-dimensional, randomly generated fracture networks in a steady state, single phase flow system. The DFN flow solution is used as a metric to evaluate the robustness of the method in translating discrete fractures onto grid-cell conductivities on four different regularly-spaced grids; 1 m × 1 m, 2 m × 2 m, 5 m × 5 m, and 10 m × 10 m. Two correction factors are introduced to ensure equivalence between the total flow of the grid and the original fracture network. The first is dependent on the fracture alignment with the grid and is set to account for the difference between the length of the flow path on the grid and that of the fracture. The other correction is applied for areas in the grid with high fracture density and accounts for the artificial degree of connectivity that exists on the grid but not in the DFN.

Keywords:

Fracture Continuum; Discrete Fracture Network; Stochastic Continuum; Fracture Mapping; Numerical Simulations.

Faculty of Engineering

Dep. **:** Irrigation & Hydraulics

Name **:** **Ahmed Mohamed Abdel Sattar**

Title **:** Case Study: 17th Street Canal Breach Closure Procedures

Authors : Ahmed M. Abdel Sattar, Ahmed Kassem and Hanif Chaudhry

Published In **:** Hydraulic Engineering

ISSN 0733-9429 ***Impact Factor*** 1.004

Abstract :

Hurricane Katrina on August 29, 2005 resulted in several breaches in the levees and floodwalls protecting New Orleans. Of the 20 breaches, the 17th Street Canal breach caused much of the city flooding. In this case study paper, a 1:50 scale hydraulic model of this breach is built according to Froude similitude relationships to investigate flow through the breach and the neighborhood. It is assumed in the model that the bed is fixed and the levee below the floodwall remains intact during the time needed for closure, which was the case in the 17th Street Canal breach. The model is used first to study the breach and to map the water levels in the vicinity of the breach. Since there are many uncertainties of what we know about the actual breach, a range of conditions have been run as an attempt to bracket what might have happened with respect to flooding depths and initial failed attempts to close the breach. Then, the model is utilized to study various possible methods for breach closure utilizing the procedures developed for cofferdam closure for river diversion, toe dumping, transverse dumping, single- and multi-barrier embankments, etc. Closures at the breach location and at the Old Hammond Highway Bridge are investigated. Results from the case study show that some of these methods could have been utilized for Katrina breaches. However, special care should be considered when extending them to closing other similar breaches with intact sections.

Keywords:

Scale models; Hurricane Katrina; 17th Street Canal breach; breach closure procedures; cofferdam; sandbags; open channel flow; and weir flow.

Faculty of Engineering

Dep. **:** Mechanical Design and Production

Name **:** **Ayman Mohamed Ashraf Youssef**

Title **:** Performance Analysis of Manufacturing Systems Composed of Modular Machines Using the Universal Generating Function

Authors : Ayman M. A. Youssef and Hoda A. ElMaraghy

Published In **:** Manufacturing System

ISSN 0278-6125 ***Impact Factor*** 0.032

Abstract :

The modularity and reconfigurability of the building blocks of modern manufacturing systems have to be considered when evaluating their performance. This paper proposes a model for evaluating system availability and expected production rates for manufacturing systems that are composed of unreliable modular machines with multiple functionally parallel production units. These units are treated as independent modules, where the breakdown/stoppage of one unit does not necessitate the failure/stoppage of the whole machine and its production. The considered systems are multi-state manufacturing systems (MSMS) that can handle multiple parts simultaneously, and their structure is that of nonbuffered flow lines allowing paralleling of identical multi-state modular machines (MSMM) in each production stage. In spite of the inherent computational complexity of the proposed analysis, due to the large number of system states, it was made possible by the use of the universal generating function (UGF) technique, which proved efficient for large MSMS. The proposed model was applied to a number of case studies for demonstration and verification. The case studies were based on a family of engine front covers. The results show that machines with a larger number of modules, usually thought of as having lower availability, provided higher overall system availability in the case of machines with multiple spindles. Based on the new analysis and results, it is recommended that system designers favorably consider machines with multiple spindles rather than increasing the number of machines in parallel. These results provide an important support for the use of modular/reconfigurable equipment compared with traditional equipment, in spite of the higher cost.

Keywords:

Manufacturing Systems; Modular Machines; Performance Analysis; Universal Generating Function.

Faculty of Engineering

Dep. **:** Mechanical Design and Production

Name **:** **Abdel-Rahman A.F. Ragab**

Title **:** Prediction of Fracture Limit Curves in Sheet Metals Using a Void Growth Coalescence Model

Authors : Abdel-Rahman Ragab

Published In **:** Journal of Materials Processing Technology

ISSN 0924-0136 ***Impact Factor*** 0.82

Abstract :

The prediction of the forming limit curve at fracture (FLCF) is of industrial importance, particularly in sheet metal stretching where a successful process is controlled by fracture instead of necking. In this work an analytical model is proposed to predict FLCF for sheet metals which are biaxially stretched under various loading paths. The model considers growth and coalescence of voids nucleating at inclusions in a sheet metal matrix characterized by strain hardening and normal anisotropy. The fracture incident is detected by formation of shear bands between growing spheroidal voids. The dependence of FLCF on strain-hardening exponent, initial void volume fraction as well as anisotropy is indicated. The predictions are compared with few experimental results existing in the literature, for some alloys of steel and aluminum. The comparison indicating fair agreement suggests that the presented model is a preliminary one requiring further refinement.

Keywords:

Void Fracture limit curves; Ductile fracture growth; Shear bands.

Faculty of Engineering

Dep. **:** Mining, Petroleum and Metallurgical

Name **: Randa Mohamed Abdel-Karim**

Title **:** Correlation between the degree of sensitization and stress corrosion cracking susceptibility of type 304H stainless steel

Authors**:** A. Abou-Elazm, R. Abdel-Karim, I. Elmahallawi and R. Rashad

Published In **:** Corrosion Science

ISSN 0010-938X ***Impact Factor*** **1.895**

Abstract :

Austenitic stainless steel 304H is extensively used in the super heater tubes of power boiler due to its superior mechanical properties at elevated temperatures. However, its relatively high carbon content increases the susceptibility to sensitization and subsequent stress corrosion cracking. This work is concerned with investigation of the sensitization and stress corrosion cracking (SCC) of austenitic stainless steel grade 304H. Electrochemical potentiokinetic reactivation (EPR) test was used to evaluate the degrees of sensitization (DOS) of the studied alloy at various temperatures and periods of time. DOS increased with increasing sensitization time and temperature. This was confirmed by microstructure examination after EPR test. Boiling magnesium chloride (MgCl2) test was used to evaluate the susceptibility of 404H stainless steel to stress corrosion racking. DOS and test stress level had negative effects on time to failure in boiling MgCl2. The correlation between DOS and SCC was also discussed.

Keywords:

Stainless steel; 304H; Boiler tubes; Super heater tubes; DOS.

Faculty of Engineering

Dep. **:** Electronics

Name **: Emad El-Kashef**

Title **:** Novel Decomposition Method for Zircon

Authors**:** Emad El-Kashef

Published In **:** Journal of Electrical Engineering

ISSN 1582-4594 ***Impact Factor***

Abstract :

Zircon is one of the most stable chemical compound due to the strong bond between zirconia and silica in its molecule. Therefore, any extraction for zirconium metal or other useful zirconium compounds must start with the breakdown of such bond. The breakdown of zircon using the alkali fusion method is a well-known techniques and can be more favorable than using traditional chlorination breakdown if less drastic reaction conditions have been obtained. For such reason, the presence work study the fusion of zircon with equimolar ratio of KOH and NaOH as an alternative for using NaOH and Na2Co3. The influence of varying experimental conditions on the zircon fusion has been studied. These variables included the amount of alkali used, the temperature of the reaction, and the reaction duration. Using 20% excess of alkali mixture at 550 ◦C with only 60 min reaction time was favorable to get 96% zircon decomposition.

Keywords:

Zircon decomposition; Alkali fusion; Zirconia.

Faculty of Engineering

Dep. **:** Mining, Petroleum, and Metallurgical Engineering

Name **:** **Mahmoud Abu El Ela Mohamed Aly**

Title **:** Waterflood boosts oil production from field in Egypt

Authors : Mahmoud Abu El Ela and Ismail Mahgoub

Published In **:** Oil & Gas Journal

ISSN 0030-1388 ***Impact Factor*** 0.095

Abstract :

The primary goal of waterflooding is to displace oil with water in an efficient manner that maximizes the profitable recovery of oil from a reservoir. Billions of barrels of additional reserves have been generated through Waterflooding.

A cost-effective waterflooding plan allowed Khalda Petroleum Co. (an international joint-venture company) to improve oil recovery from the Tut field in Egypt's western desert. With waterflooding, producing rates from the field increased to 4,000 bo/d up from 500 bo/d with primary recovery methods.

Keywords:

Waterflooding; Secondary Recovery Method; Enhanced Oil Recovery.

Faculty of Engineering

Dep. **:** Mining, Petroleum, and Metallurgical Engineering

Name **:** **Mahmoud Abu El Ela Mohamed Aly**

Title **:** Changing feed conditions push Egyptian gas plant to upgrade CO2 membrane svstem

Authors : Mahmoud Abu El, Ismail Mahgoub

Published In **:** Oil & Gas Journal

ISSN 0030-1388 ***Impact Factor*** 0.095

Abstract :

Changing feed operating conditions at Khalda Petroleum Co.'s Salam gas processing plant in Egypt's Western Desert led the company to make changes to its membrane system for removing CO2.

The plant feed operating conditions had changed over time. An increase in feed flow rate and feed CO2 content combined with membrane permeability variations– due to natural membrane aging and use–required adjustment in system operating conditions to fulfill KPC targets of maximizing system hydrocarbon recovery and meeting acceptable CO2 sales-gas specification.

This article will present the flexibility of membrane systems when such changes occur and describe how performance of a two-membrane-stage system was optimized

Keywords:

Membrane; CO2 Removal system; Gas Sweetening; Natural Gas.

Faculty of Engineering

Dep. Mining, Petroleum, and Metallurgical Engineering

Name **Mahmoud Abu El Ela Mohamed Aly**

Title **:** Mercury Monitoring and Removal at Gas Processing Facilities: Case Study of Salam Gas Plant

Authors : Mahmoud Abu El Ela, Ismail Mahgoub, Mostafa Nabawi and Mohamed Abdel Azim

Published In **:** SPE Projects, Facilities & Construction

ISSN 1471-4175 ***Impact Factor***

Abstract :

Presence of mercury in natural gas can cause catastrophic failures of aluminum heat exchangers in gas-processing plants. In addition, the release of mercury can have serious health and environmental consequences. Recently, a number of methods for detecting mercury content in natural gas have been developed, and several techniques to remove mercury from the gas stream have been investigated.

Khalda Petroleum Company, an international joint venture company in Egypt, has recently found mercury as a naturally occurring component of hydrocarbons in the Egyptian Western Desert. Since then, Khalda Petroleum Company has concentrated on measuring and removing the mercury from its produced gas. A mercury removal unit was installed at the Salam gas-processing plant. The mercury contents of the gas at the inlet and outlet of the Salam mercury removal unit have been continuously monitored.

This paper gives a short overview of the biochemical effects of mercury, the corrosion mechanism of mercury and aluminum, analysis techniques for mercury in natural gas, and mercury removal techniques from natural gas. It also covers process design, field-analysis procedures, and the performance of Salam mercury removal unit.

Keywords:

Mercury Problems in Natural Gas; Mercury Removal System; Mercury Monitoring; Gas Processing; Treatment, Natural Gas.

Faculty of Engineering

Dep. **:** Mining, Petroleum, and Metallurgical Engineering

Name **:** **Mohamed Helmy Sabouh**

Title **:** Thermal heavy-oil recovery projects succeed in Egypt, Syria

Authors : Mahmoud Abu El Ela, Mohamed Samir, Helmy Sayyouh, and El Sayed El Tayeb

Published In **:** Oil & Gas Journal

ISSN 0030-1388 ***Impact Factor*** 0.095

Abstract :

To increase oil recovery from existing fields, operators in both Egypt and Syria have started producing heavy oil with thermal enhanced oil recovery processes.

In Egypt's Issaran oil field, cyclic-steam stimulation has increased oil production to 4,000 b/d from 50 b/d under primary recovery.

In Syria's Oudeh and Tishrine oil fields, pilot cyclic-steam stimulation has increased production to about 850 b/d from 550 b/d in Oudeh and about 2,500 b/d from 750 b/d in Tishrine. Each field's pilot has five 25-MMbtu steam generators. The pilots include 14 wells in Oudeh and 23 wells in Tishrine.

Keywords:

Development of oil fields; Thermal enhanced oil recovery; Steam injection.

Faculty of Engineering

Dep. **:** Structural Engineering

Name **:** **Maged Ezzat Georgy**

Title **:** Using Genetic Algorithms in Optimizing Construction Material Delivery Schedules

Authors : Maged E. Georgy and Sameh Y. Basily

Published In **:** Construction Innovation

ISSN 1471-4175 ***Impact Factor***

Abstract :

Construction materials are one of the most important resources in any construction project, as they consume about forty to sixty percent of the total budget of the project. Managing materials typically helps to improve the project financial performance. An appropriate ordering and delivery of materials, on one hand, ensures that the right quantities of materials are present on site when required, while on the other hand, prevents large costs associated with storing the materials from occurring. This paper introduces part of a study for optimizing the delivery and inventory of materials in construction projects. A newly devised approach that employs genetic algorithms for the optimization of material delivery schedules and their associated inventory control is presented. The objective function for such algorithm is to minimize the total costs associated with material deliveries. In addition, a computer system has been developed to examine and validate the adopted approach. This system was evaluated using a selected case study of a recent project in Egypt, where the results showed the system to produce material delivery plans that have reduced costs compared with their actual counterparts.

Keywords:

Construction Material; Order; Delivery; Schedule; Inventory Control; Optimization; Genetic Algorithms (GA).

Faculty of Engineering

Dep. **:** Structural Engineering

Name **:** **Maged Ezzat Georgy**

Title **:** Evolutionary Resource Scheduler for Linear Projects

Authors : Maged E. Georgy

Published In **:** Automation in Construction

ISSN 0926-5805 ***Impact Factor*** 1.664

Abstract :

Linear projects, such as, highways, tunnels, and pipelines, represent a class of construction projects typically characterized by their repetitive, but rather few, activities. As common in any construction undertakings, the proper management of construction resources plays a vital role in the successful execution of such projects. This is even more evident for the case of linear projects. Thus, the paper presents a genetic algorithm-based system for performing the necessary task of resource scheduling in linear projects under the linear scheduling method (LSM) scheme. Resource scheduling, particularly through the resource leveling process, is performed via minimizing either the day-to-day fluctuations in resource usage or the daily deviations from the average resource usage. This process further encompasses optimizing the rate of progress and buffer for each project activity. Implementation of the study was conducted in CAD environments using AutoLISP programming. For validation purposes, a comparison with another contemporary study in resource scheduling/leveling under the LSM scheme is carried out. An actual highway construction project is used in this comparison, where the presented approach shows broadly satisfying results.

Keywords:

Linear project; Linear scheduling method; Resource scheduling; Resource leveling; Genetic algorithms; CAD; AutoLISP programming.

Faculty of Engineering

Dep. **:** Structural Engineering

Name **:** **Maged Ezzat Georgy**

Title **:** Sustainable Construction Management: introduction of the operational context space (OCS)

Authors : Mohamed A. Matar, Maged E. Georgy, and Moheeb E. Ibrahim

Published In **:** Construction Management and Economics

ISSN 0144-6193 ***Impact Factor***

Abstract :

Sustainable construction is an emerging field of science that aims at incorporating the general sustainable development concepts into conventional construction practices. While the foundation of knowledge in this field is continuously expanding, sustainable construction is not yet standard industry practice. One major technical barrier that hinders enacting sustainable construction is the absence of an application framework that integrates both sustainability and construction practices at an operational level. This paper introduces a three-dimensional operational context space (OCS) platform that addresses this integration problem. The three dimensions are: (1) project life cycle phases, (2) project executing entities, and (3) sustainability performance parameters. Such OCS facilitates the association of responsibility, by assigning each sustainability requirement to a specific entity (or entities) during specific project phase(s), and further provides a numerical assessment for construction projects using sustainability as a criterion. Steps of constructing the OCS and how it could be employed in the evaluation and benchmarking of a project's environmental performance are elaborated on.

Keywords:

Sustainability; Sustainable Construction; Environmental Impact; Integration; Benchmarking.

Faculty of Engineering

Dep. **:** Structural Engineering Department

Name **:** **Mohamed Mahmoud Mahdy Marzouk**

Title **:** A superiority and Inferiority Ranking Model for Contractor Selection

Authors : Mohamed Marzouk

Published In **:** Construction Innovation: information, process, and management

ISSN 1471-4175 ***Impact Factor***

Abstract :

Contractor selection is carried out in order to choose a competent and capable contractor to do the work. To help in this selection, baselines are established to ensure that the contractors have the required skills, resources, and abilities to execute the project. Contractor selection is a multiple criteria decision making wherein several criteria are required to be evaluated simultaneously. This paper aims to propose a decision-making model. The proposed model utilizes superiority and inferiority ranking (SIR) method and it provides six preference structures in order to compare the performance of alternatives' criteria. As such, it can represent discrete or continuous criteria. The preference structures utilize indifference and preference thresholds to capture the characteristics of functions that represent the specified criteria. The model provides two aggregation procedures (simple additive weighting and technique for order preference by similarity to the ideal solution) to generate superiority and inferiority flows. The proposed model is generic and can be used as a tool to evaluate alternatives in several applications such as value engineering, optimum organization structure, and constructability analysis. It enables its users to define the criteria that are deemed important for evaluation. The proposed multiple criteria decision making (SIR method) is novel to construction. This ranking method can be utilized as a successful tool in contractor selection problem.

Keywords:

Procurement; Decision making; Contracts; Supplier evaluation.

Faculty of Engineering

Dep. **:** Structural Engineering Department

Name **: Mohamed Mahmoud Mahdy Marzouk**

Title **:** Special-Purpose Simulation Model for Balanced Cantilever Bridges

Authors : Mohamed Marzouk, Hisham Said, and Moheeb El-Said

Published In **:** Bridge Engineering

ISSN 1084-0702 ***Impact Factor*** 0.438

Abstract :

Construction of bridges' decks involves different types of resources that interact in a cyclic manner. Further, the construction operation inherits uncertainties and a variety of demands. Contractors have to select the construction method that suits project constraints including: project conditions, technical, financial, and time constraints. There are several construction methods that can be used to construct bridges' decks. This paper presents a special-purpose simulation model that aids government agencies and/or their representative in planning the construction of bridges' decks using cast-in-place and precast balanced cantilever techniques. The pouring of concrete in cast-in-place balanced cantilever techniques can be executed either by using pump station and pump line, or truck mixers, whereas, the precast balanced cantilever technique is carried out using two methods: 1) placement by an independent lifting apparatus; and 2) placement with the help of a beam and winch carried by the bridge deck itself. The developments made to model these methods are detailed in the paper. The proposed special purpose simulation model utilizes STROBOSCOPE as a simulation engine and is coded utilizing Visual Basic 6.0. All actual project data are fed to the developed model in order to carry out the what-if analysis.

Keywords:

Bridge construction; Computer models; Computer aided simulation.

Faculty of Engineering

Dep. **:** Structural Engineering Department

Name **:** **Mohamed Mahmoud Mahdy Marzouk**

Title **:** Handling Construction Polluations using Multi-Objective Optimization

Authors : Mohamed Marzouk, Magdy Madany, Azza Abou-Zied and Moheeb El-Said

Published In **:** Construction Management and Economics

ISSN 1144-6193 ***Impact Factor***

Abstract :

Quantitative assessment of emissions associated with construction projects should be carried out during the planning phase of the projects. This is important to detect and highlight any excesses of residuals during the construction phase. A newly developed framework is proposed to handle construction pollution using multiobjective optimization. The approach, utilized by the proposed framework, is based on calculating the generated pollution for each activity involved in the project, as a result of dust, harmful gases and noise. The results of the quantitative assessment are integrated in a utility function that expresses the amount of total pollution. Then, evolutionary genetic algorithms (GAs) are used to carry multi-objective optimization, considering three objective functions (project duration, project cost and total pollution). The proposed application considers the dynamic nature of construction activities including different types of relationships and the change of activities' criticality. An actual case study is worked out to demonstrate the practical use of the proposed framework and to investigate the sensitivity of its parameters.

Keywords:

Built environment; Genetic algorithms; Optimization.

Faculty of Engineering

Dep. **:** Systems &Biomedical Engineering

Name **:** **Abdalla Sayed Ahmed Mohamed**

Title **:** Modeling and Analysis of Glucose- Insulin Oscillatory System

Authors : Fadhl Al-Akwaa, Khaled Wahba and Abdalla Sayed Ahmed Mohamed

Published In **:** Bioinformatics and Medical Engineering

ISSN 1687-4811 ***Impact Factor***

Abstract :

Diabetes mellitus is a disease in the glucose-insulin endocrine metabolic regulatory system in which the pancreas either does not release insulin or does not properly use insulin to uptake glucose in the plasma- referred as hyperglycemia. Complications of diabetes mellitus include retinopathy, peripheral neuropathy, and blindness. Many mathematical models were proposed to understand the etiology of this disease.

The proposed model here is used to understand the mechanisms underlying ultradian oscillations of insulin and glucose levels. We show that the Glucose-Insulin, Glucose- Glucagon, and Insulin- Glucagon feedback loops are significantly important to produce these oscillations. The model confirms that the occurrence and properties of the oscillations were found to be critically dependent on the two delays between the insulin concentration and the subsequent effect on glucose production and glucose utilization.

The model is validated via several test inputs (glucose and insulin injections) and its behavior is compared with the experimental data to gain confidence that this model accurately represents the real endocrine system.

Keywords:

Diabetes mellitus; Glucose regulatory system; Ultradian oscillation; Feedback loops.

Faculty of Engineering

Dep. **:** Systems and Biomedical Engineering

Name **:** **Mohamed Abouelhoda**

Title **:** CoCoNUT: an efficient system for the comparison and analysis of genomes

Authors : Mohamed Abouelhoda, Stefan Kurtz, and Enno Ohlebusch

Published In **:** BMC Bioinformatics

ISSN 1471-2105 ***Impact Factor*** 3.78

Abstract :

Background: Comparative genomics is the analysis and comparison of genomes from different species. This area of research is driven by the large number of sequenced genomes and heavily relies on efficient algorithms and software to perform pairwise and multiple genome comparisons.

Results: Most of the software tools available are tailored for one specific task. In contrast, we have developed a novel system CoCoNUT (Computational Comparative geNomics Utility Toolkit) that allows solving several different tasks in a unified framework: (1) finding regions of high similarity among multiple genomic sequences and aligning them, (2) comparing two draft or multichromosomal genomes, (3) locating large segmental duplications in large genomic sequences, and (4) mapping cDNA/EST to genomic sequences.

Conclusion: CoCoNUT is competitive with other software tools w.r.t. the quality of the results. The use of state of the art algorithms and data structures allows CoCoNUT to solve comparative genomics tasks more efficiently than previous tools. With the improved user interface (including an interactive visualization component), CoCoNUT provides a unified, versatile, and easy-to-use software tool for large scale studies in comparative genomics.

Keywords:

Bioinformatics; Comparative Genomics; Sequence Analysis; Enhanced Suffix Array; Chaining Algorithms.

Faculty of Engineering

Dep. **:** Systems and Biomedical Engineering

Name **:** **Mohamed Abouelhoda**

Title **:** A fast algorithm for the multiple genome rearrangement problem with weighted reversals and transpositions

Authors : Martin Bader, Mohamed Abouelhoda, and Enno Ohlebusch

Published In **:** BMC Bioinformatics

ISSN 1471-2105 ***Impact Factor*** 3.78

Abstract :

Background: Due to recent progress in genome sequencing, more and more data for phylogenetic reconstruction based on rearrangement distances between genomes become available. However, this phylogenetic reconstruction is a very challenging task. For the most simple distance measures (the breakpoint distance and the reversal distance), the problem is NP-hard even if one considers only three genomes.

Results: In this paper, we present a new heuristic algorithm that directly constructs a phylogenetic tree w.r.t. the weighted reversal and transposition distance. Experimental results on previously published datasets show that constructing phylogenetic trees in this way results in better trees than constructing the trees w.r.t. the reversal distance, and recalculating the weight of the trees with the weighted reversal and transposition distance. An implementation of the algorithm can be obtained from the authors.

Conclusion: The possibility of creating phylogenetic trees directly w.r.t. the weighted reversal and transposition distance results in biologically more realistic scenarios. Our algorithm can solve today's most challenging biological datasets in a reasonable amount of time.

Keywords:

Bioinformatics; Comparative Genomics; Phylogeny; Genome Rearrangement; Reversal Distance.


Medical
Sciences Sector

Faculty of Medicine

Faculty of Medicine

Dep. **:** Andrology

Name **: Taha Abd El Naser Mohamed**

Title **:** Single Tubule Biopsy : A New Objective Microsurgical Advancement for Testicular Sperm Retrieval in Nonobstructive Azoospermia

Authors : Medhat Amer, Wael Zohdy, Taha Abd El Naser, Hosam Hosny, Mohamed Arafa and Emad Fakhry

Published In **:** Fertility and Sterilitry

ISSN 0015-0282 ***Impact Factor*** 3.168

Abstract :

Objective: The aim of this study was to measure the diameter of the seminiferous tubules(ST) during microdissection testicular sperm extraction (TESE) usin a micrometer fixed to one of the eyepices of the operating microscope to find a correlation between the extracted ST and TESE outcome.

Design : A prospective comparative study.

Setting : Adam international andrology and infertility clinic, Giza, Egypt.

Patients : Two hundred sixty-four patients with nonobstructive azoospermia (NOA) were included.

Intervention(s) : Patients underwent TESE using the open surgical technique. The STs were measured using the micrometer, and the tubule with the largest diameter was excised and freshly examined under an inverted microscope. If no spermatozoa were found, another sample was taken from the second most dilated tubule area , and then at random until sperm were found or a maximum of six samples were harvested. If no spermatozoa were detected, the contralateral testis was operated upon.

Main Outcome Measure (s) : The TESE outcome in relation to ST diameter.

Result(s) : The total sperm recover rate was 105 out of 264(39.8%). When the ST measured ≥ 300 micrometer, the sperm retrieval rate was 16 out of 19 (84.2%). When the ST diameter was < 300 micrometer, the sperm retrieval rate was 36.3% (89 out of 245).

Conclusions : During microdissection TESE, the best cutoff level of the ST diameter for harvesting testicular spermatozoa is 110 micrometer with sensitivity 86% and specificity 74.4% (AUC 0.653, 95% confidence interval 0.608- 0.663). When the ST diameter is 300 micrometer or more, a single tubule biopsy is usually sufficient to harvest enough testicular spermatozoa for intracytoplasmic sperm injection or sperm freezing with minimal tissue excision.

Keywords:

Azoospermia; Infertility; Microdissection TESE; Testis.

Faculty of Medicine

Dep. **:** Anesthesia

Name **:** **Mohammad Yosry Mohammad Ahmad**

Title **:** Controlled Hypotension in Adults Undergoing Choroidal Melanoma Resection; Comparison between the Efficacy of Nitroprusside and Magnesium Sulfate

Authors **:** Mohamed Yosry and Ihab Saad Osman

Published In **:** Anaesthesiology

ISSN 0265-0215 ***Impact Factor*** 1.435

Abstract :

Backgrounds and Objectives: To determine whether magnesium sulfate, could induce controlled hypotension, reduce choroidal blood flow, provide a "dry" operative field, and could be compared with nitroprussid in the recently raised issue of the use of hypotensive anesthesia in eye surgery i.e. for choroidal tumor surgery as choroid is the most fragile and vascular structure in eye.

Methods: Forty adult patients undergoing choroidal melanoma resection and anesthetized with 2.5 mg•kg–1 propofol IV followed by a constant infusion of 120 µg•kg–1•min–1, and remifentanil 1 µg•kg–1 iv., followed by a continuous infusion of 0.25 µg•kg–1•min–1were randomly assigned in two groups to receive either magnesium sulfate or nitroprusside IV,

Results: Controlled hypotension was achieved at the target systolic pressure of 80 mmHg within 107 ± 16, and 69 ± 4.4, sec for magnesium sulfate, and nitroprusside respectively. Choroidal blood flow decreased by 24 ± 0.3 % and 22 ± 3.3 % for magnesium sulfate, and nitroprusside respectively. Controlled hypotension was sustained in both groups throughout surgery, and the surgical field rating decreased in a range of 80% in both groups. Nitroprusside decreased pH and increased $PaCO_2$. There were no postoperative complications in any of the groups.

Conclusions: magnesium sulfate controlled hypotension, reduced intraoperative pressure and provided good surgical conditions for choroidal melanoma resection with no need for additional use of a potent hypotensive agent in adults.

Keywords:

Controlled hypotension; Choroidal melanoma; Nitroprusside; Magnesium sulfate.

Faculty of Medicine

Dep. **:** Community Medicine

Name **:** **Doa'a Ahmed Essawi Saleh**

Title **:** Incidence and Risk Factors for Hepatitis C Infection in a Cohort of Women in Rural Egypt

Authors **:** Doa'a A Saleh, Fatma Shebl, Mohamed Abdel-Hamid, Shaker Narooz, Nabiel Mikhail, Manal El-Batanony, Sherif El-Kafrawy, May ElDaly, Soraya Sharaf, Mohamed Hashem, Samer El-Kamary, Laurence S. Magder, Sonia K Stoszek and G Thomas Strickland

Published In **:** Transactions of the Royal Society of Tropical Medicine and Hygiene

ISSN 0035-9203 ***Impact Factor*** 1.924

Abstract :

A prospective cohort study of the incidence and risk factors for hepatitis C virus (HCV) infection was performed in 2171 pregnant women in three rural Egyptian villages who were HCV antibody (anti-HCV) and RNA (HCV-RNA) negative at baseline. During an average of 2.2 years follow up, 25 incident cases were observed, giving an estimated HCV incidence of 5.2/1000 person-years (PY). The infection rate correlated with community anti-HCV prevalence in pregnant women, while the perinatal incidence rate of 11.2/1000 PY was almost five times that of the non-perinatal rate (2.3/1000 PY). The data suggested iatrogenic perinatal risk factors were associated with infection in one village, while health education reduced infections in another. Among the 25 incident cases, eight were HCV-RNA negative when they were first found to be anti-HCV positive and one-third of the 15 viraemic cases with follow-up data available cleared their HCV-RNA after an average of 1.3 years. None of the 25 incident cases were jaundiced or had symptoms of hepatitis but elevated serum alanine aminotransferase levels confirmed hepatitis in nine. Our data suggest that asymptomatic HCV infections frequently occurred during the perinatal period but often cleared and that educating medical personnel on safe practices possibly reduced HCV transmission.

Keywords:

Hepatitis C virus; Incidence; Risk factors; Pregnancy; Rural health; Egypt.

Faculty of Medicine

Dep. **:** General Surgery – Pediatric Surgical Division

Name **:** **Nabil Mostafa Mahmoud Dessouky**

Title **:** Differences in Testicular Development Between 5-Reductase 2 Deficiency and Isolated Bilateral Cryptorchidism.

Authors **:** F. Hadziselimovic and N. Dessouky

Published In **:** Urology

ISSN 0022-5347 ***Impact Factor*** 4.053

Abstract :

Purpose: We demonstrated that infertility develops in most patients with steroid 5-reductase 2 deficiency.

Materials and Methods: We compared the testicular histopathology of boys with steroid 5-reductase 2 deficiency to that of boys with isolated bilateral cryptorchidism.

Results: Testes with steroid 5-reductase 2 deficiency lacked spermatocytes but had Ad spermatogonia and a normal germ cell count. In contrast, bilateral cryptorchid testes had severe germ cell depletion and the majority lacked Ad spermatogonia.

Conclusions: In patients with steroid 5-reductase 2 deficiency the impaired second step of germ cell maturation results in defective transformation of spermatogonia into spermatocytes. The position of the undescended testis appears to have nomajor pathological impact on the development of germ cells in patients with steroid 5-reductase 2 deficiency.

Keywords:

Testosterone 5-alpha-reductase; Cryptorchidism; Testis; Spermatocytes; Leydig cells.

Faculty of Medicine

Dep. **:** Internal Medicine

Name **:** **Salwa Ibrahim**

Title **:** Evaluation Of Renal Gene Expression Of Protein Kinase C (Pkc) Isoforms In Diabetic And Non-Diabetic Proliferative Glomerular Diseases

Authors : Salwa Ibrahim, Laila Rashid and Sawsen Fadda

Published In **:** the Scientific world Journal

ISSN 1537-744X ***Impact Factor*** 0.877

Abstract :

Background. The protein kinase C (PKC) family consists of thirteen members categorized as conventional or novel. We examined renal expression of two PKC isoforms α & β in renal biopsies of patients with diabetic nephropathy, Lupus nephritis (LN) (Class 3-4) and mesangioproliferative glomerulonephritis (MPGN).

Methods. PKC α & β renal gene expression was studied by quantitative real-time Reverse Transcription-PCR in 20 patients with type II diabetes and proteinuria (serum creatinine 2.04+0.85 mg/dl, 24-h urinary protein 3.61+1.75 g, eGFR 37.85+17.89 ml/min/1.73m2), 20 patients with proliferative LN (serum creatinine 1.67+1.50 mg/dl, 24-h urinary protein 4.46+5.01 g, eGFR 69.62+40.93 ml/min/1.73 ml/min/m2) and 20 patients with MPGN (serum creatinine 3.32+ 2.79mg/dl, 24-h urinary protein 4.65+4.11g, eGFR 32.62+29.56 ml/min/1.73 m2). Normal tissues from the normal pole of 4 kidneys removed because of renal tumor served as controls.

Results. PKC α gene was significantly increased in diabetic kidneys compared to LN and MPGN (316.95+ 152.94 ug/ml vs. 185.97+32.13 ug/ml and 195.46+ 46.45 ug/ml, $P<0.05$). PKC β gene was significantly increased in LN and MPGN groups compared to diabetic nephropathy group (41.01+14.03 ug/ml and 39.93+16.41ug/ml respectively vs. 18.20+4.91 ug/ml, $P<0.05$). Significant correlation was noted between the PKC α gene expression and proteinuria in diabetic patients.

Conclusion. The study demonstrated enhanced renal gene expression of PKC isoforms α and β in diabetic kidney tissues, lupus nephritis and mesangioproliferative glomerulonephritis but in different pattern. PKC α gene activity was significantly increased in diabetic patients with chronic kidney disease compared to lupus nephritis and mesangioproliferative glomerulonephritis groups.

Faculty of Medicine

Dep. **:** Internal Medicine

Name **:** **Salwa Ibrahim**

Title **:** Urinary Monocyte Chemoattractant Protein-1 (MCP-1) correlates with Parameters of Renal Injury in Type II DM

Authors : Salwa Ibrahim and Laila Rashid

Published In **:** International Medical Journal

ISSN 1341-2051 ***Impact Factor***

Abstract :

Diabetic nephropathy (DN) is the leading cause of end stage renal disease in western world. Increased number of interstitial macrophages has been observed in biopsies from patients with DN. Monocyte chemoattractant protein-1 (MCP-1) is the strongest known chemotactic factor for monocytes and is upregulated in DN.

Methods. Urinary MCP-1 level was assessed in 75 patients with type 2 DM (25 with & 25 without microalbuminuria and 25 with macroalbuminuria and renal impairment) and compared with matched healthy control subjects. HBA1c and estimated glomerular filtration rate (eGFR) derived from the abbreviated Modification of Diet in Renal Disease (MDRD) equation were examined in the study groups in relation to the urinary MCP-1.

Results. Urinary MCP-1 level was significantly higher in patients with micro and macroalbuminuria (167.41+50.23 and 630.87+318.10 ng/g creatinine respectively) as compared with normoalbuminuric patients and healthy controls (63.85+21.15 and 61.50+24.81 ng/g creatinine, $P<0.001$). MCP-1 correlated positively with urine albumin/creatinine ratio (ACR) ($r=0.75$, $P<0.001$), HBA1c ($r=0.55$, $P<0.001$) and inversely with eGFR ($r=-0.60$, $P<0.001$).

Keywords:

Diabetic Nephropathy; MCP-1; Renal injury.

Faculty of Medicine

Dep. **:** Internal Medicine

Name **:** **Salwa Ibrahim**

Title **:** Depression, Quality of life and Malnutrition Inflammation Scores in Hemodialysis Patients

Authors : Salwa Ibrahim and Omima El Salamony

Published In **:** Ndt Plus

ISSN 1753-0784 ***Impact Factor*** 0

Abstract :

Background. We explored the relationship between depressive symptoms and poor QoL on the one hand and sociodemographic profile, dialysis adequacy, serum chemistry, malnutrition-inflammation score (MIS) and symptom burden on the other hand.

Methods. 60 chronic hemodialysis patients participated in the study between June and August 2007. They were on thrice weekly dialysis at the Kasr El-Aini Nephrology and Dialysis centre, Cairo University Hospital. We used the Beck Depression Inventory (BDI) to assess the severity of depression, and SF-36 questionnaire to assess quality of life in the study group.

Results. 20 patients (33.33%) had BDI score > 15. Two patients (3.33%) had QoL total score less than 50, 8 patients (13.33%) had scores in the range of 50-60, 30 patients (50%) had a score range of 60-70, 12 patients (20%) had scores of 70-80, 8 patients (13.3%) had a score range 80-90. Employment was found to significantly affect BDI scores; all patients with BDI scores > 15 were unemployed. DSI and MIS showed significant positive correlations with BDI scores ($P<0.05$) and significant negative correlations with F-36 scores ($P<0.05$).

Keywords:

Depression; Inflammation; Malnutrition; Quality of life.

Faculty of Medicine

Dep. **:** Neurosurgery

Name **:** **Nasser M.F. El-Ghandour**

Title **:** Endoscopic cyst fenestration in the treatment of multiloculated hydrocephalus in children

Authors Nasser M.F. El-Ghandour

Published In **:** Neurosurgery : Pediatrics

ISSN 0022-3085 ***Impact Factor*** 1.99

Abstract :

Object. The treatment of multiloculated hydrocephalus is a difficult problem in pediatric neurosurgery. Definitive treatment is surgical, yet the approach remains controversial. The author has therefore reviewed his results with endoscopic cyst fenestration (ECF) in the management of this disease. **Methods.** The author presents the largest series to date of 24 patients with multiloculated hydrocephalus who were treated endoscopically. The group included 10 boys and 14 girls with a mean age of 12.5 months. Uniloculated hydrocephalus was not included in this study because it is a different entity that would be better studied separately. **Results.** Neonatal meningitis was the most common cause (in 9 patients), followed by intraventricular hemorrhage (in 6 patients), postoperative gliosis (in 6 patients), and multiple neuroepithelial cysts (in 3 patients). Multiplanar magnetic resonance images made early diagnosis possible and are indicated if the computed tomography scan shows disproportionate hydrocephalus. Surgical treatment included ECF (in 24 patients), endoscopic revision of a malfunctioning preexisting shunt (in 6 patients), placement of a new shunt (in 15 patients), and third ventriculostomy (in 3 patients). The ECF was easily performed in all cases through devascularization of the cyst wall by coagulation to prevent recurrence. The results are encouraging with improvement of hydrocephalus in 18 patients (75%). The need for shunt insertion was avoided in 3 patients (12.5%). Endoscopy reduced shunt revision rate from 2.9 per year before fenestration to 0.2 per year after fenestration. During the overall mean follow-up period (30 months), repeated ECF was necessary in 8 patients (33%). Six (75%) of these 8 patients had already undergone shunt treatment before endoscopy. Endoscopic complications were minimal (2 cerebrospinal fluid leaks and 2 minor arterial hemorrhages), and there were no deaths (0%). **Conclusions**. An ECF procedure is recommended in the treatment of multiloculated hydrocephalus because it is effective, simple, minimally

Faculty of Medicine

Dep. **:** Ophthalmology

Name **:** **Ahmed Mohamed Reda Awadein**

Title **:** Bilateral inferior oblique myectomy for asymmetric primary inferior oblique overaction

Authors : Ahmed Awadein,and Ghada Gawdat

Published In **:** Journal of AAPOS

ISSN 1091-8531 ***Impact Factor*** 0.98

Abstract :

Purpose: To evaluate the effects of bilateral symmetric inferior oblique myectomy on the symmetry of versions of patients with bilateral asymmetric primary inferior oblique overaction.

Methods: A prospective interventional study was performed on 32 consecutive patients with bilateral asymmetric inferior oblique overaction. All patients were treated with bilateral symmetric inferior oblique myectomy. The versions, degree of inferior oblique overaction, an degree of fundus torsion were analyzed in all patients before and after surgery. Patients were included in the study only if they achieved a minimum follow-up of 6 months.

Results: There was marked improvement in the degree of the inferior oblique overaction in all patients. Eighty-one percent of the patients had no residual inferior oblique overaction on either side by the end of the 6-month follow-up period. None of the patients developed clinically significant inferior oblique underaction. Consequently, there was marked improvement in the comitance of the versions. None of the patients developed significant A or V pattern after surgery.

Conclusions: In the presence of asymmetric inferior oblique overaction, bilateral symmetric inferior oblique myectomy may have a "symmetrizing" effect on the inferior oblique overaction and greatly improve the comitance of the versions.

Keywords:

Primary inferior oblique overaction; Myectomy; Unilateral; Symmetric; V-pattern; Comitance.

Faculty of Medicine

Dep. **:** Ophthalmology

Name **:** **Mohamed Ahmed Awadalla**

Title **:** Results of combined phacoemulsification and viscocanalostomy in patients with cataract and pseudoexfoliative glaucoma

Authors : K.M. Hassan And M.A. Awadalla

Published In **:** Ophthalmology

ISSN 1120-6721 ***Impact Factor*** 1.018

Abstract :

Purpose. Coexisting pseudoexfoliation glaucoma (PEXG) and cataract represents a special challenge. Although phacotrabeculectomy is an effective procedure, it combines the risks of phacoemulsification and trabeculectomy. This study evaluates phacoviscocanalostomy to manage eyes with PEXG and cataract.

Methods. We conducted a prospective noncomparative study that included 30 consecutive eyes of 22 patients with uncontrolled PEXG and cataract. Phacoviscocanalostomy was performed in all. Success rate based on postoperative intraocular pressure (IOP) reduction and requirement for topical antiglaucoma medication was evaluated as the main outcome measure. Visual acuity and complication rates were secondary outcomes.

Results. The mean follow-up was 18.6 months ± 6.2 (SD) (range 12 to 36 months). There was statistically significant decrease in mean IOP from 25.3 ± 5.2 mmHg preoperatively to 13.5 ± 6.0 mmHg 1 day after surgery ($p < .05$), 12.3 ± 3.1 mmHg at the final follow-up ($p < .05$), and at all evaluations to the last postoperative visit. Only three eyes (10%) required a single antiglaucoma medication to achieve the target IOP. A complete surgical success (IOP < 21 mmHg without medication) was achieved in 90%, while a qualified success (IOP < 21 mmHg with or without glaucoma medication) was achieved in 100% of cases. Complications included Descemet membrane microperforations (13.3%), macroperforation (3.3%), zonular dehiscence (6.6%), and transient postoperative IOP spike (3.3%).

Conclusions. Phacoviscocanalostomy achieved excellent IOP control and visual acuity improvement in pseudoexfoliation patients with coexisting cataract and glaucoma. Complication rate was low and did not affect the surgical outcome.

Keywords:

Pseudoexfoliation; Phacoviscocanalostomy; Glaucoma; Cataract.

Faculty of Medicine

Dep. **:** Ophthalmology

Name **:** **Mohamed Ahmed Awadalla**

Title **:** Comparison of higher-order aberrations after LASIK using disposable microkeratome 130 and 90 micron heads

Authors : M. Hosny, M.A. Awadalla

Published In **:** Ophthalmology

ISSN 1120-6721 ***Impact Factor*** 1.018

Abstract :

Purpose. To analyze and compare higher-order aberrations (HOAs) in cases of laser in situ keratomileusis (LASIK) flaps made using the Moria M2 disposable 130-µm head with those made using the 90-µm head.

Methods. Consecutive prospective comparative clinical trial. Ninety-four consecutive eyes of 48 patients were enrolled in this study. They were divided into two equal groups of 47 eyes that underwent wavefront-guided LASIK using VISX CustomVue (VISX, Santa Clara, CA) system. Corneal flap was created using the disposable Moria M2 130 µm in the first group and the 90 µm head in the second one. All patients were followed up for 6 months. Wavefront aberrations were measured at baseline, 1 month, and 6 months after surgery using the WaveScan (VISX Inc.) aberrometer. Root mean square (RMS) of HOAs, coma, and spherical aberration (SA) values were analyzed and compared in the two groups.

Results. At 6 months, values of RMS of HOAs, coma, and SA obtained from the 130-µm head group were 0.32±0.10 µm, 0.20±0.11 µm, and 0.18±0.08 µm, respectively. Values of RMS of HOAs, coma, and SA obtained from 90-µm head group were 0.33±0.12 µm, 0.19±0.10 µm, and 0.15±0.08 µm, respectively. Analyzing the data obtained revealed no statistically significant differences between the two groups. In each group, there was a significant decay of higher-order RMS and coma values from 1 month to 6 months.

Conclusions. HOAs following use of Moria M2 disposable 90 µm head are similar to those arising following use of the 130 µm.

Keywords:

Higher-order aberrations; RMS, Coma; Spherical aberrations; Thin-flap LASIK

Faculty of Medicine

Dep. **:** Orthopaedic Surgery

Name **:** **Khaled Hamed Salem**

Title **:** Treatment of Tossy III Acromioclavicular Joint Injuries Using Hook Plates and Ligament Suture

Authors : Khaled Hamed Salem

Published In **:** Orthopaedic Trauma

ISSN 0890-5339 ***Impact Factor*** 1.429

Abstract :

Objectives: The management of acromioclavicular (AC) injuries has long been debated. We analyzed our results in treating such cases using hook plates and ligament suture.

Design: Retrospective nonrandomized study.

Setting: Level I Trauma Center (University Hospital).

Patients: Twenty-five patients (mean age 41 years) with complete Tossy III AC joint disruptions. Using the Rockwood classification, 15 dislocations were classified as type V injuries, 9 as type III injuries, and 1 as a type IV injury.

Intervention: All patients were operatively treated using AC hook plates with ligament suturing after a median delay of 7 days. Main Outcome Measures: Clinical and radiographic evaluation using Constant–Murley functional score and Taft et al criteria.

Results: A retrospective clinical and radiographic evaluation of 23 patients was performed after an average follow-up period of 30 months. The mean Constant score was 97 (range, 90–100) points, and the mean Taft score was 10.6 points. All but 1 patient were satisfied with their treatment outcome. Eight cases showed some loss of reduction after plate removal. A poor correlation existed, however, between clinical and radiographic results. **Conclusions**: The hook plate is a reliable fixation tool for complete AC joint dislocations, ensuring immediate stability and allowing early mobilization with good functional and cosmetic results. Routine plate removal should however be reevaluated.

Keywords:

Acromioclavicular (AC) joint disruption; Coracoclavicular ligament suture; Hook plate; Tossy II.

Faculty of Medicine

Dep. **:** Orthopedic Surgery

Name **: Yasser Refaat Farid**

Title **:** The Subinguinal Retroperitoneal Approach for Fractures of the Acetabulum: A modified llioinguinal Approach

Authors : Yasser Refaat Farid

Published In **:** Journal of Orthopedic Trauma (2008; 22:270-275)

ISSN 0890-5339 ***Impact Factor*** 1.429

Abstract :

The classic ilioinguinal approach is a standard procedure with reportedly high success rates in many displaced fractures of the acetabulum. Intraarticular visualization and exposure of the anterior wall and the quadrilateral plate are its main limitations. We propose a subinguinal approach based on the principle used for oncologic procedures that naturally require large exposures. The approach involves a retroperitoneal access below the inguinal ligament to preserve the integrity of the inguinal canal and allow ample exposure of anterior and medial wall fractures as well as the anterior hip capsule. Despite the apparent magnitude of the procedure, closure is fairly simple and anatomical because repair of the inguinal canal floor is not required. This modification may compensate for the limitations of the classic approach without additional risks or morbidities.

Keywords:

Illionigunial approach; Retroperitoneal; Acetabular fracture; Anterior wall.

Faculty of Medicine

Dep. **:** Pediatrics

Name **:** **Magd Ahmed Kotb**

Title **:** Review of historical cohort: ursodeoxycholic acid in extrahepatic biliary atresia

Authors : Magd Ahmed Kotb

Published In **:** Pediatric Surgery

ISSN 0022-3468 ***Impact Factor*** 1.227

Abstract :

Background: Ursodeoxycholic acid is a bile acid that was found to increase bile flow, protect hepatocytes, and dissolve gallstones.

Purpose: The objective of this study is to review ursodeoxycholic acid in infants and children with extrahepatic biliary atresia.

Methods: We used a statistical analysis of data of records of infants and children having extrahepatic biliary atresia who underwent Kasai portoenterostomy and attended Hepatology Clinic, New Children's Hospital, Cairo University, Egypt, from May 1985 until June 2005.

Results: Of 141 infants with extrahepatic biliary atresia, 108 received ursodeoxycholic acid for mean duration ± SD of 252.6 ± 544.9 days in a dosage of 20 mg/kg per day. The outcome of infants who did not receive ursodeoxycholic acid and those who did was the following: 8 (24.2%) and 11 (10.18%) had a successful outcome (P = .043), 0 (0%) and 7 (6.4%) improved (P = .148), 25 (75.7%) and 84 (77.7%) had a failed outcome (P = .489), and none vs 5 died (4.6%) (P = .135), respectively. The predictors of successful outcomes were age less than 65 days at portoenterostomy (P = .008) and absence of ursodeoxycholic acid intake (P = .04) with a likelihood of a successful outcome that was 2.8, that associated with ursodeoxycholic acid intake.

Conclusion: In this cohort of infants with extrahepatic biliary atresia, ursodeoxycholic acid was not shown to be effective, and its use was associated with a plethora of hepatic and extrahepatic complications.

Keywords:

Ursodeoxycholic acid; Extrahepatic biliary atresia; Outcome

Faculty of Medicine

Dep. **:** Pediatrics

Name **:** **Magd Ahmed Kotb**

Title **:** Ursodeoxycholic acid in Neonatal Hepatitis and Infantile Paucity of Intrahepatic Bile Ducts: Review of historical cohort

Authors **:** Magd Ahmed Kotb

Published In **:** Digestive Diseases and Sciences

ISSN 0163-2112 ***Impact Factor*** 1.319

Abstract :

We retrospectively reviewed the role of ursodeoxycholic acid in infants having nonsurgical cholestasis attending the Hepatology Clinic, New Children Hospital, Cairo University, Egypt, from 1985 until 2005. Files of 496 infants with neonatal hepatitis and 97 with intrahepatic bile duct paucity were included; of them 241 (48.6%) and 52 (46.4%) received 20–40 mg/kg/day ursodeoxycholic acid for 319.2 ± 506.9 days and 480.3 ± 583.3 days, respectively. The outcome of infants with neonatal hepatitis with intake of ursodeoxycholic acid and those without was: 108 (44.8%) and 179 (70.2%) successful (P = 0.000), 11 (4.6%) and 13 (5.1%) improved (P = 0. 474), 112 (46.5%) and 61 (23.9%) suffered failed outcome (P = 0.000), and 10 (4.1%) and 2 (0.78%) died (P = 0.014), respectively. Likelihood of successful outcome with ursodeoxycholic acid intake was 0.345 (P = 0.000), and that of deterioration was 2.76 (P = 0.000). For those having intrahepatic bile duct paucity likelihood of successful outcome with ursodeoxycholic acid intake was 0.418 (P = 0.040) and that of deterioration was 2.64 (P = 0.028). Ursodeoxycholic acid failed in management of this cohort of infants with nonsurgical cholestasis.

Keywords:

Ursodeoxycholic acid; UDCA; Neonatal hepatitis; Cholestasis; Paucity of intrahepatic bile ducts; Vanishing bile duct syndrome.

Faculty of Medicine

Dep. **:** Radiology Department

Name **:** **Rania Farouk El Sayed**

Title **:** Pelvic Floor Dysfunction: Assessment with Combined Analysis of Static and Dynamic MR Imaging Findings

Authors **:** Rania F. El Sayed, Sahar El Mashed, Ahmed Farag, Medhat M. Morsy and Mohamed S. Abdel Azim,

Published In **:** Radiology

ISSN 0033-8419 ***Impact Factor*** 5.561

Abstract :

To prospectively analyze static and dynamic magnetic resonance (MR) images simultaneously to determine whether stress urinary incontinence (SUI), pelvic organ prolapse (POP), and anal incontinence are associated with specific pelvic floor abnormalities.

Materials and Methods: This study had institutional review board approval, and informed consent was obtained from all participants. There were 59 women: 15 nulliparous study control women (mean age, 25.6 years) and 44 patients (mean age, 43.4 years), who were divided into four groups according to chief symptom. Static T2-weighted turbo spin-echo images were used in evaluating structural derangements; functional dynamic (cine) balanced fast-field echo images were used in detecting functional abnormalities and recording five measurements of supporting structures. Findings on both types of MR images were analyzed together to determine the predominant defect. Analysis of variance and the Bonferroni t test were used to compare groups.

Results: In the four patient groups, POP was associated with levator muscle weakness in 16 (47%) of 34 patients, with level I and II fascial defects in seven (21%) of 34 patients, and with both defects in 11 (32%) of 34 patients. SUI was associated with defects of the urethral supporting structures in 25 (86%) of 29 patients but was not associated with bladder neck descent. Levator muscle weakness may lead to anal incontinence in the absence of anal sphincter defects. Measurements of supporting structures were significant (P <= .05) in the identification of pelvic floor laxity.

Conclusion: Combined analysis of static and dynamic MR images of patients with pelvic floor dysfunction allowed identification of certain structural abnormalities with specific dysfunction

Faculty of Medicine

Dep. **:** Radiology

Name **:** **Yasser Ragab**

Title **:** Bone marrow edema syndromes of the hip: MRI features in different hip disorders

Authors **:** Yasser Emad and Alaa Abou-Zeid

Published In **:** Clinical Rheumatology

ISSN 0770- 3198 ***Impact Factor*** 1.7

Abstract :

The objectives of this study were to describe the essential magnetic resonance imaging (MRI) features of bone marrow edema syndromes affecting the hip joint. In addition, to evaluate the role of MRI in the assessment of hip joint involvement in different clinical settings that may share similar clinical findings. After clinical assessment of possible hip disease, plain radiograph and MRI study of both hips were performed. Unilateral hip involvement was identified in 31 patients (91.2%), and bilateral hip involvement was found in three patients (8.8%), with a total of 37 hips evaluated by MRI. The final diagnoses in our patients were: reactive arthritis (1), transient osteoporosis (7), avascular necrosis (10), osteoarthritis (2), tuberculous arthritis (4), septic arthritis (2), osteomyelitis (2), sickle cell anemia (2), lymphocytic leukemia (1), and femoral stress fracture (3). Bone marrow edema affecting the hip is neither a specific MR imaging finding nor a specific diagnosis and may be encountered in a variety of hip disorders due to different etiologies. MR imaging is the modality of choice when clinical examination is suspect for hip disease and plain radiographs are normal or equivocal. Early diagnosis and treatment is important in many of the disorders. The literature is reviewed regarding bone marrow edema of the hip.

Keywords:

Avascular necrosis of the hip; Bone marrow edema syndromes; Magnetic resonance imaging of hip disorders; Transient bone marrow edema syndrome of the hip

Faculty of Medicine

Dep. **:** Radiology

Name **:** **Yasser Emad**

Title **:** Enhanced MRI in early undifferentiated oligoarthritis of the knee joints: Improvements already visible after 2 months of DMARDs treatment

Authors **:** Yasser Ragab, Ahmed Shaarawy, Hala Raafat and H. A. El-Kiki

Published In **:** Clinical Rheumatology

ISSN 0770-3198 ***Impact Factor*** 1.7

Abstract :

To describe (1) the findings with MRI in a series of patients with early undifferentiated oligoarthritis of the knee joint(s) and (2) the early effect after 2 months of treatment with only methotrexate (MTX) and hydroxychloroquine (HCQ) as disease-modifying antirheumatic drugs (DMARDs), 15 consecutive patients with undifferentiated oligoarthritis of the knee joint(s) were recruited. The mean age was 31.7 years (SD=8.1 years), and the mean disease duration was 15.3 months (SD=12.2 months). In all patients, synovial fluid analysis, RF, anti-CCP2 antibodies, ANA, CRP, ESR, and routine laboratory investigations were performed. Enhanced MRI was done at initial evaluation and after 2 months treatment. Four of the 15 patients had positive RF and 6 had positive anti-CCP2. After treatment with DMARDs, a regression was seen regarding effusion and synovitis in all patients; in one of three patients, the bone edema had regressed. Synovial thickening as measured by enhanced MRI decreased significantly ($p<0.01$) and correlated significantly with the improved ESR and CRP ($p<0.01$). After 2 months treatment with MTX and HCQ, the MRI improved considerably especially regarding synovial thickening. (Clin Rheumatol. 2008 Sep; 27(9):1177-82).

Keywords:

Early arthritis; Gadolinium-enhanced MRI; Methotrexate and hydroxychloroquine; Undifferentiated knee arthritis

Faculty of Medicine

Dep. **:** Radiology

Name **:** **Yasser Emad**

Title **:** Hippocampus dysfunction may explain symptoms of fibromyalgia syndrome. A study with single-voxel magnetic resonance spectroscopy

Authors **:** Yasser Ragab, Fatma Zeinhom and Alaa Abou-Zeid

Published In **:** Rheumatology

ISSN 1499- 2752 ***Impact Factor*** 3.1

Abstract :

To investigate dysfunction of hippocampus in patients with fibromyalgia syndrome (FM) using proton magnetic resonance spectroscopy (1H-MRS). METHODS: The case-control study was performed in 15 female patients, who met American College of Rheumatology criteria for classification of FM, and 10 healthy age-matched female controls. 1H-MRS was used to assess N-acetylaspartate (NAA), Choline (Cho), Creatine (Cr), and their ratios from both hippocampi. Levels of metabolites and their ratios were determined and the findings compared between the groups. RESULTS: NAA levels of right and left hippocampi differed significantly between patients and controls ($p < 0.05$). Cho levels in the right hippocampus were higher in the patient group than in controls ($p = 0.005$), while no differences were found with respect to Cr levels in both hippocampi. NAA/Cho and NAA/Cr ratios differed significantly between patients and controls ($p <0.05$), while the Cho/Cr ratio showed no differences. Significant correlations were found between language score and right Cho and right Cr levels ($p = 0.041$, $p = 0.006$, respectively), while no significant correlations were found between metabolites and their ratios with FIQ, VAS for pain, or number of tender points. CONCLUSION: The hippocampus was dysfunctional in patients with FM, as shown by lower NAA levels compared to controls, representing neuronal or axonal metabolic dysfunction. As the hippocampus plays crucial roles in maintenance of cognitive functions, sleep regulation, and pain perception, we suggest that metabolic dysfunction of hippocampus may be implicated in the appearance of these symptoms associated with this puzzling syndrome.

Keywords:

Fibromyalgia Syndrome; Proton Magnetic Resonance Spectroscopy; Hippocampus Dysfunction; Hippocampal Metabolites

Faculty of Medicine

Dep. **:** Rheumatology and Rehabilitation

Name **: Tamer A. Gheita**

Title **:** Differentiation of osteoporotic and neoplastic vertebral fractures by chemical shift {in-phase and out-of phase} MR imaging

Authors **:** Ragab Y, Emad Y, Gheita T, Mansour M and Abou-Zeid A.

Published In **:** Eur J Radiol

ISSN 0720-048X ***Impact Factor***

Abstract :

Objective: The objective of this study was to establish the cut-off value of the signal intensity drop on chemical shift magnetic resonance imaging (MRI) with appropriate sensitivity and specificity to differentiate osteoporotic from neoplastic wedging of the spine.

Patients And Methods: All patients with wedging of vertebral bodies were included consecutively between February 2006 and January 2007. A chemical shift MRI was performed and signal intensity after (in-phase and out-phase) images were obtained. A DXA was performed in all.

Results: A total of 40 patients were included, 20 with osteoporotic wedging (group 1) and 20 neoplastic (group 2). They were 21 males and 19 females. Acute vertebral collapse was observed in 15 patients in group 1 and subacute collapse in another 5 patients, while in group 2, 11 patients showed acute collapse and 9 patients (45%) showed subacute vertebral collapse. On the chemical shift MRI a substantial reduction in signal intensity was found in all lesions in both groups. The proportional changes observed in signal intensity of bone marrow lesions on in-phase compared with out-of-phase images showed significant differences in both groups ($P<0.05$). At a cut-off value of 35%, the observed sensitivity of out-of-phase images was 95%, specificity was 100%, positive predictive value was 100% and negative predictive value was 95.2%.

Conclusion: A chemical shift MRI is useful in order to differentiate patients with vertebral collapse due to underlying osteoporosis or neoplastic process.

Keywords:

Vertebral fractures; osteoporotic fractures; neoplastic fractures; chemical shift MRI (in-phase and out-of-phase); opposed-phased imaging; DEXA measurements.

Faculty of Medicine

Dep. **:** Tropical medicine

Name **:** **Gamal El Din Esmat Gameel**

Title **:** Predictors of a sustained virological response in patients with genotype 4 chronic hepatitis C

Authors : Gaml Esmat and Hesham El Makhzangy

Published In **:** Liver International

ISSN 1478-3223 ***Impact Factor*** 2.559

Abstract :

Objectives: To determine the clinical, biological, virological and histological predictive factors associated with a sustained virological response (SVR) to combined interferon therapy among Egyptian patients infected by genotype 4 hepatitis C virus (HCV).

Patients and Methods: Individual data from 250 patients with genotype 4 chronic hepatitis C, treated with different regimens of combined interferon, were analyzed. The primary end point was SVR defined as undetectable HCV RNA by polymerase chain reaction (PCR) 24 weeks after the end of treatment. Multivariate logistic regression analysis was performed to select the independent prognostic parameters associated with SVR.

Results: A sustained virological response was achieved among 137/250 (54.8%) patients. Baseline factors independently and negatively associated with SVR were serum a-fetoprotein (AFP) level (above 0.3 upper limit of normal) [odds ratio (OR) = 0.5, 95% confidence interval (CI): 0.2–0.8], severe fibrosis (Metavir score 4F2) (OR = 0.4, 95% CI: 0.2–0.8), presence of steatosis (OR = 0.5, 95% CI: 0.3–0.97) and standard interferon treatment (OR = 0.4, 95% CI: 0.2–0.8).

Conclusions: Among genotype 4 chronic hepatitis C patients, severe fibrosis, severe steatosis, treatment with standard interferon and a high serum AFP level were all negatively associated with SVR. Pretreatment serum AFP level should be considered in the routine assessment of factors predictive of a treatment response.

Keywords:

Adherence to treatment; Alfa-fetoprotein; Chronic hepatitis C; Pegylated interferon; Sustained virological response; Treatment response predictors.

Faculty of Medicine

Dep. **:** Tropical medicine

Name **:** **Gamal El Din Esmat Gameel**

Title **:** Symptomatic Acute Hepatitis C in Egypt: Diagnosis, Spontaneous Viral Clearance, and Delayed Treatment with 12 Weeks of Pegylated Interferon Alfa-2a

Authors : Gaml Esmat

Published In **:** PLoS ONE

ISSN 1932-6203 ***Impact Factor***

Abstract :

Background and Objectives: The aim of this study was to estimate the proportion of spontaneous viral clearance (SVC) after symptomatic acute hepatitis C and to evaluate the efficacy of 12 weeks of pegylated interferon alfa-2a in patients who did not clear the virus spontaneously.

Methods: Patients with symptomatic acute hepatitis C were recruited from two ‘‘fever hospitals’’ in Cairo, Egypt. Patients still viremic three months after the onset of symptoms were considered for treatment with 12 weeks of pegylated interferon alfa-2a (180 mg/week).

Results: Between May 2002 and February 2006, 2243 adult patients with acute hepatitis were enrolled in the study. The SVC rate among 117 patients with acute hepatitis C was 33.8% (95%CI [25.9%–43.2%]) at three months and 41.5% (95%CI [33.0%–51.2%]) at six months. The sustained virological response (SVR) rate among the 17 patients who started treatment 4–6 months after onset of symptoms was 15/17 = 88.2% (95%CI [63.6%–98.5%]).

Conclusion: Spontaneous viral clearance was high (41.5% six months after the onset of symptoms) in this population with symptomatic acute hepatitis C. Allowing time for spontaneous clearance should be considered before treatment is initiated for symptomatic acute hepatitis C.

Keywords:

Acute hepatitis C; HCV; Pegylated interferon Alfa-2a.

Faculty of Medicine

Dep. **:** Tropical medicine

Name **:** **Gamal El Din Esmat Gameel**

Title **:** Establishment of Hybrid Cell Lines Producing Monoclonal Antibodies to a Synthetic Peptide from the E1 Region of the Hepatitis C Virus

Authors : Gaml Esmat

Published In **:** Immunoassay & Immunochemistry

ISSN 1532-1819 ***Impact Factor*** 0.614

Abstract :

We aimed at establishing hybridoma cells secreting monoclonal antibodies (mAbs) against E1 synthetic peptide of HCV. BALB/c mice were immunized with HCV E1-synthetic peptide (GHRMAWDMM) and its spleenocytes were fused with the P3NS1 myeloma cell line. Two highly reactive and specific mAbs (10C7 IgG2b mAb, and 10B2 IgG1 mAb) were generated. The target HCV E1 antigen was identified at _38 kDa in serum of infected individuals. A newly developed ELISA detected the target antigen in 90% of sera from HCV RNA infected individuals with a specificity of 84%. So, the generated mAbs may provide promising probes for serodiagnosis of HCV infection

Keywords:

Hepatitis C virus; Hybridoma; Monoclonal antibody; Envelope 1; Antigen; Diagnosis.

Faculty of Medicine

Dep. **:** Tropical medicine

Name **: Gamal El Din Esmat Gameel**

Title **:** Outcome of Living Donor Liver Transplantation for Egyptian Patients with Hepatitis C (Genotype 4)-Related Cirrhosis

Authors **:** A. Yosry, G. Esmat, M. El-Serafy, W. Doss and M. Said

Published In **:** Transplantation Proceedings

ISSN 0041-1345 ***Impact Factor*** 1.027

Abstract :

Background: Hepatitis C virus (HCV) recurrence after living donor liver transplantation (LDLT) represents a challenging issue due to universal viral recurrence and invasion into the graft, although the incidence of histological recurrence, risk factors, and survival rates are still controversial.

Patients and Methods: Recurrence of HCV was studied in 38 of 53 adult patients who underwent LDLT.

Results: Recipient and graft survivals were 86.6% at the end of the follow-up which was comparable to literature reports for deceased donor liver transplantation (DDLT). Clinical HCV recurrence was observed in 10/38 patients (26.3%). Four patients developed mild fibrosis with a mean fibrosis score of 0.6 and mean grade of histological activity index (HAI) of 7.1. None of the recipients developed allograft cirrhosis during the mean follow-up period of 16 ± 8.18 months (range, 4–35 months). Estimated and actual graft volumes were negatively correlated with the incidence and early clinical HCV recurrence. None of the other risk factors were significantly correlated with clinical HCV recurrence: gender, donor and recipient ages, pretransplantation Child-Pugh or model for end-stage liver disease (MELD) scores, preand postoperative viremia, immunosuppressive drugs, pulse steroid therapy, and preoperative anti-HBc status.

Conclusions: Postoperative patient and graft survival rates for HCV (genotype 4)-related cirrhosis were more or less comparable to DDLT reported in the literature. Clinical HCV recurrence after LDLT in our study was low. Small graft volume was a significant risk factor for HCV recurrence. A longer follow-up and a larger number of patients are required to clarify these issues.

Keywords:

Recurrent hepatitis C; Liver transplantation; Living donor; HCV genotype 4.

Faculty of Medicine

Dep. **:** Obstetrics and Gynecology

Name **:** **Saeed Mohamed Ahmed Thabet**

Title **:** New Attempt Using Labio-Vestibular Flab Technique to Manage Circumcised Women with Rokitansky Syndrome

Authors **:** Asraf Mohamed, A. S. Goda, M. E. Wafa, E. R. El-Haroun and M. A. Kabir Chowdhury

Published In **:** acta obstetrician et gynecologica

ISSN 0001-6349 ***Impact Factor*** 1.247

Abstract :

Objective. To assess the efficacy of the labio-vestibular flap technique in managing circumcised women with Rokitansky syndrome and in correcting the sexuality defects caused by the anomaly present and by female circumcision. Design. A prospective, comparative, clinical study. Setting. Kasr El Aini School of Medicine, Cairo University, Egypt. Patients. Thirty-four circumcised patients with Rokitansky syndrome were divided into 2 groups; Group 1 consisted of 22 cases treated with the labio-vestibular flap technique, and Group 2 consisted of 12 cases treated with McIndoe's technique. Main outcome measures. Pre and postoperative clinical assessment of the newly formed vagina and sexuality. The new flap is formed of the remaining parts of the labia minora and the adjoining parts of the vestibule, and is used to cover the posterior and lateral walls. Meanwhile, the anterior wall is covered by the epithelium of the original blind vaginal pouch. The modified Kasr El Aini sexual assessment sheet assesses sexuality. Results. Rokitansky syndrome could be classified into 4 clinical types according to the degree of development of the uterus. The labio-vestibular technique was simple and not associated with any graft rejection, hair growth or contraction of the reformed tract. Dyspareunia and marital failure were less significantly recorded in the labio-vestibular technique than in McIndoe's technique. But, the most significant results were the improvement in sexuality, in addition to restoration of genital continuation, menstruation and fertility in some cases. Conclusion. The labio-vestibular flab technique is the most simple and most suitable line of treatment for circumcised cases with Rokitansky syndrome. In these cases, the technique achieved good results in correcting sexual defects after circumcision.

Keywords:

Rokitansky syndrome; Female circumcision; Neovagina; Labio-vestibular flap

Faculty of Pharmacy

Faculty of Pharmacy

Dep. **:** Biochemistry

Name **: Amira Abd Elmonem Shaheen**

Title **:** Protective effect of taurine and quercetin against renal dysfunction associated with the combined use of gentamycin and diclofenac

Authors : Adel A. Kheir Eldin, Amira A. Shaheen, Hanan M. Abd Elgawad and Nagwa I. Shehata

Published In **:** Indian Journal of Biochemistry and Biophysics

ISSN 0301-1208 ***Impact Factor*** 0.3

Abstract :

The potential protective effects of taurine and quercetin against gentamycin (GM)/diclofenac (DC) combined nephrotoxicity were investigated in rats. The results showed that administration of DC alone at an oral dose of 5 mg/kg b.wt/day for 28 days had no significant effect on the measured parameters, except for marked increase in urinary uronic acid excretion. Administration of gentamycin alone at a dose of 100 mg/kg b.wt/day i.p. for 8 days resulted in obvious nephrotoxicity. Combined GM-DC treatment led to the most pronounced nephrotoxicity, as indicated by greater elevations in serum urea, creatinine and urinary N-acetyl-β-D-glucosaminidase (NAG), together with severe depression of renal cortical Na+, K+-ATPase, compared to GM-treated group. Moreover, only combined treatment resulted in significant decrease in urinary potassium and renal cortical glutathione peroxidase (GSHPx), together with an increase in renal cortical lipid peroxidation products (LPOs). Co-administration of taurine or quercetin normalized creatinine clearance and ameliorated the elevations in urinary proteins, uronic acids, NAG and renal cortical LPOs in GM/DC treated rats. The study justifies the use of taurine and quercetin as renoprotective agents against the nephrotoxicity caused by GM/DC therapy.

Keywords:

Nephrotoxicity; Gentamycin; NSAIDs; Taurine; Quercetin.

Faculty of Pharmacy

Dep. **:** Biochemistry

Name **: Adel A Kheir Eldin**

Title **:** Effect Of Some Natural Antioxidants On Aflatoxin B1-Induced Hepatic Toxicity

Authors : Adel A. Kheir Eldin, Tarek M. K. Motawi and Nermin A. H. Sadik

Published In **:** Excli Journal

ISSN 1611-2156 ***Impact Factor***

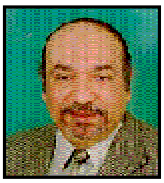
Abstract :

Aflatoxins are potent hepatotoxic and hepatocarcinogenic agents. This hepatotoxicity is thought to be mediated by their ability to generate reactive oxygen species and cause peroxidative damage. In the present investigation we assessed the ability of some natural antioxidants namely, vitamin E and Se, β-carotene, silymarin and coenzyme Q10 on aflatoxin B1 (AFB1)-induced hepatotoxicity in a rat model. Alanine and aspartate aminotransferases and alkaline phosphatase (ALP) were found to be significantly increased in the serum of AFB1 administered (250 µg/kg body weight/day for 2 weeks) rats, suggesting hepatic damage. There was a marked increase in the lipid peroxide levels and a concomitant decrease in the hepatic reduced glutathione (GSH) and serum protein thiol (PrSHs) along with a nearly twofold increase in hepatic glutathione-S-transferase (GST) activity. The significant increase in GST may be attributed to its being a phase II enzyme that predominately participates in the detoxification of the ultimate electrophilic metabolite AFB1-8, 9 epoxide. On the other hand, no significant change was detected in the activities of glutathione peroxidase (GPx), glutathione reductase (GR), glucose-6-phosphate dehydrogenase (G-6-PDH), cytochrome creductase and levels of DNA and RNA in the hepatic tissue of AFB1 administered rats. Results also revealed that cotreatment with studied antioxidants offered substantial hepatoprotective effects in the AFB1 administered rats. Moreover, results revealed that vitamin E and selenium combination and β-carotene are more efficient than coenzyme Q10 and silymarin in modulating the liver antioxidant enzymatic system.

Keywords:

Aflatoxin B1; Antioxidants; vitamin E; Selenium, β-carotene coenzyme Q10, silymarin; Rats; Liver.

Faculty of Pharmacy



Dep. **:** Biochemistry

Name **:** **Maged Barakat**

Title **:** Westernized-like-diet-fed rats: effect on glucose homeostasis, lipid profile, and adipocyte hormones and their modulation by rosiglitazone and glimepiride

Authors : Mona Schaalana, Hanan S. El-Abhar, Maged Barakat and Ezzedin S. El- Denshary

Published In **:** Diabetes and Its Complications

ISSN 1056-8727 ***Impact Factor*** 2.017

Abstract :

Wersternized diet, containing high fat diet intake combined with high consumption of softdrinks, is accused with the emerge of modern epidemic obesity and diabesity. Therefore, we aimed to study the effect of this diet combination on the homeostasis of glucose, lipids, and some adipohormones in rats and to simulate the metabolic perturbations induced by the unhealthy Westernized diet intake, leading to the development of type 2 diabetes. To achieve this, we divided male Wistar rats (80–120 g) into two main groups: the first was fed commercial normal fat diet and the second received an in-house-prepared high-fat diet (HFD), combined with fructose in drinking water for a period of 6 weeks, followed by a subdiabetogenic dose of streptozotocin (STZ) (35 mg/kg) to produce frank hyperglycemia. The effect of this diet alone or after 2 weeks of treatment with rosiglitazone or glimepiride on glucose homeostasis, lipid profile, and levels of resistin and leptin was studied. The HFD/fructose/STZ diet elevated fasting plasma glucose, fructosamine, insulin, and homeostasis model assessment (HOMA) index, as well as serum triglycerides (TGs), total cholesterol (TC), and low-density lipoprotein cholesterol, with a decrease in high-density lipoprotein cholesterol. Hepatic TG and TC levels, as well as serum activities of aspartate transaminase (AST), alanine transaminase (ALT), and lactate dehydrogenase (LDH), were increased, suggesting a diet-induced hepatic steatosis, beside the increased levels of serum resistin and leptin. Rosiglitazone corrected the altered parameters measured, except for liver TGs; similarly, glimepiride reinstated the inverted parameters but raised insulin level and, consequently, the HOMA index. These results show that this diet could be used to induce an effect that mimics human type 2 diabetes with its metabolic disturbances and is suitable for screening the antidiabetic agents used for management of this disease.

Keywords:

Westernized-like diet; Type 2 diabetes model; Insulin resistance; Rosiglitazone; Glimepiride; Adipocyte hormones; Leptin; Resistin

Faculty of Pharmacy

Dep. **:** Biochemistry

Name **: Nermin Abd El-Hamid Sadik Ibrahim**

Title **:** Effect of diallyl sulfide and zinc on cadmium-induced oxidative damage and trace elements level in the testes of male rats

Authors : Nermin A. H. Sadik

Published In **:** Food Biochemistry

ISSN 0145-8884 ***Impact Factor*** 0.923

Abstract :

The role of oxidative stress in cadmium (Cd) – induced testicular damage and its prevention by co-treatment with diallyl sulfide (DAS) or zinc (Zn) was investigated. Adult male rats were administered with 2.5 mg CdCl2/kg body weight five times a week for 4 weeks. Glutathione (GSH) and GSH-metabolizing enzymes activities were reduced, and nitric oxide level was increased in testes after Cd administration, indicating increased oxidative stress. Cellular damagewas indicated by the inhibition of testicular glucose-6-phosphatase and glutamic oxaloacetic transaminase activities. Cd also decreased total antioxidant capacity and increased acid phosphatase activity and glucose level in serum along with hemoglobin absorbance in testes. These changes were accompanied by an increase of testicular Cd, iron (Fe) and calcium (Ca) and adecrease of Zn, while on the contrary, no change in selenium (Se) was observed. The histological findings revealed severe testicular damage. Administration of DAS or Zn concurrently with Cd ameliorated Cd-induced testicular damage.

Faculty of Pharmacy

Dep. **:** Biochemistry

Name **:** **Nermin Abd El-Hamid Sadik Ibrahim**

Title **:** Effect of probucol and desferroxamine against adriamycin toxicity in cardiac and renal tissues of rats

Authors : Nermin A. H. Sadik, Manal F. Ismail and Amira A. Shaheen

Published In **:** Indian Journal of Biochemistry and Biophysics

ISSN 0301-1208 ***Impact Factor*** 0.3

Abstract :

Adriamycin (ADR) is an anthracycline glycoside with a broad spectrum of therapeutic activity against various tumors; however, its clinical use has been limited due to its cardiac and renal toxicity. Production of free radicals is involved in the development of ADR-induced toxicity. This study investigated the effect of pre-treatment with probucol (PROB, a hypolipidemic drug with a powerful antioxidant property) and desferroxamine (DFO, an iron chelator) against ADR-induced oxidative stress in the cardiac and renal tissues. Forty male Wistar rats were divided into four groups: Group I rats received ADR (3 mg/kg, b.w i.p.) over a period of 2 weeks for a cumulative dose of 18 mg/kg, b.w; Group II or ADR + PROB group rats were given PROB i.p. in a cumulative dose of 120 mg/kg, b.w. divided into twelve equal injections over a period of 4 weeks starting 2 weeks before ADR administration; Group III or ADR + DFO group rats were given DFO i.p. in six equal doses each 50 mg/kg, b.w.over a period of 2 weeks given 30 min before ADR injection; and Group IV rats were kept without treatment and served as a control. Results showed that ADR administration caused a significant increase in malondialdehyde (MDA) level in serum, heart and kidney tissues along with lowered activities of cardiac and renal glutathione peroxidase (GPx) and glutathione-S-transferase (GST). A significant decrease in cardiac glutathione (GSH) level and xanthine dehydrogenase (XD)/xanthine oxidase (XO) ratio, serum creatine kinase (CK) and renal glutathione reductase (GR) activities was also observed. Cytotoxic damage was evident from the histopathological examination in heart and kidney specimens. Pre-treatment with either PROB or DFO restored the cardiac, renal and serum MDA levels and renal GR and cardiac GST activities. They also caused significant elevation in serum CK activity and renal XD/XO ratio. PROB normalized the activity of cardiac GPx, whereas DFO restored activity of GPx in both cardiac and renal tissues. It can be concluded that pre-treatment with either PROB or DFO counteracts the state of oxidative stress associated with ADR treatment by modulating the antioxidant status of the animals.

Faculty of Pharmacy

Dep. **:** Biochemistry

Name **:** **Nermin Abd El-Hamid Sadik Ibrahim**

Title **:** Effects of diallyl sulfide and zinc on testicular steroidogenesis in cadmium-treated male rats

Authors : Nermin A. H. Sadik

Published In **:** biochemical and molecular toxicology

ISSN 1095-6670 ***Impact Factor*** 1.429

Abstract :

Cadmium (Cd) is one of the environmental pollutants that affect various tissues and organs including testis. Harmful effect of cadmium on testis is known to be germ cell degeneration and impairment of testicular steroidogenesis. In the present study, the effect of diallyl sulfide (DAS), a sulfur containing volatile compound present in garlic, and zinc (Zn) was investigated on cadmium-induced testicular toxicity in rats. Male adultWistar rats treated with cadmium (2.5 mg/kg body wt, five times a week for 4 weeks) showed decreased body weight, paired testicular weight, relative testicular weight, serum testosterone, luteinizing hormone, follicle-stimulating hormone, and testicular total antioxidant capacity (TAC) and protein levels. Testicular steroidogenic enzymes, such as 3β-hydroxysteroid dehydrogenase (3β-HSD) and 17β-hydroxysteroid dehydrogenase (17β-HSD), and marker enzymes, such as sorbitol dehydrogenase (SDH), lactate dehydrogenase (LDH), acid phosphatase (ACP), alkaline phosphatase (ALP), and glucose-6- phosphate dehydrogenase (G6PD), showed a significant decrease in activities whereas that of γ-glutamyl transferase was significantly increased after cadmium exposure. The results have revealed that concurrent treatment with DAS or zinc restored key steroidogenic enzymes, SDH, LDH, and G6PD and increased testicular weight significantly. DAS restored the TAC level and increased testosterone level and relative testicular weight significantly. Zinc restored testicular protein level and body weight. It can be concluded that cadmium causes testicular toxicity and inhibits androgen production in adult male rats probably by affecting pituitary gonadotrophins and that concurrent administration of DAS or zinc provides protection against cadmium-induced testicular toxicity.

Keywords:

Cadmium; Testis; Diallyl Sulfide; Zinc; Marker Enzymes; Testosterone; Rats.

Faculty of Pharmacy

Dep. **:** Pharmaceutical Chemistry

Name **:** **Ramzia Ismail El-Bagary**

Title **:** Stability Indicating Methods for the Determination of Some Anti-fungal Agents Using Densitometric and RP- HPLC Methods

Authors : Bahia Abbas Mousa Naglaa Mahmoud El-Kousy; Ramzia Ismail El-Bagary and Nashwah Gadalla Mohamed.

Published In **:** Chemical & Pharmaceutical Bulletin

ISSN 0009-2363 ***Impact Factor*** 1.223

Abstract :

Two chromatographic methods were developed for the determination of some anti-fungal drugs in the presence of either their degradation products or cortisone derivatives. The densitometric method determined mixtures of each of ketoconazole (KT), clotrimazole (CL), miconazole nitrate (MN) and econazole nitrate (EN) with the degradation products of each one. Mixtures of MN with hydrocortisone (HC) and of EN with triamcinolone acetonide (TA) were also successfully separated and determined by this technique. For KT and CL, a mixture of methanol: water: triethylamine (70 : 28 : 2 v/v) was used as a developing system and the spots were scanned at 243 nm and 220 nm for KT and CL, respectively. For MN and EN, a mixture of hexane: isopropyl alcohol: triethylamine (80 : 17 : 3 v/v) was used as a developing system and the spots were scanned at 225 nm for both drugs.

The HPLC method determined mixtures of CL or EN with their degradation products which were separated and quantified on a Zorbax C8 column. Elution was carried out using methanol: phosphate buffer pH 2.5 (65: 35 v/v) as a mobile phase at a flow rate of 1.5 ml/min and UV detection at 220 nm for CL. For EN, a mixture of methanol: water containing 0.06 ml triethylamine pH 10 (75 : 25 v/v) was used as a mobile phase at a flow rate of 1.5 ml/min and UV detection at 225 nm. The methods were also used to separate mixtures of CL with betamethasone dipropionate (BD) and EN with TA in a laboratory prepared mixture and in pharmaceutical preparations. The methods were sensitive, precise and applicable for determination of the drugs in pharmaceutical dosage forms.

Keywords:

Densitometric; HPLC; ketoconazole; Clotrimazole; Miconazole Nitrate; Econazole Nitrate

Faculty of Pharmacy

Dep. **:** Pharmaceutical Chemistry

Name **:** **Ramzia Ismail El-Bagary**

Title **:** Fluorimetric Determination of Gatifloxacin in Aqueous, Pure and Pharmaceutical Formulations

Authors : Taha M. A. Razek, Ramzia I. El-Baqary and Ahmed E. Ramadan

Published In **:** Chemical & Pharmaceutical Bulletin

ISSN 0003-2719 ***Impact Factor*** 1.362

Abstract :

A spectrofluorimetric method was developed for the determination of gatifloxacin. The emission peak for gatifloxacin was recorded at 495 nm upon excitation at 291 nm. The fluorescence process was pH dependent. The dynamic range for the method was 16–80 ng ml21with detection limit of 3.97 ng ml21.

A linear relationship between the fluorescence intensity and the concentration of gatifloxacin solution was obtained with r 2 of 0.9968. The method has successfully applied to the determination of gatifloxacin in pure, authentic and aqueous samples.

Keywords:

Gatifloxacin Determination; Fluorimetry; Pharmaceutical Formulations.

Faculty of Pharmacy

Dep. **:** Pharmaceutics and Industrial Pharmacy

Name **: Ahmed Hassan El-Shafeey**

Title **:** Preparation and In-vivo Pharmacokinetic Study of a Novel Extended Release Compression Coated Tablets of Fenoterol Hydrobromid

Authors : Ahmed H. Elshafeey and Elshaimaa I. Sami

Published In **:** AAPS PharmSciTech,

ISSN 1530-9932 ***Impact Factor*** 1.37

Abstract :

The aim of this study was to formulate extended release compression coated core tablets of fenoterol hydrobromide, a selective β2 adrenergic receptor agonist, in an attempt to prevent nocturnal asthma. Two hydrophilic polymers viz Kollidon® SR, Polyox® WSR 303 and a hydrophobic one (Precirol® ATO5) were employed. Compression coated tablets were formulated by preparing a core tablet containing 7.5 mg drug and various amounts of polymer and Emcompress® then compressed coated with the same polymeric materials. For comparison purpose different matrix tablets were also prepared employing the same polymers. In-vitro release studies were carried out at different pH (1.2 and 6.8). Pharmacokinetics of extended release tablets as well as commercially available immediate release tablets (Berotec®) were studied after oral administration to beagle dogs using a new developed LC-MS/ MS method with a lower limit of quantification of 1 ng/ml. Fenoterol release from compression coated tablets was significantly lower than matrix tablets. The mechanism of release was changed with the nature and content of polymer. The release pattern of drug from F16 containing 40 mg Kollidon® SR divided in the core tablet (15 mg) and the rest in the compressed coat (25 mg) showed a typical zero order release kinetic that could extend drug release >10 h and reasonable time for 75% to be released (t75) (8.92 h). When compared to immediate release Berotec® tablet the MRT was significantly extended from 7.03±0.76 to 10.93±1.25 h ($P<0.001$) and HVDt 50%Cmax was also significantly extended from 2.71±0.68 to 6.81±0.67 h with expected prevention of nocturnal asthma.

Keywords:

Compression coat; Extended release; Fenoterol hydrobromide; LC/MS/MS; Pharmacokinetics; Tablets.

Faculty of Pharmacy

Dep. **:** Pharmaceutics and Industrial Pharmacy

Name **: Ahmed A. Othman**

Title **:** The novel N-substituted benztropine analog GA2-50 possesses pharmacokinetic and pharmacodynamic profiles favorable for a candidate substitute medication for cocaine abuse

Authors : Ahmed Abd El-fattah Othman, Amy Newman and Natalie Eddington

Published In **:** Pharmaceutical Sciences

ISSN 0022- 3549 ***Impact Factor*** 2.94

Abstract :

GA2-50 is a novel N-substituted benztropine analog with improved potency and selectivity for the dopamine transporter. The pharmacokinetic and pharmacodynamic properties of GA2-50 were characterized as a part of its preclinical evaluation as a substitute medication for cocaine abuse. In vitro transport and metabolism studies as well as pharmacokinetic studies in rats were conducted. Effect of GA2-50 on the extracelluar nucleus accumbens (NAc) dopamine levels and on cocaine's induced dopamine elevation was evaluated using intracerebral microdialysis. GA2-50 showed high transcellular permeability despite being a P-glycoprotein substrate. GA2-50 was a substrate of human CYP2D6, CYP2C19, CYP2E1, rat CYP2C11, CYP2D1, CYP3A1, and CYP1A2; with low intrinsic clearance values. In vivo, GA2-50 showed high brain uptake (R(i) approximately 10), large volume of distribution (V(ss) = 37 L/kg), and long elimination half-life (t((1/2)) = 19 h). GA2-50 resulted in 1.6- and 2.7-fold dopamine elevation at the 5 and 10 mg/kg i.v. doses. Dopamine elevation induced by GA2-50 was significantly reduced, slower and longer lasting than previously observed for cocaine. GA2-50 had no significant effect on cocaine's induced dopamine elevation upon simultaneous administration. Results from the present study indicate that GA2-50 possesses several attributes sought after for a substitute medication for cocaine abuse.

Keywords: Cocaine Abuse; Substitution Therapy; Pharmacokinetics; Pharmacodynamics; Microdialysis.

Faculty of Pharmacy

Dep. **:** Pharmaceutics and Industrial Pharmacy

Name **: Hanan Mohamed El Laithy**

Title **:** Self-Nanoemulsifying Drug Delivery System for Enhanced Bioavailability and Improved Hepatoprotective Activity of Biphenyl Dimethyl Dicarboxylate

Authors : Hanan M. El-Laithy

Published In **:** Current Drug Delivery

ISSN 1567-2018 ***Impact Factor***

Abstract :

Biphenyl Dimethyl Dicarboxylate (BDD) is insoluble in aqueous solution and the bioavailability after oral administration is low. Self-nanoemulsifying drug delivery system (SNEDDS) containing BDD has been successfully prepared using carefully selected ingredients which are less affected by pH and ionic strength changes to improve its bioavailability. SNEDDS is an isotropic mixture of lipid, surfactant, and cosurfactant which are spontaneously emulsified in aqueous medium under gentle digestive motility in the gastrointestinal tract. Pseudo ternary phase diagrams composed of various excipients were plotted to identify self- nanoemulsifying area. Droplet size changes upon dilution with aqueous media and *in vitro* release of BDD from SNEDDS in 0.1N HCl and phosphate buffer (pH 7.4) were studied and compared with commercial chinese pilules® and Pennel capsules ®. The hepatoprotective activity upon oral administration of SNEDDS against carbon tetrachloride induced oxidative stress in albino rats was assessed by measuring biochemical parameters like serum glutamic oxalacetate transaminase (SGOT), serum glutamic pyruvate transaminase (SGPT) and lactate dehydro- genase (LDH). Results showed that using a proper ratio of Tween 80 to Transcutol as surfactant and co-surfactant respectively and Miglyol 812 as oil to surfactants mixture resulted in production of infinitely diluted formulations in nano droplet size range. BDD self nano emulsified formula composed of 20% Miglyol 812 , 60% Tween 80 and 20% Transcutol released 99% of the drug very rapidly within 10-15 minutes regardless of the pH condition. The oral absorption and bioavailability of BDD self nanoemulsified formula in albino rats were significantly enhanced ($P < 0.01$) with an average improvement of 1.7 and 6-folds that of commercial chinese pilules® and Pennel capsules® respectively. This improvement was also confirmed histopathologically in chemically injured rats and by the significant decrease in elevated liver enzymes level.

Keywords: Biphenyl Dimethyl Dicarboxylate; Self-Nanoemulsified Drug Delivery System; Hepatoprotective Activity; Liver Enzymes; Bioavailability; In-Vitro Release.

Faculty of Pharmacy

Dep. **:** Pharmaceutics and Industrial Pharmacy

Name **: Hanan Mohamed El Laithy**

Title **:** Optimization and evaluation of amoxicillin medium chain fatty acids/salts microemulsions: intestinal absorption and cytotoxicity

Authors : Alia Badawi, Hanan M. El-Laithy and Hend abo emara

Published In **:** Journal Drug Del. Sci. Tech

ISSN 1773-2247 ***Impact Factor***

Abstract :

Pseudoternary microemulsions have been developed which, in addition to non-ionic medium-chain glycerides and fatty acids such as caprylic (C8) and capric acids (C10), incorporate ionic lipids, i.e. the sodium salts of fatty acids. The permeability, absorption enhancing activity were evaluated using phenol red as a marker molecule and the cytotoxicity of these lipid microemulsions were investigated in rats by measuring the amount of proteins and lactate dehydrogenase enzyme released in the intestinal fluids. The histopathological follow up of colonic membranes after administration of microemulsions was used to assess tissue damage. In vitro permeability and absorption studies showed that caprate based systems containing captex 200 (20%), surfactant mixture of polysorbate 80: sodium caprate 4:1 (60%), capmul MCM C8: capric acid 1:1(20%) significantly ($P < 0.05$) increased the permeability of phenol red compared to other microemulsion systems with 4 times improved colonic absorption. Paracellular absorption was the suggested enhancing mechanism where no good correlation could be found between the AUC of phenol red and the amounts of lactate dehydrogenase or proteins released in the presence of incorporated permeation enhancers. Intracolonic administration of caprate microemulsion containing only 80 mg amoxicillin was able to deliver amoxicillin in enhanced time (11 min) and concentration (9.85 µg/mL) compared with a commercial product containing 500 mg amoxicillin with unaltered membrane integrity. This supports the short term use of these microemulsion formulations to improve the intestinal absorption of water soluble low permeable compounds without any toxicity concerns.

Keywords:

Microemulsions; Medium-chain glycerides; Medium-chain fatty Acids/salts; Intestinal absorption; Amoxicillin; Cytotoxicity markers.

Faculty of Pharmacy

Dep. **:** Pharmaceutics and Industrial Pharmacy

Name **:** **Hanan Mohamed El Laithy**

Title **:** Chitosan Based Nanocarriers for Indomethacin Ocular Delivery

Authors : Alia Badawi, Hanan M. El-Laithy, Riad El Qidra, Hala El Mofty and Mohamed El dally

Published In **:** Archives of Pharmacal Research

ISSN 0253-6269 ***Impact Factor***

Abstract :

Two different chitosan (CS) nanocarriers namely nanoparticles and nanoemulsion were developed to prolong Indomethacin (IM) precorneal residence time and to improve its ocular bioavailability the main limitations in its management of postoperative inflammation and intraocular irritation after cataract extraction. CS-nanoparticles were developed by modified ionic gelation of CS with tripolyphosphate while nanoemulsion was prepared by spontaneous emulsification technique. Transmission electron microscopy revealed regular well identified spherical shape. The nanoparticles had a mean size of 280 nm, a zeta potential of + 17 mV and high loading efficiency of 84.8 % while the mean size of nanoemulsion was affected by the nature of the surfactant used and varies between 220- 690 nm. In vitro release studies, performed under sink conditions, revealed small initial burst release during the first hour followed by slow gradual drug release of 76 and 86% from nanoparticles and nanoemulsion respectively during a 24 h peroid. In vivo studies and histopathological examination revealed that eyes of rabbits treated with nanoemulsion showed clearer healing of corneal chemical ulcer with moderate effective inhibition of polymorph nuclear leuckocytic infiltration (PMNLs) compared with nanoparticles preparation. Moreover, following topical instillation of CS-nanoemulsion to rabbits, it was possible to achieve therapeutic concentration of IM in the cornea through out the duration of the study and fairly high IM level in inner ocular structure, aqueous humor. These levels were significantly higher than those obtained following instillation of IM solution. Therefore, CS nanocarriers developed in this study were able to contact intimately with the cornea providing slow gradual IM release with long term drug level thereby increasing delivery to both external and internal ocular tissues.

Keywords:

Chitosan; Nanoparticles; Nanoemulsion; Indomethacin; Ocular delivery; Ionic gelation.

Faculty of Pharmacy

Dep. **:** Pharmaceutics and Industrial Pharmacy

Name **:** **Mohamed Aly Haider**

Title **:** In Vitro Chondrogenesis of Mesenchymal Stem Cells in Recombinant Silkelastinlike Hydrogels

Authors : Mohamed Haider, Joseph Cappello, Hamidreza Ghandehari, and Kam W. Leong

Published In **:** Pharmaceutical Research

ISSN 0724-8741 ***Impact Factor*** 3.441

Abstract :

Purpose. In this study the chondrocytic differentiation and cartilage matrix accumulation of human mesenchymal stem cells (hMSCs) were investigated after encapsulation in a genetically engineered silkelastinlike protein polymer SELP-47 K as an injectable matrix for delivery of cell-based therapeutics. Materials and Methods. hMSCs were encapsulated in SELP-47 K and cultured for 4 weeks in chondrogenic medium with or without transforming growth factor-b3 (TGF). Chondrogenic differentiation was evaluated by histological, RNA and biochemical analyses for the expression of cartilage extracellular matrix components. Results. Histological and immunohistochemical staining revealed that the cells acquired a rounded morphology and were embedded in significant amounts of chondrogenic extracellular matrix. Reverse transcriptase (RT)-PCR showed an up-regulation in aggrecan, type II and type X collagen and SOX9 in presence of TGF-b3. By day 28, constructs cultured in the presence of TGF-b3 exhibited significant increase in sulfated glycosaminoglycan and total collagen content up to 65 and 300%, respectively. Conclusions. This study demonstrates that SELP-47 K hydrogel can be used as a scaffold for encapsulation and chondrogenesis of hMSCs. The ability to use recombinant techniques to precisely control SELP structure enables the investigation of injectable protein polymer scaffolds for soft-tissue engineering with varied physicochemical properties.

Keywords:

Chondrogenesis; Genetically Engineered Polymers; Hydrogels; Silk-Elastinelike Polymers; Tissue Engineering.

Faculty of Pharmacy

Dep. **:** Pharmacognosy

Name **:** **Fathy Mohamed Soliman**

Title **:** Antidiabetic and Antioxidant Activities of Major Flavonoids of Cynanchum acutum L. (Asclepiadaceae) growing in Egypt

Authors : Ghada A. Fawzy, Hossam M. Abdallah, Mohamed S. A. Marzouk, Fathy M. Soliman, and Amany A. Sleem.

Published In **:** Zeitschrift fur Naturfoschung C

ISSN 0939-5075 ***Impact Factor*** 0.756

Abstract :

Seven flavonoids were isolated from the butanol fraction (BF) of the methanolic extract of the aerial parts of Cynanchum acutum L. (Asclepiadaceae). All of which have been isolated for the first time from the genus Cynanchum. Their structures were established as quercetin 3-O-β-galacturonopyranoside (1), quercetin 7-O-β-glucopyranoside (2), tamarixtin 3-O-β-galacturonopyranoside (3), kaempferol 3-O-β-galacturonopyranoside (4), 8-hydroxyquercetin 3-O-β-galactopyranoside (5), tamarixtin 3-O-α-rhamnopyranoside (6), and tamarixtin 7-O-α-arabinopyranoside (7), on the basis of their chromatographic properties, chemical and spectroscopic data. Major isolated flavonoids 1, 2 and 3 were found to exhibit significant antioxidant and antidiabetic activities (by measuring blood glucose and insulin levels). This is the first report about the antioxidant and antidiabetic activities of compounds 1 - 3.

Keywords:

Cynanchum acutum; Antioxidant; Antidiabetic.

Faculty of Pharmacy

Dep. **:** Pharmacognosy

Name **:** **Marwan M. Shabana**

Title **:** Flavonoid Constituents of Carduncellus mareoticus (Del.) Hanelt and their Biological Activities

Authors : Marwan M. Shabanaa, Moshera M. El-Shereia, Mohamed Y. Moussaa, Amany A. Sleemb and Hosam M. Abdallaha

Published In **:** NPC Natural Product Communications

ISSN 1934-578X ***Impact Factor*** 0.435

Abstract :

The total ethanolic extract (TEE) of Carduncellus mareoticus (Del.) Hanelt showed antioxidant and antihyperlipidemic activities, which were attributed to the ethyl acetate fraction (EAF). Also TEE showed potent cytotoxic activity against a cervix cancer cell line (IC50 = 5 µg/mL) and moderate activity against a breast cancer cell line. Chemical investigation of EAF led to the isolation of a new flavonoid, 8-hydroxy-5-methoxyluteolin 7-O-β-D-glucopyranoside (11), along with ten known metabolites (1-10). Three of these compounds, isorhamnetin 3-O-β-D-glucopyranoside (7), luteolin 3'-O-β-D-glucopyranoside (8), and eriodictyol 7-O-β-D-glucopyranoside (9) are reported for the first time from the genus Carduncellus, and two compounds, chrysoeriol 7-O-β-D-glucopyranoside (6), and luteolin 7-O-β-D-glucopyranoside (10), for the first time from
C. mareoticus. The rest of the isolated compounds, chrysoeriol (1), luteolin (2), quercetin (3), kaempferol 3-O-α-Larabinopyranoside (4), and kaempferol 3-O-β-D-glucopyranoside (5) have been previously reported from the genus.

Keywords:

Carduncellus mareoticus; 8-hydroxy-5-methoxyluteolin 7-O-β-D-Glucopyranoside; Cytotoxic; Antihyperlipidemic; Flavonoids; Antioxidant.

Faculty of Pharmacy

Dep. **:** Pharmacology and Toxicology

Name **:** **Sanaa A. Kenawy**

Title **:** Sildenafil augments the beneficial hemodynamic and histopathological effects of amlodipine in nitric oxide-deficient hypertensive rats: Role of nitric oxide–cyclic GMP pathway

Authors : M.E. Aboutabl, M. Raafat ,Y.A. Maklad, S.A. Kenawy and A.G. El Din

Published In **:** Pharmacological Research

ISSN 1043- 6618 ***Impact Factor*** 1.895

Abstract :

The association of erectile dysfunction (ED) with cardiovascular diseases is so common. This study was carried out to investigate possible impact of sildenafil; the prototype phosphodiesterase 5 inhibitor used for treatment of ED, on the beneficial hemodynamic and histopathological effects of the prototype third generation calcium antagonist, amlodipine, in nitric oxide (NO)-deficient hypertensive rats. Hypertension was induced by 4-weeks treatment with Nω-nitro-L-arginine-methyl ester (L-NAME). Animals were allocated into five groups: normal control, hypertensive control, amlodipine-treated group, sildenafil-treated group and combined treatment group. Drug treatment was started 2 weeks after L-NAME and continued together with L-NAME to the end of the treatment period. Systolic blood pressure (SBP), plasma nitrate/nitrite (NOx) and plasma cGMP levels were evaluated at the end of the treatment period. Aortic and renal structural alterations were also investigated. L-NAME treatment caused elevation of SBP, reduction in plasma NOx and cGMP levels as well as adverse histological alterations in the tissues studied. Amlodipine normalized SBP, restored plasma NOx and cGMP levels and ameliorated the adverse histological changes seen in NO-deficient rats. When combined with sildenafil, both hemodynamic and histopathological effects of amlodipine were augmented with an underlying enhanced elevation of both plasma NOx and cGMP levels to statistically higher values than amlodipine alone. These results show that sildenafil augments the beneficial hemodynamic and histopathological effects of amlodipine in NO-deficient hypertensive rats with a pivotal role being played by NO–cGMP pathway. Whether this pharmacodynamic interaction could exist in other models of hypertension that do not share such biochemical derangement warrants further investigations.

Keywords: Sildenafil; Amlodipine; Nitric oxide deficiency; Hypertensive rats; cGMP.

Faculty of Pharmacy

Dep. **:** Microbiology

Name **:** **Sanaa Ali Fadel Hassan**

Title **:** Differential glycosaminoglycan binding of Chlamydia trachomatis OmcB protein from serovars E and LGV

Authors : Sanaa Fadel and Adrian Eley

Published In **:** Medical Microbiology

ISSN 0022-261 ***Impact Factor*** 2.021

Abstract :

In this study, we produced Escherichia coli expressing OmcB from serovar E and compared this OmcB to OmcB from serovar LGV1. Infectivity inhibition assays carried out with serovars LGV1 and E of C. trachomatis in the presence of recombinant OmcB showed considerable (60 %) inhibition of infectivity. In the presence of heparan sulphate, there was significant inhibition (68 %) of adherence of E. coli expressing OmcB from serovar LGV1 only. In a further experiment, recombinant OmcB from serovar LGV1 showed minimal binding to glycosaminoglycan (GAG)-deficient cells, whilst to the same cells, recombinant OmcB from serovar E showed binding equal to that to the wild-type cells. Our experiments strongly suggest that OmcB from serovar E, in contrast to that from serovar LGV1, is not binding to host cells through a GAG-dependent mechanism.

Keywords:

Chlamydia Trachomatis; Glycosaminoglycan; Recombinant Omcb Protein.

Faculty of National Cancer Institute

Faculty of National Cancer Institute

Dep. **:** Cancer Biology

Name **: Marwa Wagih Kamel Bayommi**

Title **:** Catecholestrogens induce oxidative stress and malignant transformation in human endometrial glandular cell: Protective effect of catechol-O-methyltransferse

Authors : Salma A. Salma, Marwa Kamel , Mohamed-Hakim Ben Nasser, Ayman Al-Hendy, Shaleen Botting and Concepion Arrastia

Published In **:** Int.J.Cancer:123, 1246-1254 (2008)

ISSN 0020-7136 ***Impact Factor*** 4.555

Abstract :

Prolonged exposure to unopposed estrogen is a major risk factor for the development of endometrial cancer. Oxidative metabolism of estradiol (E2) into the catechol estrogen (CEs), 4-hydroxyestradiol (4-OHE2) and 2-hydroxyestradiol (2-OHE2), may play an important role in estrogen carcinogenicity. CEs can be oxidized to the corresponding ortho-quinone derivatives with concomitant formation of the reactive oxegen species (ROS). Catechol-O-methyltransferase (COMT) is the major enzyme involved in the detoxification of CEs in extrahepatic tissues. We investigated the potential of E2, 2-OHE2 and 4-OHE2 to induce microsatellite instability (MSI) and neoplastic transformation of immortalized human endometrial glandular (EM) cells.

Keywords:

Catecholestrogens; COMT; Genomic Instability; Endometrial Cancer.

Faculty of National Cancer Institute

Dep. **:** Cancer Biology

Name **: Samia Shouman**

Title **:** Design, synthesisand in vitro antitumor activity of 4- aminoquinoline and 4-aminoquinazolinederivativestargeting EGFR tyrosine kinase

Authors : Khaled Abouzid and Samia Shouman

Published In **:** Bioorsanic and Medicinal Chemistrv

ISSN 0968-0896 ***Impact Factor*** 2.662

Abstract :

Two series of new 6-alkoxy-4-substituted-aminoquinazolines (24f) and their bioisotericquinolinecongeners (5-7c) were designedand synthesized. Virtual screeningwas carried out through docking the designedcompounds into the ATP binding site of epidermalgrowth factor receptor (EGFR) to predict if thesecompoundshave analogousbinding mode to the EGFR inhibitors. The newly synthesizedcompoundswere testedin vitro on human breastcarcinomacell line (MCF-7) in which EGFR is highly expressed. Most of the testedcompoundsexploited potent antitumor activity with

IC50 values in the nanomolar rangein particular compound 3b which displayedthe highest activity amongthe testedcompoundswith IC50 equal to 0.13nmol.

Keywords:

Aminoquin azoli\e; Aminoquinoline; EGFR tyrosine kinase inhibitor; Antitumor active docking study.

Faculty of National Cancer Institute

Dep. **:** Tumour Biology

Name **:** **Raafat Abd El-Gawad El-Gharib El-Awady**

Title **:** Apoptosis is the most efficient death-pathway in tumor cells after topoisomerase II inhibition

Authors : Raafat A. El-Awady, Mahmoud M. Ali, Ekram M. Saleh and Fayek M. Ghaleb

Published In **:** Saudi Medical

ISSN 0379- 5284 ***Impact Factor*** 0.3

Abstract :

Objective: To compare the efficiency of apoptosis and other modes of cell death in killing tumor cells after the induction of DNA damage by topoisomerase inhibitors like etoposide.

Methods: This study was carried out in the Tumor Biology Department, National Cancer Institute, Cairo University, Cairo, Egypt, from September 2005 to August 2007. The breast cancer MCF7, the cervix carcinoma, human cervical adenocarcinoma (Hela), and the brain tumor U251 cell lines were exposed to etoposide. Apoptosis was detected using the flow cytometry and the DNA ladder formation methods. Cell viability was determined by a colorimetric assay, and the residual DNA double-strand breaks (dsb) were measured by gel electrophoresis.

Results: The Hela cells were the most, the MCF7's were moderately, whereas the U251's were the least sensitive to etoposide. Apoptosis was detected only in Hela cells whereas the other 2 cell lines showed a very low level of apoptosis (only 3% increase above the control cells). At equitoxic drug concentrations (namely IC50), the Hela cells showed the lowest

amount of non-repaired DNA dsb, and the MCF7's showed the highest amount, whereas the U251 cells showed a moderate amount.

Conclusions: These results indicate that although other modes of cell death exist, apoptosis is the most efficient and requires lower drug concentrations

and fewer numbers of non-repaired dsb to give the same killing effect. Clinically, this means that tumors that can execute apoptosis may require lower doses of topoisomerase inhibitors than those that lost the ability to exercise apoptosis.

Keywords:

Topoisomerase; DNA repair and apoptosis.

Faculty of National Cancer Institute

Dep. **:** Tumour Biology

Name **:** **Raafat Abd El-Gawad El-Gharib El-Awady**

Title **:** -Distinct roles of XRCC4 and Ku80 in non-homologous end-joining of endonuclease and ionizing radiation-induced DNA double-strand breaks

Authors : Leonie Schulte-Uentrop, Raafat A. El-Awady, Lena Schliecker, Henning Willers and Jochen Dahm-Daphi

Published In **:** Nucleic Acids Research

ISSN 0305- 1048 ***Impact Factor*** 6.954

Abstract :

Non-homologous end-joining (NHEJ) of DNA doublestrand breaks (DSBs) is mediated by two protein complexes comprising Ku80/Ku70/DNA-PKcs/ Artemis and XRCC4/LigaseIV/XLF. Loss of Ku or XRCC4/LigaseIV function compromises the rejoining of radiation-induced DSBs and leads to defective V(D)J recombination. In this study, we sought to define how XRCC4 and Ku80 affect NHEJ of sitedirected chromosomal DSBs in murine fibroblasts. We employed a recently developed reporter system based on the rejoining of I-SceI endonucleaseinduced DSBs. We found that the frequency of NHEJ was reduced by more than 20-fold in XRCC4_/_ compared to XRCC4+/+ cells, while a Ku80 knock-out reduced the rejoining efficiency by only 1.4-fold. In contrast, lack of either XRCC4 or Ku80 increased end degradation and shifted repair towards a mode that used longer terminal microhomologies for rejoining. However, both proteins proved to be essential for the repair of radiationinduced DSBs. The remarkably different phenotype of XRCC4- and Ku80-deficient cells with regard to the repair of enzyme-induced DSBs mirrors the embryonic lethality of XRCC4 knock-out mice as opposed to the viability of the Ku80 knock-out. Thus, I-SceI-induced breaks may resemble DSBs arising during normal DNA metabolism and mouse development. The removal of these breaks likely has different genetic requirements than the repair of radiation-induced DSBs.

Keywords:

XRCC4; Ku80; DSB repair; NHEJ.


Humanity
Educational

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Faculty of Arts

Faculty of Arts

Dep. **:** English Language and Literature

Name **: Hala Kamal**

Title **:** Translating Women and Gender: The Experience of Translating The Encyclopedia of Women and Islamic Cultures into Arabic

Authors : Hala Kamal

Published In **:** Women's Studies Quarterly

ISSN 0732-1562 ***Impact Factor***

Abstract :

This study is concerned with the translation of feminist and cultural terms, such as "women" and "gender" into the Arabic language, as used in the Encyclopedia of Women and Islamic Cultures (EWIC: http://sjoseph.ucdavis.edu/ewic/volume1parted.htm). The paper deals with a number of theoretical concerns related to Translation Studies, such as specialization, creativity, interpretation, selection, invisibility and representation involved in the translation process. It also refers to particular translation strategies such as explanatory translation, as well as the implications of addition and omission in translation as an expression of an ideological stance. The paper focuses on the terms of differentiating "women" from "woman" within linguistic and feminist frameworks, and considers the various translations of the notion of "gender" into Arabic, together with their different implications and connotations. Finally, the article concludes by referring to translation into Arabic as an act of knowledge production in Arabic in the field of gender and women's studies. The process of translation, as well as the resulting texts, create a specific discourse in their own right, and contribute to the production of knowledge in Arabic on the basis of feminist consciousness and in the framework of women's studies.

Keywords:

Translation Studies; Women's Studies; Cultural Studies; Women; Gender; Interpretation; Representation; Knowledge production; EWIC.

Faculty of Arts

Dep. **:** Français

Name **:** **May Farouk**

Title **:** Tahar Ben Jelloun. Etude des enjeux réflexifs dans l'œuvre.

Authors : May Farouk

Published In **:** Editions L'Harmattan

ISSN ***Impact Factor***

Abstract :

Originale et féconde, l'écriture de Tahar Ben Jelloun, multiplie les horizons d'approche. Cet essai se propose d'interroger les stratégies réflexives investies dans son œuvre singulièrement postmoderne. Comment la fiction jellounienne se prête-t-elle au jeu du reflet et génère-t-elle les effets de miroir à l'échelle de l'histoire, mais aussi du roman tout entier ? Comment les personnages du conteur, de l'écrivain ou de l'auditeur y apparaissent-ils comme des doubles de l'auteur et de son lecteur ? Dans quelle mesure l'œuvre se veut-elle l'écho spéculaire d'autres textes avant d'être celui de l'œuvre elle-même ? Comment ces phénomènes de réverbération œuvrent-ils au service de la maghrébinité du texte et de certaines hantises littéraires propres à Ben Jelloun ? Telles sont les questions soulevées dans le sillage du procédé de la mise en abyme, examiné sous divers aspects. Mais, cette étude est surtout une occasion de repenser, à l'heure actuelle, l'héritage théorique de la notion et d'en évaluer, sur le terrain d'application, la validité, quitte à déterminer de nouveaux enjeux.

Keywords:

Réflexivité; Mise En Abyme; Fiction Postmoderne; Littérature Maghrébine; Énonciation; Intertextualité; Métatextualité.

Faculty of Arts

Dep. **:** German Language and Literature

Name **: Aleya Khattab**

Title **:** Die faustische Frau in der arabischen Literature

Authors : Aleya Khattab

Published In **:** Orient und Okzident

ISSN ***Impact Factor***

Abstract :

Inhalt des Beitrags sind die literarischen Beziehungen zwischen dem aufgeklaerten arabisch-aegyptischen Schriftsteller Taufik Al-Hakim zur Fauststhematik bei Goethe und deren Rezeption in seinem Werk. In der Erzaehlung „Die Frau, die ueber den Teufel triumphierte „ bietet Al-Hakim dem Leser eine interessante Variante des Fauststoffes.

Schwerpunkte sind u.a.: der Vergleich der Erzaehlung mit Goehtes „Faust “ und Grundsatzfragen des arabischen Werks. Ergebnisse des Vergleichs zeigen, dass Al-Hakim in der Tat von Goethes „Faust „ inspiriert worden ist. Doch weder aegyptisierte oder trivialisierte er, noch entfremdete oder verflachte er das deutsche Drama.Er entwickelte den Stoff zu einem am arabisch-islamischen Publikum orientierten Text, gleichzeitig formte er das fremde Gedankengut nach seinem Kuenstlerverstaendnis um.

Keywords:

Goethes; Faust“; Al- Hakim; literarischer Vergleich; Adaptation; Transformation literarischer Motive.

Faculty of Arts

Dep. **:** German Language and Literature

Name **: Aleya Khattab**

Title **:** Al-Hambra , Nachruf und Zukunftsvision

Authors : Aleya Khattab

Published In **:** Mittelalter-Mythen

ISSN ***Impact Factor***

Abstract :

Al-Hambra ist ein Symbol des Islam im Westen. Sie bringt den ritterlich wissenschaftlichen Fortschritt der Araber zum Ausdruck und ist ein Modell multireligioeser und plurikultureller Koexistenz in al-Andalus.Die islamisch-arabische Bluetezeit, Toleranz und der Fall von Granada boten Stoff fuer die Weltliteratur. Die Verfasserin setzt sich mit der Rezeption dieser Thematik in der deutschen Literatur von der Aufklaerung ueber die Romantik bis hin zur Gegenwartsliteratur auseinander. Die Interpretationen der literarischen Texte zeigen die Diversitaet der Reflexionen arabischer Kultur bei den Schriftstellern, die von der schwaermerischen, verherrlichenden Haltung des Urspruenglichen bis hin zur Sehnsucht nach dem verlorenen Paradies reicht.

Keywords:

Toleranz; Rezeption der Maurenthematik bei Herder; Brentano; Heine; Feuchtwanger; Frisch.

Faculty of Arts

Dep. **:** German

Name **:** **Mona Noueshi**

Title **:** Zu textlinguistischen Aspekten der Übersetzungsdidaktik – dargestellt anhand eines Modells für Űbersetzungsübungen an der Kairoer Universität

Authors : Mona Noueshi

Published In **:** Studia Germanica Universitatis Vesprimiensis

ISSN 1417 - 4340 ***Impact Factor***

Abstract :

This article is a research, which gives us a view about the lecture "Translation" - from Arabic to German and vice versa - at the German Department of the Cairo University. Due to the results of a study undertaken by the author in the years 2oo5 – 2oo6 at the German Department the research tries to prove the relation between the subject "Translation" and the "Linguistics" and also to answer the following questions –:

What is the aim of the lecture "Translation" at the Cairo University ?

How could the lecture "Translation" be developed to reach a certain level and suites the modern academic studies ?

Keywords:

Translation; Linguistics; Stilistics; Didaktik.

Faculty of Arts

Dep. **:** Greek and Latin Studies

Name **:** **Ahmed Etman**

Title **:** The Classical Heritage From East To West Through The Mediterranean

Authors : Ahmed Etman

Published In **:** Mesogea

ISSN 978-88/469/2070/6 ***Impact Factor***

Abstract :

The Arabs in Bagdad inherited the classical heritage translating most the masterpieces from Greek into Arabic. Later in Toledo and other European Centers this Arabic achievement was translated into Latin, e.g.. Averroes comments on Aristotle were translated and taught in European universities beginning from the 12tN century before knowing the Greek originals. Briefly we can say that the Arab translations introduced a great part of the classics to Western Europe where Greek was not perfectly known.

Keywords:

Arabic translation; Latin translation; Toledo.

Faculty of Arts

Dep. **:** Greek and Latin Studies

Name **:** **Ahmed Etman**

Title **:** The Ancient and Contemporary Arabic Reception of/he Greek Tradition

Authors : Ahmed Etman

Published In **:** Parnassos

ISSN 0048/30 IX ***Impact Factor***

Abstract :

The present paper aims at clarifying the Arab role in the preservation of Greek Tradition. The Arabs translated the main books from Greek into Arabic and these translations were interpreted, commented on, and explained. This Arabic achievement moved to Andalusia and it was translated into Latin to be later the basis of European Renaissance. In modern time. Egypt had a pioneering role in translating the Greek masterpieces and in founding classical departments in the university. This was reflected in creative literary works.

Keywords:

Arabic; Greek; Translation.

Faculty of Arts

Dep. **:** Japanese

Name **:** **Adel Amin Saleh**

Title **:** The Political Word-Formation in the Course of Morernizing Japan and Egypt

Authors : Adel Amin Saleh

Published In **:** International Student Center

ISSN 1340-6493 ***Impact Factor***

Abstract :

This paper summarize the relation between language and its use in the olitics as follows: Constrained communication denotes successful attempts by private and government groups to structure and limit public communication in order that their interests prevail.from this point of view, Egypt and japan (as non-Europeian countries) brough a lot of Idea from the West,and to express this idea a number of a new political words were created but most of them were contested concepts.This is because every concepts has a duouple conten:one of it was introduced from the West without any Change,other one was born inside the native culture and setted the way of thinking and life.This is the way,what I called "double culture" Or "the word with a double significance" happened.Egypt and japan were not exception.

After establishing the modern state on the 19 century,Meiji and Muhammad 'Ali government maintain their political power using the political words such as "'ummah.millah" and "Kokutai.shinmin" etc. Here We will argue the way of formaling the political vocabulary,mainly "'ummah" and "shinmin", on the course of modernizing and forming, what is known by `nation state` explaining how the"double culture" occurred in both country.Furthermore the role of Fukuzawa Yukichi and Rifa 'ah al-Tahtawi for avoinging this problem until the word like "Sha`b" "kokumin" has been well established.

Keywords:

`Nation; Umma; Milla; Kokutai; Shin-min; Kokumin; Seiji-goi; Bunka ni-jyuu kouzou; Gengo-kyoudoutai


Social
Sciences Sector

Faculty of Economics and Political Science

Faculty of Economics &Political Science

Dep. **:** Statistics

Name **: Ragaa Mohamed Mohamed Kassem**

Title **:** An Approach For Solving The Stochastic Vector Optimization Problem

Authors : Ragaa Kassem

Published In **:** Far East Journal of Theoretical Statistics

ISSN 0972-0863 ***Impact Factor***

Abstract :

It was observed that solving the deterministic vector optimization problem (VOP) raises several difficulties which stem from the fact that the solution vector is not uniquely defined. Further difficulties appear in solving the stochastic programming problems with one objective function. This explains why in solving the stochastic VOP one is confronted with almost intractable difficulties and ambiguities.

The major purpose of this paper is to introduce a certain approach for solving the stochastic VOP with random variables in both the objective functions and the constraints. This approach combines the techniques of both the stochastic programming and multiobjective programming in two stages. One of them, t stochastic VOP is transformed into its equivalent deterministic VOP, and the other one, the efficient solutions are generated by transforming the deterministic VOP into a problem with only one objective function.

Keywords:

stochastic multiobjective optimization; efficiency; stochastic programming; vector optimization problem.

Faculty of Economics &Political Science

Dep. **:** Statistics

Name **:** **Samir Mostafa Shaarawy**

Title **:** Bayesian Identification of Multivariate Autoregressive processes

Authors : Wafik Youssef Younan

Published In **:** Communications in Statistics–Theory and Methods

ISSN 0361-0926 ***Impact Factor*** 0.209

Abstract :

This paper develops a direct Bayesian technique for the multivariate autoregressive processes. The proposed technique derives the exact posterior probability mass function of the model order. Then it chooses the order with maximum probability. The numerical study supports the adequacy of the proposed technique.

Keywords:

Identification; multivariate autoregressive processes; probability mass function.

Faculty of Economics &Political Science

Dep. **:** Statistics

Name **:** **Wafik Youssef Younan**

Title **:** Generating New Inequalities And Equalities: A Statistical Approach

Authors : Wafik Youssef Younan

Published In **:** Far East Journal of Theoretical Statistics

ISSN 0972-0863 ***Impact Factor***

Abstract :

This article gives a set of inequalities based on using known elementary inequalities and probability distributions. The concept depends on replacing the arguments in an elementary inequality with random variables whose domain must be consistent with the constraints the arguments obey. Taking the expectation of both sides of the inequality – after replacement – leads to the result. Seven probability distributions will be used with many elementary inequalities to generate inequalities. The same approach is used to generate a set of equalities too.

Keywords:

Elementary inequalities; Probability distributions; Mathematical expectation.

Faculty of Economics &Political Science

Dep. **:** Statistics

Name **: Wafik Youssef Younan**

Title **:** Using Mathematical Induction in Deriving the Exact Distribution of the Gini's Index Estimator: An Application to the Gamma

Authors : Wafik Youssef Younan

Published In **:** Far East Journal of Theoretical Statistics

ISSN 0972-0863 ***Impact Factor***

Abstract :

This article uses the technique of mathematical induction to derive the exact distribution of the Gini's index estimator as a famous inequality measure of income distributions. An application is given if the underlying distribution is the gamma distribution with a positive integer shape parameter. The population mean of incomes is assumed to be known. The mathematical induction is used to give the proof of determining the bounds of some relations that are linear functions in order statistics. According to the definition of the Gini's index estimator as a linear function in the sample order statistics, the technique enables us to obtain the exact distribution of this estimator.

Keywords:

Gini's index; Mathematical induction; Order statistics; Gamma distribution.

Faculty of Mass Communications

Faculty of Mass Communication

Dep. **:** Radio & TV

Name **:** **Amal Gaber Saleh Ibrahim**

Title **:** Diffusion of News of the Shuttle Columbia Disaster: The Role of Emotional Responses and Motives for Interpersonal Communication

Authors : Amal Gaber Saleh Ibrahim

Published In **:** Communication Research Reports

ISSN 0882-4096 ***Impact Factor***

Abstract :

This study examined the role of emotion in the process of news diffusion following the Space Shuttle Columbia disaster. Respondents reported both sadness and anger, but sadness was the predominant emotional response. Early learners reported more sadness, but emotional response was unrelated to the initial source of the news. Regarding interpersonal news diffusion, individuals who reported more sadness were more likely to pass the news on to others and spent more time discussing the event. Anger was associated with contacting a greater number of people. Individuals who contacted more people and spent more time in discussion reported stronger emotional (but not informational) motives for talking with others, and were more likely to say that they felt better after interpersonal contact. Overall, the findings suggest that interpersonal news diffusion and discussion function, in part, as ways to cope with emotional responses to news coverage.

Keywords:

Coping; Emotion; Interpersonal Communication; Motives; News Diffusion

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