Faculty of Science

The 1st Sciences Conference

Kurdistan, Iraq

April 23rd, 2018

Conference web site: http://sci.soran.edu.iq

SU-SC2018

The 1st Sciences Conference

April 23rd, 2018

Kurdistan, Iraq

Book of Abstracts

A Message from the conference chair

Dear colleagues,

On behalf of the organization committee, I am very delighted to warmly welcome you to the 1st Sciences Conference which will be held Monday 23rd April 2018 at faculty of Science, Soran University-Soran.

The goals of this conference is to promote the research development and to create links between researches for better cooperation and research quality.

The conference scientific committee received more than 40 research abstracts which went through a review process, whereby 40 were approved. These 40 will be presented in the conference. The conference will span one day with 7 regular sessions, running in 4 parallel halls. We look forward to hearing about the current research and the latest research results from the diverse fields of pure and applied sciences.

I would like to thank you, the participants, for enriching our annual conferences by your presence, and for their willingness to share the research ideas and results. We are looking forward to see our conference becoming larger and more substantial every year. We hope you will enjoy the content of the conference, and get new ideas and friendships during this scientific activity. Have a good time.

Dr. Sardar Moheldin Balaky

Conference Chair

Organization Committees

Conference Chair: Asst. Prof. Dr. Sardar Mohialdeen HamadAmin

Conference Co-Chair: Prof. Dr. Ibtisam Kamal

Organization Committee chair: Dr. Ayad Nouri Faqi

Scientific Committee Chair: Prof. Dr. Ibtisam Kamal

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Dr. Ismail Aqrawi

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Dr. Sadiq Amini

Dr. Nabaz Abdulmajeed

Conference Agenda

Monday, 23rd April, 2018	
9:00 am-10:00 am	Registration and reception
10:00 am-11:00 am	Opening Ceremony (Main Conference hall) **Speakers:** **Dr. Sardar Moheldin Balaky**/ Topic: Message from conference chair **Dr. Ibtisam Kamal**/ Topic: "Biofuels research fields, from beginning up to date".
11:00 am- 11:30 am	Morning break
11:30 am- 1:30 pm	Sessions: 1, 2, 3, and 4
1:30 pm- 2:00 pm	Lunch
2:00 pm- 4:00 pm	Sessions: 5,6, and 7
4:00 pm- 4:30 pm	Conference end ceremony

Session 1: Biology

11:30 am-1:00 pm Seminar Room F18 Session Chairman Dr. Bushra Hussain	Abstract ID	Abstract Title
	Abstract ID-12	Effect Of Medicinal Oils On Dermatophytes Isolated From Household Poultry Cages In Erbil City. by: Dr. Salah M. Al-Bader
	Abstract ID-14	Anti-urolithiatic Effects of Allium siculum on Ethylene Glycol Induced Kidney Stone in Male Albino Rats. by: Sarbast A Bradosty
	Abstract ID-16	A preliminary Assessment of Allergy Against Some Types of Food in Soran City. by: Mr. Karzan M. Khalid
	Abstract ID-17	Effects of aqueous extract of walnut (Juglans regia) leaves on germination and seedling growth of Tomato (Solanum lycopersicum) and Celery (Apium graveolens). by: Mr. Masoud Karimpour
	Abstract ID-11	Ultrastructural Alteration in Plasmodium falciparum – Infected Erythrocytes. by: Dr. Bushra Hussain Shnawa

Session 2: Petroleum Geosciences

11:30 am- 1:00 am	Abstract ID	Abstract Title
	Abstract ID-2	Recharge Estimation From Precipitation Using Groundwater Levels, South Of Erbil, Kurdistan Region, Iraq. by: Dr. Sherwan Sharif Qurtas
Seminar Room 19	Abstract ID-4	Evaluating the Baluti Formation at Sararu village, Ora Anticline, Iraqi Kurdistan: a stratigraphic and geochemical approach. by: Dr. Ayad.N. F. Edilbi
Session Chairman Dr. Sardar Balaky	Abstract ID-3	Factors Control The Abundance Of Sulfur Compounds In Tawke Field Oil Reservoirs: Data Analysis And Mathematical Modeling. by: Mr. Rebwar Haidar
	Abstract ID-8	Oil –Oil Correlation by Using Trace Metals from the Different North Iraq Oil Fields. By: Mr. Rzger A. Abdula
	Abstract ID-1	Microfacies Analysis And Depositional Environment Of Sarmord Formation (Valanginian-Aptian) In The Imbricated Zone, Kurdistan Region, Northeastern Iraq by: Mr. Edres M. Perot

Session 3: Computer &Mathematics

11:30 am-1:00 pm	Abstract ID	Abstract Title
	Abstract ID-30	The Causal Relationship Between Foreign Trade And Economic Growth In Iraq. by: Dr. Zahra Hasan Al Tameemi
Seminar Room F22	Abstract ID-26	Object Detection, Tracking and Recognition for smart camera by: Mr. Diyar Salah Fadhil
Session Chairman Dr. Wadah Jasim	Abstract ID-28	Detecting Text In Natural Image. by: Mr. Mahmud Abdulla
	Abstract ID-29	Modern Student Registration. by: Mr. Dana Hamad Rasul
	Abstract ID-25	Machine Learning in Microbiology. by: Mr. Milad Ashqi

Session 4: Chemistry

11:30 am- 1:00 am	Abstract ID	Abstract Title
	Abstract ID-32	Biological Activity of Apicidin and Approaches to its Derivatives.Nabaz by: Dr. Nabaz Abdulmajed Muhammad Salih
Seminar Room F23	Abstract ID-33	Investigation thermodynamic properties and solubility for calcium carbonate solutions extract of chicken and cotrinx quail eggshell. by: Dr. Roonak Golabiazar
Session Chairman M. Mohammad Sajaddi	Abstract ID-34	Kinetic studies of formation of a complex derived from copper II and Schiff base. by: Dr. Khozan A. Haji
	Abstract ID-35	Antibacterial Magnetic Silver and Activated Carbon Nanocomposite for Water Purification. by: Mr. Peshawa Hassan Mahmoud
	Abstract ID-38	Antibacterial Evaluation of (Thymus vulgaris) Thyme Extracts. by: Mr. Zirar Mohammed

Session 5: Biology

2:00 pm- 4:00 pm	Abstract ID	Abstract Title
	Abstract ID-15	Application of Antibodies Card Test for Screening Helicobacter pylori Among Human in Erbil Governorate, Kurdistan Region – Iraq. by: Dr. Dhary Alewy Al-mashhadany
Seminar Room F18	Abstract ID-18	Antibacterial Screening Of The Effect Of *Citrus Limon* Oil Against *Escherichia Coli* Isolated From Urine. by: Dr. Payman A. Hamasaeed
Session Chairman Dr. Sarbast A. Mahmood	Abstract ID-21	Antibacterial Susceptibility Test Of Candida ssp. by: Mr. Karwam Ismael
	Abstract ID-22	Synthesis, Spectral Characterization And Biological Activity Of Some Metal Complexes Of 8-(3-Hydroxy Phenyl Azo) Guanine. by: Dr. Nahla A. A. Aljabar
	Abstract ID-23	A Dermatophyte isolated from laboratory animals. by: Mr. Karwam Ismae
	Abstract ID-13	Qualitative Phytochemical Analysis Of Crataegus Monogyna Plant Parts And Properties Of Its Secondary Compounds As A Promoter For Fungal Growth. by: Mr. Shorish Mustafa Abdullah
	Abstract ID-19	Protoscolicidal Effects of Salvadora persica Root Extracts on Protoscolices of Echinococcus granulosus by: Miss Rawa Kader Mohammed

Session 6: Petroleum Geosciences

2:00 pm- 4:00 pm Seminar Room F19 Session Chairman Dr. Sherwan Sharif Qurtas	Abstract ID	Abstract Title
	Abstract ID-7	Logs: A Case Study in Sargelu and Naokelekan Formations – Shaikhan-2 Well, Shaikhan Oil Field, Iraq. by: Mr. Rzger A. Abdula
	Abstract ID-6	Hydrothermal Alteration Zone Detection Using Remote Sensing For Erbil Province (North East Area) by: Mr. Bayar Rashid
	Abstract ID-9	Source Rock Evaluation And 1D-Basin Modeling Of The Organic Rich Intervals Of The Kurra Chine Formation In Well X. Kurdistan Region-Northern Iraq. by: Dr. Ayad Nouri Faqi
	Abstract ID-10	Geochemical distribution of potentially toxic elements (PTEs) in soils of different land uses in Soran city, Kurdistan Region- Iraq. by: Mr. Keyvan Amjadian
	Abstract ID-5	Stratigraphy, Facies Analysis and Depositional Environment of the Upper Jurassic Naokelekan Formation from Selected Sections in Kurdistan Region, NE Iraq. by: Mr. Arkan Osman Hussein
	Abstract ID-50	An Experimental Study On Microbial Diagenesis And Biomineralization Of Natural Rock Substrate. by: Mr. Twana Tariq and Mr. Bawan Fayaq

Session 7: Computer & Chemistry

2:00 pm-4:00 pm	Abstract ID	Abstract Title
	Abstract ID-24	Kurdish Job Search Engine. by: Mr. Mohammad A. Esmail
Seminar Room F22	Abstract ID-27	Development of Sightlessness Assistant Tools Using Machine Learning. by: Mr. Milad Ashqi Abdullah
Session Chairman Dr. Samir Mustafa	Abstract ID-31	Preparation, Characterization and Antibacterial Activity of Silver Nanoparticles. by: Mr. Dlgash Hammad Maruf
	Abstract ID-36	Effect Of Hookah Smoking On The Level Of Cholesterol Among Adults In Soran City. by: Mr. Riyadh Z. Mawlood
	Abstract ID-37	Green Synthesis And Identification Of Zno At Iron Ore As A Natural Nanocatalyst For Efficient Destruction Of Methylene Blue At Room Temperature. by: Mr. Muhammad Sajadi
	Abstract ID-20	Optimization of Swelling, Drug Loading and Release From Natural Polymer Hydrogels. by: Dr. Alarqam Z. Tareq
	Abstract ID-39	Real-time Object Image or video Tracking by: Mr. Ababakr Ibrahim Rasul

Microfacies Analysis And Depositional Environment Of Sarmord Formation (Valanginian-Aptian) In The Imbricated Zone, Kurdistan Region, Northeastern Iraq

Sardar M. Balaky[1], Irfan Sh. Asaad[2], Edres M. Perot[1,] Goran F. Hassan[1,] Farsat N. Baeez[1]

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Abstract

The Sarmord Formation is studied from the Imbricated zone at Barsarin area 15km east of Soran city in Erbil Governorate and Hanjira village in the front of the Kewa Rash Mountain about 2 km from north west of Rania town. Sarmord Formation was deposited within the Early-Cretaceous sedimentary cycle. The main diagnostic lithological characteristic of the Formation is the rhythmic alternation of marl and marly limestone or Limestone in both studied sections. The petrographic study based on 30 thin sections showed that the skeletal grains include planktonic foraminifera, Echinoderms, Clacispheres, calcitized radiolarians, sponge spicules, Ostracods, Ammonites and bioclasts with rare Calpionilids. Non-skeletal grains include Peloids. The microfacies types recognized are: Lime-Mudstone, Lime Wackestoneand Lime Packstone. Each of them was further subdivided into several submicrofacies. The depositional environment of Sarmord Formation according to petrographic constituents and microfacies types is covering a wide range of neritic to deep water environment within a ramp depositional setting.

Recharge Estimation From Precipitation Using Groundwater Levels, South Of Erbil, Kurdistan Region, Iraq

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Abstract

According to the fact that groundwater is a dynamic and renewable natural resource many different phenomena make the groundwater table to fluctuate due to the processes of; recharge the penetrating of water from the ground surface to the saturated zone, and the discharging to the rivers, springs and pumping. This paper is emphasized on the short-term fluctuations of the water table due to precipitation, taking in consideration the climate, aquifer type and system, surface water flow drainage, topography and the area. The study area has divided to six sub-areas. The precipitation hyetographs and the water tables are compared to discover the effect of infiltrated water of each rainstorm on the recharge of the aquifers of the sub-area. The most important of physical characteristic of soil ; the specific yield (S_y), which determines the rate of recharge and the time needed the penetrated water to penetrate the unsaturated zone was investigated.

Factors Control The Abundance Of Sulfur Compounds In Tawke Field Oil Reservoirs: Data Analysis And Mathematical Modeling

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Abstract

Lithographic and PVT data of 10 petroleum crude wells of Tawke field- Zakho are investigated. The data were analyzed to define the lithological properties, and the mathematical models that correlate and govern the reservoir fluids properties as a function of sulfur compounds in term of (H_2S) evolved from the wells and dissolved in reservoir fluids. The results obtained showed that crude oil is classified as sour, and medium (average ^{o}API 23.4). The main lithology of the wells includes sandstone, claystone, anhydrite, siltstone, limestone, dolomite, marl and shale where wells are drilled within geological units called Lower Fars, Jeribe, Dhiban, Euphrates and Pila Spi formations. Amount of H_2S seemed to increase with increasing sample depth, reservoir pressure and temperature, gas oil ratio, coefficient of compressibility at reservoir pressure, while ^{o}API, viscosity at reservoir pressure and bubble point pressure, and gross heating value seemed to decrease with increasing the H_2S evolved and dissolved in reservoir fluids.

Evaluating the Baluti Formation at Sararu village, Ora Anticline, Iraqi Kurdistan: a stratigraphic and geochemical approach

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Abstract

Here, we report that a lithostratigraphic unit that outcrops at Sararu village that had previously been assigned to the Baluti Formation is not Triassic in age. The outcropping unit at Sararu comprises intercalation of calcareous mudstones and limestones, and is indeed lithologically similar to the Baluti Formation (Late Triassic). The Baluti Formation (also known as the Baluti Shale) is known from a typical section found at the Gara Anticline and from many deep drilled oil exploration wells. It is generally composed of alternations of the shales, limestones, dolomites, and dolomitic limestones. It is underlain by the Kurra Chine Formation (Upper Triassic) and overlain by the Sarki Formation (Lower Jurassic). In this study, detailed field observations, an assessment of stratigraphic successions, studies of microfossils such as age-specific planktonic foraminifera, and age-specific biomarkers reveal that the lithostratigraphic unit at Sararu village can not be a correlative equivalent of the Baluti Formation, and it is more likely from the Upper Cretaceous.

Stratigraphy, Facies Analysis and Depositional Environment of the Upper Jurassic Naokelekan Formation from Selected Sections in Kurdistan Region, NE Iraq

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Abstract

The lithological study of the Naokelekan formation shows that this formation is mainly composed of organic carbonaceous calcareous mudrocks with some carbonates including limestone and dolomite. The exact description of the lithological composition of Naokelekan formation in two selected studied sections from bottom to top is (a) black, soft, sheet-like, fetid, highly bituminous, calcareous shale, dark brown, fetid, thin-medium bedded bituminous limestone and dolomitic limestone, (b) dark grey, hard, fine-grained, fossiliferous, highly mottled and stylolitic, medium-thick bedded limestone and dolomitic limestone, (c) black, calcareous, sheety, soft, fetid shale and dark grey, medium-grained, hard, dolomitic and argillaceous limestone. Depending on the lithology and microfacies analysis, its indicated that the formation was deposited in two different sedimentary environments including lagoon environment for both lower and upper units and shallow open marine environment for middle unit of the formation. It was inferred that in all sections, the upper contact with the Barsarin Formation and lower contact with Sargelu Formation is somewhat controversial.

Hydrothermal Alteration Zone Detection Using Remote Sensing For Erbil Province (North East Area)

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Abstract

The use of satellite images for mineral exploration has been very successful in pointing out the presence of minerals such as Alunite and kaolinite which are important in the identification of hydrothermal alterations. The role of remote sensing in alteration mapping is the differentiation of the minerals that are unique for different alteration types. In this study we use Advanced Space borne Thermal Emission and Reflection Radimeter (ASTER) satellite imagery in order to identify and map alteration zones in Erbil province north east. All previous studies show that remote sensing has an important impress to detection alteration zones. The ASTER sensor measures reflected radiation in VNIR, SWIR and TIR electromagnetic energies. It is cheap and easily available. Alteration mapping have been used by principal component analysis method, band ratio and False Color Composite method. Results indicates ASTER, has capability to provide information on alteration minerals which are importance for mineral exploration activities.

Logs: A Case Study in Sargelu and Naokelekan Formations – Shaikhan-2 Well, Shaikhan Oil Field, Iraq

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Abstract

The sonic and resistivity logs for Sargelu and Naokelekan Formations in well Shaikhan-2 are utilized to predict vitrinite reflectance values. The precise prediction of vitrinite reflectance can be done based on well logs by applying multiple linear regressions method which an extension from the regression analysis. It is expected that both sonic and resistivity log readings in source rock that has reached oil window and hydrocarbons are cooked out of that, to be higher than source rock that is still in diagenesis stage and has not produced any oil and gas. Possible mechanisms to explain decreasing resistivity with increasing maturity include the existence of a conductive petroleum phase (pyrobitumen) and the increase in residual water salinity driven by water vapor solubility in the produced gas. The best matching between the vitrinite reflectance measured from the cutting samples and the vitrinite reflectance predicted from the log data in the well Shaikhan-2 has achieved.

Oil –Oil Correlation by Using Trace Metals from the Different North Iraq Oil Fields

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Abstract

A collection of 11 crude oil samples from 11 oil exploratory wells throughout 5 oilfields in the northern Mesopotamian basin were recognized. Representative samples of crude oils were submitted to Ministry of Natural Resources Lab in Erbil, Iraq for organic geochemical analysis. The geochemical analyses included trace metals concentration determination. Concentrations of trace metals and sulfur of all crude oil samples from Guwear, Kirkuk, Tawke, Khurmala, and Taq Taq oil fields were determined by using Spectroil M/F Spectrometer. The mean values of vanadium and nickel trace metals were 20 and 15 ppm, respectively. Based on nickel to vanadium proportionality, the crude oils were differentiated into five groups. The ratio of nickel to vanadium is low (Ni/V<1) indicates the oils' source of Gwear-2; Shiwashok; Tawke-3; Kirkuk-331; Khurmala-2; Gwear-3; Kirkuk-247; and Khurmala-1 oils deposited in marine environment, while crude oils of Gwear-1; Tawke-4; and Taq Taq-6 deposited in non-marine environment.

Source Rock Evaluation And 1D-Basin Modeling Of The Organic Rich Intervals Of The Kurra Chine Formation In Well X. Kurdistan Region-Northern Iraq

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Abstract

The source rock potential and 1D-basin modeling of the Kurra Chine formation (Late Triassic) in Northern Iraq are studied. The average values for TOC% of the formation is 1.07, showing fair to good organic carbon content. The pyrolysis results revealed that type of organic matter can be type III kerogen. The average of Tmax is 440 ºC indicate that the organic matter is thermally mature. It was predicted that the organic matter of the formation entered into the early oil window in the Early Cretaceous (141 Ma) and reached the peak oil window around 138 Ma ago. In Paleocene the organic matter entered late oil window. The highest rate of generation for the formation in well X1 took place in the Late Oligocene to Early Miocene (about 23 Ma). Modelling indicates that the formation began to generate oil in the Early Cretaceous (142 Ma) and 65 % conversion was reached in the Miocene.

Geochemical distribution of potentially toxic elements (PTEs) in soils of different land uses in Soran city, Kurdistan Region- Iraq

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Abstract

Twenty two samples were collected from various areas in soils of different land uses within Soran in September 2016. The concentration of heavy metals and mineralogy of the samples were determined by ICP-MS and XRD. Analysis of samples shows that the mineralogy of soil is dominated by calcite, quartz, montmorillonite, illite, kaolinite, zeolite, cordierite, vermiculite, chlorite and albite. Total concentration of the major heavy metals among the sampling sites are Ni 64.9-412.7 ppm, Cd 0.1-0.32 ppm, and Fe 13700-42900 ppm, The calculated enrichment factor shows the following order Ni > Fe > Cd. Pollution Index (PLI) calculation shows that in general Soran city is polluted by heavy metals (Ni & Fe). According to EF, Cf and PLI indices, statistical results indicate that anthropogenic activities, geology of the area, natural soil particles, and industrial activities are the major sources of pollution in the region.

Ultrastructural Alteration in *Plasmodium falciparum* –Infected Erythrocytes

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Abstract

Plasmodium falciparum is a protozoan parasite that is responsible for the most virulent form of human malaria. The particular virulence of this species derives from its ability to subvert the physiology of its host during a sexual blood stages. The parasite completely remodeling the host RBCs. The present study aimed to characterize the ultrastructural alteration of erythrocytes caused by this infection. Infected erythrocytes with *P. falciparum* as well as control one were examined by both scanning and transmission electron microscopy. The micrograph showed morphological change with the existence of electron dense protrusions called knobs on the external surfaces of infected erythrocytes. There is a significant correlation between the number of knobs and the density and the development of the parasite. Transmission electron microscopy revealed several ultrastructural alterations of infected RBCs. These modification included cup shaped surface knobs, cytoplasmic maurer's cleft. Also some changes in *Plasmodium* organelles were observed. Some dividing schizont appeared with multiple nuclei.

Effect Of Medicinal Oils On Dermatophytes Isolated From Household Poultry Cages In Erbil City

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Abstract

A twenty five soil samples were collected from different locations in Erbil province during February/2018. All samples were collected from sub-surface soil of the household poultry cages, they were kept in nylon bags in 4°C until testing. Vanbreuseghem's hair technique was employed, boys hair were mixed with moisten soil , and the plates were incubated in room temperature. *Microsporum cains*, *M. gypseum* , *Chrysosporium tropicum*, *C. indicum* , and *Trichophyton mentagropyte* were isolated. The crude oils of nine medicinal plants were tested as antifungal agents, Raphanus raphanistrum, Cucurbita pepo, Prunus dulcis, Linum usitatissimum, Lepidium sativum, Sesamumindicum, Rasinus communis, Nigella sativa,Brassica spp.their affect ranging from low to very high on the growth of the isolated fungi.

Qualitative Phytochemical Analysis of *Crataegus Monogyna* plant parts and properties of its secondary compounds as a promoter for fungal growth

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Abstract

The study was conducted to investigate chemical constituents of all parts of Crataegus monogyna plant separately by using EtOH and MeOH, and to investigate the properties of aqueous extracts of whole plant parts in the growth of candida albicans, c. krusi and Trichophyton sp fungal species. The result showed that, Phenol, Tannin, Flavononid and Saponin were exist in all parts of the plant, while Terpenoid and Quinine found only in fruit and leaves, and only Sterols in fruit, Phlobatannin in leaves and stems and Crdiac Glycosides in all parts except fruit. Terpenoid extracted by MeOH and Quinines by EtOH in leaves, no difference found in other parts. Aqueous extract was used to determine the promoter effect on fungal growth.The results showed that, plant extract have a vital role in improving fungal growth by making the growth of all fungus species faster and making colony diameter twice as large as control.

Anti-urolithiatic Effects of *Allium siculum* on Ethylene Glycol Induced Kidney Stone in Male Albino Rats

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Abstract

In the current study, the anti-urolithiatic effects of *Allium siculum* (*AS*) on ethylene glycol (EG) induced kidney stone in male albino rats were investigated. Twenty two rats were grouped into group A as control, B which received 1% EG, C and D which received 1% EG, then from day 15 C received cystone, while D received *AS*. On day 28, the kidney weight were taken, then serum creatinine, uric acid and urea were determined. The results showed that kidney weight significantly increased in group B as compared with group A, but *AS* and cystone prevented this elevation in rats treated with EG. On the other hand, serum creatinine, urea and uric acid significantly reduced in groups A, C and D as compared with the rats treated with EG. In conclusion: the plant *AS* has a strong anti-urolithiatic like the cystone drug which use in kidney stone disease.

Application of Antibodies Card Test for Screening *Helicobacter pylori* Among Human in Erbil Governorate Kurdistan Region - Iraq

Dhary Alewy Al-mashhadany

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Abstract

This work was designed for monitoring the prevalence of *H. pylori* in Erbil Governorate.Two hundred and seventy (270) samples were collected from 140 male and 130 female.Results revealed that the prevalence of *H.pylori* in total samples were (38.5%). The proportion of infection among females were (40.8 %), compared with males infection ratio were (36.4%). The occurrence of *H.pylori* in the age of 11- 20 years were (43.9%), followed by the human with age1-10 years (42.1%). According to habitation, the high incidence of *H.pylori* antibodies among males was 38.6% and 34.3% in rural and urban area consecutively. Also, the rate of *H.pylori* antibody was high 43.1% in female among rural area, whereas 38.5.% in female among urban area. We concluded that the prevalence of H. *pylori* among human in Erbil Governorate was high, and the infection occurred at early years of life.The importance of public health hazards was discussed.

A preliminary Assessment of Allergy Against Some Types of Food in Soran City

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Abstract

Food allergy is immune mediated non-toxic adverse reactions to food. It is a worldwide health problem. Several recent researches highlight the awareness and concern about it. This study performed by randomized cross – sectional survey and the data were analyzed statistically by SPSS and Graph Pad programs. The present study showed that 114 participants had no food allergy and 134 were considered as allergic. 63 (47.1%) of participants were male and 71 (52.9%) were female. According to age, all age groups (<10 - >29) were sensitized at least to one type of food. The most three allergic foods were pepper, then egg and garlic. The timing of the reaction is critical began within 10 minutes to more than one hour after ingestion. Furthermore, the most appeared symptom that these individuals suffering from were redness, urticaria, vomiting and diarrhea many, which correlated significantly with the type of allergen.

Effects of aqueous extract of walnut (*Juglans regia*) leaves on germination and seedling growth of Tomato (*Solanum lycopersicum*) and Celery (*Apium graveolens*)

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Abstract

Allelopathy is defined as the direct or indirect harmful or beneficial effects of one plant on another through the production of chemical compounds that escape into the environment. Aqueous extract of walnut (*Juglans regia* L.) leaves of seven years old tree were made to determine its effect on germination parameters, seedling weight and root and shoot length of tomato and celery over four extract concentration(1, 1:2, 1:4 and 1:8) and distilled water as control. germination and seedling length and weight inhibited strongly by Increasing the aqueous extraction concentration of walnut leaves, whereas in the most concentrated treatment, germination was so low and seedlings was not grow. in both plants germination percentage were lower than control and also root length and shoot length were decreased in comparison with control. Seedling weight in control was better than other treatment but statistically was not significant.

Antibacterial Screening Of The Effect Of *Citrus Limon* Oil Against *Escherichia Coli* Isolated From Urine

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Abstract

According to presence of biological active compounds in *Citrus limon* oil and use of this oil in traditional medicine, it seems that this plant possesses considerable antibacterial activity. The purpose of this study was investigating the antibacterial activity of lemon oil 25, 12.5 and 6.25, 3,125, 1.56, 0.195 µl/ml concentrations of oil on the ten isolates of *Escherichia coli*. The results showed that lemon oil prevented bacterial growth of *Escherichia coli* 12.5, 6.25 µl/ml concentration of this oil indicated inhibitory effect on *Escherichia coli isolates*. It can be concluded that despite the inhibitory effects of concentrations of Lemon oil on the growth of pathogenic bacteria especially *E. coli* to introduce it as an alternative to chemical antimicrobial drugs.

Protoscolicidal Effects of *Salvadora persica* Root Extracts on Protoscolices of *Echinococcus granulosus*

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Abstract

Cystic echinococcosis is a zoonotic disease with increasing medical and public health concern in several countries. Dissemination of hydatid fluid during surgery is a major cause of its recurrence and anaphylactic reaction. In this study, the protoscolicidal effect of alcoholic and aqueous extracts of *Salvadora persica* root (Arak) was investigated. Freshly isolated protoscoleces from infected sheep were incubated with different concentration of both extracts of the plant. The effects were identified by 0.1% eosin staining. Alcoholic extract showed high activity in comparison with aqueous extract. Mortality reached 100% after 5 hr post incubation with alcoholic extract, whereas it was 78 % for aqueous extract. The parasite exhibited many alterations like rostellar disorganization, loss of hooks and calcareous corpuscles, loss of the turgidity of the outer membrane and damage. The current result confirmed the protoscolicidal effect of alcoholic extract of *S.persica* against *E.granulosus*. However, in vivo efficiency of the alcoholic extract need to be studied.

Optimization of Swelling, Drug Loading and Release From Natural Polymer Hydrogels

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Abstract

The current work deals with synthesis of natural polymer hydrogels (Sodium alginate-Chitosan- Gum Arabic) as beads. The beads are formulated with different polymer proportions according to an experimental central composite design. The degree of swelling in acidic and neutral mediums was investigated, analyzed, modeled and optimized statistically. A typical drug (Allopurinol) was loaded using the optimized polymer formulations. The loading capacity and the in vitro release profiles were estimated. The results obtained confirmed that Gum Arabic content is the significant parameter in the swelling processes regardless the pH of the swelling media. An optimum results for swelling indices of 504.98 % and 207.97 % are obtained in acidic and neutral medium respectively. The in vitro drug release showed an equilibrium after 12 hours where (66.1- 85.7 %) and (44-54 %) was released at pH 3.9 and 7.1 respectively. The SEM analysis confirms that the beads lost their shape due to erosion and swelling activities after releasing the drug.

Antibacterial Susceptibility Test Of *Candida ssp*

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Abstract

Candida ssp are medical importance because they are the most common opportunistic mycosis worldwide, a common cause of nosocomial urinary tract infections (UTIs), oral candidiasis and genitourinary candidiasis. The development of Candida infection depends on several factors such as age, sex, and immunity of the host-pathogen relationship. They are resistance to one or more antifungal. The purpose of this study is to assess the susceptibility of these strains to antibacterial activity. Different diagnostic techniques were used for characterization of Candida spp. Culture characteristic, gram stain, Germ tube, Chroma agar candida and scanning electronic microscopic. The antibiotic susceptibility test was determined by the Kirby-Bauer disk diffusion method and dilution. Candida spp sensitivity to tetracycline and chloramphenicol was investigated.

Synthesis, Spectral Characterization And Biological Activity Of Some Metal Complexes Of 8-(3-Hydroxy Phenyl Azo) Guanine

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Abstract

New metal complexes of Co(II), Ni(II), Cu(II) and Zn(II) with 8-(3-Hydroxy phenyl azo)-guanine have been prepared and characterized by elemental analysis,IR,UV-Visible, molar Conductivity measurement and magnetic susceptibility. The new ligand has been synthesized by the reaction of m-hydroxyaniline with quanine. The ligand is N,N'-Bidentate and forms the complexes of the type ML2 stoichiometry as indicated from the physicochemical studies and spectral data. It is found that Co(II), Ni(II) complexes have exhibited octahedral geometry , Zn(II) complex exhibited tetrahedral geometry whereas Cu(II), complex exhibited square planar geometry. The ligand and its metal complexes have been screened for their antibacterial activity against (Staphylococcus aureus, streptococcus viridans), (proteus vulgaris, Pseudomonas aeruginosa, Escherichia coli) showing different activity of inhibition on the growth of the bacteria.

A Dermatophyte isolated from laboratory animals

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Abstract

The present study demonstrated for the first time the occurrence of dermatophytosis in naturally infected rats and from asymptomatic and from breeding boxes of white rats kept in animal housing of faculty of Science, soran University. The prevalence rate of infection was (48%), rate (85.71%) of samples collected from clinically infected rats, and (28.57%) from asymptomatic and from breeding cages, the growth was observed within the 21 days at 25ºC on Sabouraud's Dextrose Agar. Lacto phenol cotton blue staining slides of *T. mentogrophytes var mentogrophytes* revealed both microconidia and macroconidia. Microconidia found in numerous numbers often in dense cluster which were hyaline, smooth walled and predominantly spherical to sub spherical in shape, varying numbers of chlamydoconidia. Spiral hyphae and smooth, thin walled clavate shaped multicelled macroconidia were also present.

Kurdish Job Search Engine

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Abstract

Nowadays business management requires modern technologies in order to compete with the rest of the world. Job advertisement has been a key technique and a valid business since the start of professions. Having an intelligent system that enables the users to search for required job or skill also aids static collection of given data. Hence, we propose a Kurdish web service that holds data and information of applicant, job seekers and employers. The system provides an artificial intelligence mechanism to increase the quality and performance of job query. Data mining advantages create a user-friendly environment on web and mobile systems.

Machine Learning in Microbiology

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Abstract

Machine learning techniques have been employed by various non-electrical sciences. Current biology studies rely on artificial intelligence to ease its complex and massive computations. One of key elements in biotechnology is pattern recognition and detection which from time to time is impossible by bare eyes. Since start of computing a large number of researchers have dedicated their works toward investigating mathematic and static algorithms to analysis microbiology aspects. In this research we have focused on the quality of papers regarding computing in biology. We propose a significant and unique method to compare machine learning algorithms for analysis of micro array.

Object Detection, Tracking And Recognition For Smart Camera

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Abstract

Technology is growing rapidly in our today's world. Nowadays, almost all new systems use artificial intelligence technologies to a big degree. This research focuses on using a camera to detect the distance between the main camera and the detected object. It can be used to detect the speed of the objects and to recognize specific objects by using the openCV library and C++ programming language. As a human being, we can recognize person and detect the face of the person by using our eyes and process the images in our brains. This system can detect the face of a person by using a camera, show the face as a live stream and store the faces in a database file. It can recognize the face of the person and display the name on the video stream using luxan library and use C# programming language, SQL server for store the information of the saved faces. This camera can be set on a robot and any other objects that exist in our world such air planes, quad copters and small cars. It can also be used for surveillance purposes and student's attendance recording.

Development of Sightlessness Assistant Tools Using Machine Learning

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Abstract

Blindness is a wide and common disability which has various negative impacts on individuals' effort in a community. The issues it creates for a person not only eliminates numerous career opportunities, it has harmful influences on the blind's self-confidence, determination and concentration. Modern mankind, has came up with various ways to aid blinds in daily life activations, such as reading, writing, walking and even working. We propose an artificial intelligence enabled set of tools that help sightlessness ones to avoid obstacles, use doors and stairs properly. A camera continuously receives images behalf of the user and then it parses them to the proposed model which will be classified to different categories. Each category is alerted to the user in form of voice message and device vibration. The availability of a web service enables the parent of the blind person to be alerted of the location and status of the blind person.

Detecting Text In Natural Image

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Abstract

Detecting text in natural images is an important issue, which is applied to images containing a road sign, a poster and a set of license plates. It is a common task performed on unstructured scenes, for example when capturing video from a moving vehicle for the purpose of alerting a driver about a road sign. Furthermore, there is a little research has been done in detecting Kurdish text in natural images. Thus, in this project, we use an existing text detection algorithm, which employs edge-enhanced Maximally Stable Extremal Regions as basic letter candidates. These candidates are then filtered using geometric and stroke width information to exclude non-text objects. Letters are paired to identify text lines, which are subsequently separated into words. The aim of this project is to detect regions containing Kurdish text in an image.

Modern Student Registration

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Abstract

Registering student in the universities became a significant process before they are starting their courses. However, there is not a proper system for registering them in our country while there are a number of software tools to create this system. Also, today with registering students there is another issue taking place as they want to have a place for living, for this purpose the university staff must distribute them within the accommodations. So within this project we decided to create a system capable to do the both recording students information and distribute them to accommodations. C# (C Sharp) was used to design the application and some codes to connect with a database behind this application. The database is created via SQL Server software in order to store the data sent via application. The application includes a place where a student ID card can be printed directly after the student's details recorded with the system.

The Causal Relationship Between Foreign Trade And Economic Growth In Iraq

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Abstract

We cannot forget that Iraq is a country that relies mainly on imports and that oil is the most important export commodities. The discovery of oil resulted in the neglect of other natural economic resources, especially after the change in 2003. The study seeks to review the empirical evidence on the relationship between trade openness and economic growth over the long term in a time sample and study the impact of international trade on economic growth in Iraq using two models of measuring economic growth (representing per capita GDP) And some of the indicators chosen to represent foreign trade by using time series data for both imports and exports and trade openness for the period 1970-2015 to test the hypothesis of the negative impact of trade openness on the economy. The study reached acceptance of the hypothesis through statistical analysis based on data analysis of time series.

Preparation, Characterization and Antibacterial Activity of Silver Nanoparticles

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Abstract

In this study, silver nanoparticles (AgNPs) were synthesized using a rapid, single step and completely green biosynthetic method by reduction of silver nitrate solution with pistacia atlantica plant leaf extract which acts as reducing agent and efficient stabilizer. The structural and properties of the AgNPs were investigated by scanning electron microscopy (SEM), energy distribution surface (EDS), X-ray diffraction (XRD), fourier transform infrared (FTIR) spectroscopy, and ultraviolet-visible spectroscopy (UV-Vis). The (XRD) studies demonstrate that AgNPs were crystalline in nature, with a cubic shape and average particle size 16.9 nm. On the other hand, this work implicated the use of Ag NPs in antibacterial studies. The antibacterial effect of Ag NPs was evaluated against three pathogenic bacteria which showed that the nanoparticles have moderate antibacterial activity against both gram positive (Staphylococus aureus) and gram negative (Klebsiella pneumonia, Enterobacter aerogenas and Pseudomonas aureginosa) pathogenic bacterial strains in the presence of different Ag NPs concentrations at room temperature.
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Biological Activity of Apicidin and Approaches to its Derivatives

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Abstract

The current work describes the synthesis of a family of amino acids containing a ketone functionalised side-chain (I, II, III), which are analogues of one of the amino acids found in the cyclic tetrapeptide apicidin (IV). Cross metathesis of the alkenes (V, VI, VII) with a range of unsaturated ketones, followed by hydrogenation, gave the target amino acids in excellent yields. The required alkenes were prepared in moderate to good yield by the copper-catalysed allylation of the homologous organozinc reagents (VIII, IX, X) with allyl chloride. The alkene (VI) was incorporated into the linear tetrapeptide (XII), which was then cyclised to give the cyclic tetrapeptide (XIII) along with the cyclic octapeptide (XIV). Cross metathesis of the cyclic tetrapeptide (XIII) with methyl vinyl ketone and propyl vinyl ketone, followed in each case by hydrogenation, gave the two modified cyclic peptides (XV) and (XVI) in good yield, demonstrating the feasibility of the cross-metathesis/hydrogenation strategy for the preparation of analogues of apicidin.

Investigation Thermodynamic Properties And Solubility For Calcium Carbonate Solutions Extract Of Chicken And Cotrinx Quail Eggshell

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Abstract

Measurements of solubility and concentration calcium carbonate ($CaCO_3$) were made on solutions extract of chicken and coturnix quail eggshell at temperatures ranging from 293.15 K to 333.15 K. Measurements were carried out at atmospheric pressure. The concentration and solubility increase with increase in temperatures for all the systems studied at investigate temperature range. These data were used to calculate the Gibbs free energy, ΔG, enthalpy, ΔH, and entropy, ΔS of solubility for $CaCO_3$ in eggshell at each temperature. The values of Gibbs energy were negative for investigated systems. The calculated experimental data show that the mixing processes are endothermic. Therefore, these processes must be driven by entropy increase. The physical interpretation of the results and their implications are discussed.

Kinetic Studies Of Formation Of A Complex Derived From Copper II And Schiff Base

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Abstract

Kinetic studies for the synthesized complex between copper II and a Schiff base were carried out under different temperatures spectrophotometrically. Arrhenius parameters were obtained by measuring reaction rates at different temperatures (298-313 K). The rate constant increases with increasing temperature Ea=199.6 kJ for the pseudo first order reaction.

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Antibacterial Magnetic Silver And Activated Carbon Nanocomposite For Water Purification

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Abstract

Nowadays, increasing demand for wastewater treatment has become a concern. Growth in population, rapid industrial developments and long-term droughts are the main causes for the wide spread of contamination in drinking water both surface water and ground water. The use of nanomaterials has received much attention for water treatment because of their unique properties, such as high surface area, their small size and surface mobility. Magnetic antimicrobial activated carbon nanocomposite in which nanoscale sized magnetite and silver particles are combined have been prepared. The nanocomposite has worked as an effective and recoverable organic pollutant remover and antimicrobial agent for water disinfection. Indicators (thymol blue, bromothymol blue, methyl red) were used as organic pollutants. The nanocomposites has also significantly reduced the number of microbes in an Escherichia coli (E. coli) solution. The developed nanocomposites is of great importance as they are cost effective, highly recoverable and can remove organic pollutants and has antibacterial effect.

Effect Of Hookah Smoking On The Level Of Cholesterol Among Adults In Soran City

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Abstract

Hookah (also known as Water pipe, shisha or Hubble bubble) is an old form of noncigarette tobacco smoking that has been commonly practiced in the world region for centuries. The smoking have a serious dangerous of human body because of the harmful chemicals and materials that have direct effect and cause diseases of many organs and body in general. The study focused on effects on cholesterol level. The investigation includes hookah smoke sampling, extraction and analysis sample of blood, then the effect of smoking hookah on level of cholesterol in blood were take it as consideration. Blood sample of adults that smoking hookah were taken and at same time blood sample of adults that did not smoking hookah were taken too. After   analysis the level of cholesterol of both samples by using spectrophotometer concluded that smoking of hookah have slightly effect on level of cholesterol among adults in Soran city.

Green Synthesis And Identification Of Zno At Iron Ore As A Natural Nanocatalyst For Efficient Destruction Of Methylene Blue At Room Temperature

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Abstract

For the first time an extra stable novel nanocatalyst was green synthesized using highly magnetic Iron ore as an absolutely natural substrate including beneficial minerals to biosynthesis of the bioactive ZnO at Iron ore nanocomposite (NCs) through an eco-friendly, simple and cost-effective method. The biosynthesized nanocatalyst characterized using the SEM, EDS, Elemental mapping, XRD, and Uv-vis analytical techniques. Furthermore, the superior catalytic activity of ZnO at Iron ore NCs was investigated during an ecofriendly reaction for the destruction of methylene blue (MB) as an harmful organic dye at room temperature.

Antibacterial Evaluation of (*Thymus vulgaris*) Thyme Extracts

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Abstract

This study was carried out to evaluate the antibacterial activity of aqueous and organic extracts of *Thymus vulgaris* L. mixture of leaves and stems. Dried ground powder leaves and stems were extracted with water (aqueous extracts), ethanol (Reflux extracts). The antibacterial activity of these extracts was evaluated against bacteria (staphylococcus aureus G+ and escherichia coli G-) using petri-dish diffusion method. The results obtained showed that the extracts in general had more antibacterial activity against staphylococcus aureus G+ than that of escherichia coli G-.

Real-time Object Image or video Tracking

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Abstract

Nowadays, object detection and tracking is an important issue in robotics and computer vision systems, especially in video surveillance, robot navigation and autonomous vehicle navigation. In this paper, we propose a fast method for object tracking and recognition within the context of a computer robot acquiring real time images from a top mounted camera. The aim of the proposed method is to get real target when the Application will be work it if the target moves it. The benefit this project that reduce cost, time and storing few data in the hard disk devices. The results of this paper have shown that our method best fitted the computer platform and gave excellent competitive results in real time tracking.

An Experimental Study On Microbial Diagenesis And Biomineralization Of Natural Rock Substrate

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Abstract

Natural rock substrates are susceptible to fungal attack that results in significant microbial diagenesis of these substrates. For two weeks experimental study, fungi growing in Petri dishes from airborne spores attacked petrographic thin sections and slabs prepared from the Pillow Lava from Choman in Erbil, Goroni Metamorphic from Goroni Village in Choman, and Bekhme Limestone from Bekhme Formation. The analyses of the fungal material (samples of mycelia), thin sections and slabs under optical microscopy, florescence microscope, scanning electron microscope (SEM), energy dispersive X-ray (EDX), and X-ray diffraction (XRD) revealed an extensive fungally induced diagenesis. The results indicate strong diagenesis and biomineral neomorphism, as well as intense substrate dissolution, cementation, open space filling, formation of intergranular and intragranular porosity, and permeability enhancement. The results of this experimental study confirm the significant role of fungi in reshaping natural rock substrate and forming new biominerals in the natural environment, such as oxalate minerals.