



Scientific and Technical Research Association

CONFERENCE PROCEEDINGS

**19th International Conference on Researches in Science & Technology
(ICRST), 27-28 July 2017, Barcelona, Spain**

27-28 July 2017

Conference Venue

Facultat de Filosofia, Facultat de Geografia e Historia, (Department of
Philosophy, and Department of Geography and History) Universitat de
Barcelona, Barcelona, Spain


(Rooms 401 & 402, Fourth Floor)

PLENARY SPEAKER





Paulo Alexandre Gonçalves Piloto

**Department of Applied Mechanics, Polytechnic Institute of
Bragança , Bragança, Portugal**


 <p>Ghufuran Aulia GICICRST1708051</p>	<p align="center">Utilization Of Briquette Charcoal From Mixture Biomass Fuel As Alternative Energy Sources In Small Industries</p> <p align="center">Ghufuran Aulia Chemistry Departement, University of Indonesia, 16424 Depok, Indonesia</p> <p align="center">Talitha Heriza Chemistry Departement, University of Indonesia, 16424 Depok, Indonesia</p> <p align="center">Aisa Amanda Chemistry Departement, University of Indonesia, 16424 Depok, Indonesia</p> <p align="center">Alwy Fahmi Chemistry Departement, University of Indonesia, 16424 Depok, Indonesia</p> <p align="center">Abstract</p> <p>In line with the increasing demand of energy, the development of alternative energy resources must continue be done. Although that function is to overcome the previous energy,even verified and varied of oil or fuel with seek new alternative energy resources. Average price of small industry make the primary energy source of kerosene and firewood, which is in its production process requires considerable energy and fuel costs are high. Therefore, the needed to find green energy sources as alternative energy that can reduce the industry's dependence on petroleum industry and firewood that could have a negative impact on the planet. One of them comes from a mixture of biomass fuels, such as waste coconut shells, rice husk / straw, corn cobs, sawdust and chainsaw. Hazardous waste is often thrown away. When so many benefits, one of which could be used innovation as a raw material for making charcoal briquets. The charcoal briquettes will be used as an alternative energy for small industries as the main energy source. The mixture of waste BIOMASS, such are formed from molecules of glucose, form cellulose molecules which are large, thus forming a structure that is bonded by a substance called lignin, a substance which is expected in addition to a resin. It is also to make the composition of a fuel that is not much different from other fuels.</p> <p>Keyword: Biomass fuels, green energy, alternative energy, lignin, resin</p>
<p>M. Benlebna GICICRST1708053</p>	<p align="center">Numerical analysis of stresses in the dental implants: case of three implants</p> <p align="center">M. Benlebna Department of Mechanical Engineering, University of Mascara, Mascara 2900, Algeria</p> <p align="center">B. Serier</p>

	<p>LMPM, Department of Mechanical Engineering, University of Sidi Bel Abbes, BP 89 Cité Ben M'hidi, Sidi Bel Abbes, 22000, Algeria</p> <p>B. Bachir Bouiadjra Department of Mechanical Engineering, College of Engineering, King Saud University, Riyadh, Saudi Arabia University Djillali LIABES of Sidi Bel Abbes, BP 89, Cité Ben M'hidi, Sidi Bel Abbes 22000, Algeria</p> <p>ABSTRACT</p> <p>The objective of this study is numerically analysis by finite element method the level and distribution of equivalent Von Mises stresses induced in bone during the masticatoire simile process by dynamic forces. These constraints are evaluated according to the nature of implantology, i.e. on the basis of the number of implants and the distance separating them with the aim to propose a new technique of Dental implantology.</p> <p>This study is to analyze the level and distribution of stresses in the bone during the implantation of several implants close to one another. The aim of this study is the proposal of a new technique of implantology which consists in the implementation of three implants to support two teeth. We analyze if such a technique does not damage to the bone. This is the objective of this study. This work is to analyze the intensity of Von Mises equivalent stress induced in bone in its part located between the implants. Two types of implant have been studied. This intensity was analyzed not only based on the number of implants, but also of the distance separating them.</p>
<p>Dr. Nayera A.M. Abdelwahed GICICRST1708054</p>	<p>Optimization of silver nanoparticles biosynthesis</p> <p>Dr. Nayera A.M. Abdelwahed Chemistry of Natural and Microbial Products Department, National Research Centre, Dokki, Giza, Egypt</p> <p>Abstract</p> <p>In this present study, silver nanoparticles (AgNPs) were synthesized in submerged cultures of <i>Streptomyces ambofaciens</i> NRRL 2420 containing sodium nitrate as initiator of nitrate reductase enzyme production. Rapid biosynthesis of AgNPs was achieved by addition of silver nitrate solution (1 mM AgNO₃) to the fermentation culture immediately after 48 hours incubation time. The produced particles showed a single surface plasmon resonance peak at 400 nm by UV-Vis Spectroscopy, which confirmed the presence of AgNPs. The effect of (AgNO₃ concentration, incubation period, pH levels of the fermentation culture and inoculum size and type of <i>Streptomyces ambofaciens</i>) on biosynthesis of silver nanoparticles was optimised for the fabrication of silver nanoparticles. The maximum silver nanoparticles biosynthesis (2.5 O.D at 400 nm) was achieved under AgNO₃ concentration of 1%, incubation period of 72 hours, initial pH 10-12 and inoculum size of 2ml vegetative culture 48 hours growth. Fourier Transform Infrared Spectroscopy (FTIR) analysis provides evidence for proteins as possible reducing, and capping agents. Furthermore, the biosynthesized AgNPs significantly inhibited the growth of pathogenic Gram -positive bacteria (<i>Staphylococcus aureus</i>), Gram -negative bacteria (<i>Pseudomonas aeruginosa</i>) and</p>

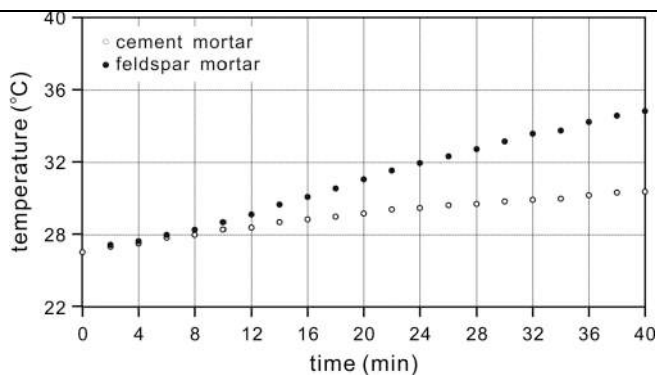
	<p>yeast (<i>Candida albicans</i>). Thus, the obtained results clearly suggest that silver nanoparticles may have important applications in controlling various pathogenic microorganisms.</p> <p>In this study, for the first time <i>Streptomyces ambofaciens</i> NRRL 2420 was utilized for the biosynthesis of silver nanoparticles.</p> <p>Keywords: Optimization, Silver nanoparticles, Antimicrobial activity, <i>Streptomyces ambofaciens</i> NRRL 2420</p>
 <p>Nezha Sekkal-Taleb GICICRST1708058</p>	<p>A study of properties of the D-Mannose in the natural treatment of urinary infections caused by E- Coli</p> <p>Nezha Sekkal-Taleb Pharmacy Departement, University of Djillali Liabes of Sidi bel Abbes, Algeria; Laboratoire de Génie Civile et environnement, LGCE</p> <p>Abstract</p> <p>D-Mannose is a natural sugar; it is present in various foods, and binds to <i>E. coli</i>, which is then discharged in urine.</p> <p>The purpose of this research is to prove the efficiency of D-Mannose and provide an approach to the mean duration of treatment by performing tests on laboratory rats, by provocation of UTI contaminating rats by different ways then, administration of D-Mannose orally. A bacteriological examination of urine was carried out and the interpretation of results was based on the sterility of the culture media.</p> <p>On other aim of this research is the study of protein-protein interactions, which have an important role to understand the process of pathogenesis of bacterial and viral infections. Bioinformatics brings also its contribution to the study of protein-protein interactions by methods and software as molecular dynamics and protein - protein docking.</p> <p>We have study the interaction between D -Mannose and the Fimh protein by the use of molecular dynamics method. Initially, several structural calculations and optimizations by Hyperchem8 software were conducted on D- Mannose to understand how this natural sugar attacks the <i>Escherichia coli</i> bacterium.</p> <p>Then Docking calculations were performed by Hex6.3. Interpretation of results is based on the energy of interaction formed by ligands Alpha -D- mannose and Beta -D- mannose. The lowest energy of interaction of complex probably present a greater inhibition of Fimh protein.</p> <p>Keywords: Molecular Modeling, Molecular Docking, <i>E. coli</i> uropathogenics trains, urinary tract infection, D-Mannose.</p>
<p>Mohamed Roudane GICICRST1708061</p>	<p>A Numerical Comparison between DLR-F4 and DLR-F6 Aircraft Configurations</p> <p>Mohamed Roudane Mechanical Engineering Department, University of Blida 1, BP 270 Blida 09000 Algeria</p> <p>Merouane Salhi Institute of Aeronautics and Space Studies, University of Blida 1, BP 270 Blida 09000 Algeria</p>

	<p style="text-align: center;">Abstract</p> <p>This work is a numerical computation in transonic regime using ANSYS software on DLR-F4 (fuselage + wing) and DLR-F6 (fuselage + wing+ nacelle) configurations with an unstructured mesh (tetrahedral) generated by ICEM CFD software. To show generally the aerodynamics performances evaluation of aircrafts and the aerodynamic effect of the nacelle. The calculation is made for Mach number equal 0.75 and angle of attack equal 1 degree. An application of the unstructured grid is presented for the prediction of aerodynamics characteristics error on two configurations. The article briefly describes the underlying methodology and summarizes the results obtained on the DLR's configurations. The flow solver employs a cell-centered, finite volume scheme for solving the Reynolds Averaged Navier- Stokes equations on tetrahedral grids. For the present computations, flow in the viscous sublayer has been modeled with an analytical wall function. The emphasis of the paper is placed on the practicality of the methodology for accurately predicting of aerodynamic characteristics errors, and serves as an extended documentation for the baseline unstructured grids and presents the results obtained for the DLR's configurations for a Mach number and angle of attack well moderate.</p> <p>Keywords: Transonic flow, DLR configurations, Navier Stokes equations, ANSYS, ICEM CFD, unstructured mesh.</p>
<p style="text-align: center;">Manoj Kumar GICICRST1708063</p>	<p style="text-align: center;">Numerical Simulation of Nonlinear Elliptic Partial Differential Equations</p> <p style="text-align: center;">Manoj Kumar Department of Mathematics, Motilal Nehru National Institute of Technology Allahabad-211 004 (U.P.), India</p> <p style="text-align: center;">Abstract</p> <p>The present paper deals a fifth order Newton-type iterative method for solving nonlinear equations. The derivative term has been removed from the proposed method using divided differences and proved that method is fifth order convergent in both the cases with and without derivative term. Various numerical comparisons are made in MATLAB to demonstrate the performance of the developed methods. Finally, fifth order Newton-type iterative method has been applied to solve the nonlinear system of equations in finite element solution of nonlinear elliptic partial differential equations.</p>
 <p style="text-align: center;">H. Mabrouki GICICRST1708064</p>	<p style="text-align: center;">Production of ultrapure water by combining Ultrafiltration- textile ion exchanger and electrodesionization</p> <p style="text-align: center;">H. MABROUKI University of Sciences and Technology Houari Boumediene, BP 32, El-Allia, Algiers, Algeria</p> <p style="text-align: center;">R. Haouche University of Sciences and Technology Houari Boumediene, BP 32, El-Allia, Algiers, Algeria</p> <p style="text-align: center;">D.E. Akretche University of Sciences and Technology Houari Boumediene, BP 32, El-Allia, Algiers, Algeria</p>

	<p style="text-align: center;">ABSTRACT</p> <p>The aim of this study is to examine the performance of an unconventional hybrid process to produce ultrapure water in accordance with international pharmaceutical standards [1]. An ultrafiltration pilot used has been conducted in laboratory. It allows a tangential filtration. Anion and cation exchanger textile (FIBAN A6 and FIBAN K4) were introduced into “Carbosep” ultrafiltration membrane. The evolution of the permeate flux as a function of time for different pressures was studied. The presence of the ion exchanger textile inside the membrane increased the ionic exchange between the water and the ion exchange textile. This hypothesis was verified by measurements of the pH and the conductivity, which were made on the water and the permeate. The pH was 7.5 and a clear decrease of the conductivity from 987 $\mu\text{S} / \text{cm}^2$ to 583 $\mu\text{S} / \text{cm}^2$ after the first passage. This result reflected the efficiency of ultrafiltration / ion exchange. In order to increase the demineralization of the water, several ultrafiltration passages have been carried out, and also to preserve the cation and anion exchange membranes used in the Electrodeionization cell (EDI). [2] Electrodeionization (EDI) is a new hybrid process of purification-concentration, resulting from the combination of electro dialysis (ED) and ion exchange. [3-5]. The conductivity of the water introduced into the EDI cell was 50 $\mu\text{S} / \text{cm}^2$. The evolution of the conductivity with time for the different current densities, decreased with the higher density. The final conductivity was less than 1 $\mu\text{S} / \text{cm}^2$. Various tests carried out on the ultrapure water obtained, demonstrate its compliance with the standards of the pharmacopoeia. In conclusion, the results obtained showed that it is possible to obtain water which complies with the standards for pharmaceutical use without reagent addition and by reducing the number of unit operations.</p> <p>Keywords: ultrapure water, ion exchanger textile, electrodesionization</p>
<p>Nahla A. Hassaan GICICRST1708065</p>	<p style="text-align: center;">Protective Effect of Minocycline Against Bacterial Infection-Induced Sickness Behavior in Rats</p> <p style="text-align: center;">Maha G. Soliman Department of Zoology, Faculty of Science, Al-Azhar University, Cairo, Egypt</p> <p style="text-align: center;">Hanaa-Mansour Department of Pharmacology, National Organization for Drug Control and Research (NODCAR) Cairo, Egypt</p> <p style="text-align: center;">Wedad A. Hasan Department of Pharmacology, National Organization for Drug Control and Research (NODCAR) Cairo, Egypt</p> <p style="text-align: center;">Nahla A. Hassaan Department of Zoology, Faculty of Science, Al-Azhar University, Cairo, Egypt</p> <p style="text-align: center;">Abstract</p> <p>Many studies suggest that bacterial infection generate adverse effects on the cognitive, behavioral and emotional status. Inflammation, oxidative stress and</p>

	<p>altered level of immune-cytokines are involved in the pathogenesis of sickness behavior in rats. Minocycline is a broad spectrum second generation semi synthetic derivative of the bacteriostatic antibiotic tetracycline. The present study aimed to determine effects of minocycline on neurobehavioral and some other related parameters in bacterially infected and non- infected rats. The levels of Interferon gamma (IFN-γ) and nitric oxide (NO) were assessed in brain tissue, serum C-reactive protein (CRP) as well as total and differential leukocytic counts (WBCs), also brain histopathological examination was evaluated. Male Sprague-Dawley rats received (90mg/kg) p.o. minocycline for three days. The infected animals were intraperitoneally injected 48 hours before sacrificing with 200 μl of E. coli 24 hours bacterial culture in nutrient broth containing approximately 1.8×10^8 cfu / ml. Animals were divided into four groups: - (1) Control group, (2) Escherichia coli infected group, (3) Minocycline treated group, (4) Minocycline and Escherichia coli treated group. The results revealed that minocycline blocked bacterial infection-associated sickness behavior in rats, reduced signs of cognitive impairment, decreased CRP, IFN , NO and total leucocytic count (WBCs).</p> <p>Key words: Escherichia coli, Minocycline, Interferon Gamma, C-Reactive Protein</p>
 <p>Djedri-Bani Safia GICICRST1708067</p>	<p>Optimization Of The Formulation Parameters Of A Parapharmaceutical 100% Bio Cream</p> <p>Djedri-Bani Safia Chemical Engineering Laboratory, Saad Dahlab Blida 1 University, P.O. Box 270, 09000 Blida, Algeria</p> <p>Boucherit Ahmed Chemical Engineering Laboratory, Saad Dahlab Blida 1 University, P.O. Box 270, 09000 Blida, Algeria</p> <p>Boumdal zohra Chemical Engineering Laboratory, Saad Dahlab Blida 1 University, P.O. Box 270, 09000 Blida, Algeria</p> <p>Issaadi Rachid Chemical Engineering Laboratory, Saad Dahlab Blida 1 University, P.O. Box 270, 09000 Blida, Algeria</p> <p>Abstract</p> <p>The plant which was the subject of our study is the lavender (Lavandula vera) which is a perfume and widespread plant in Algeria. The value of its aromatic secondary metabolites offers new perspectives in the industry. The extraction of the aromatic fraction (hydrolat, essential oil) from fresh aerial part of Lavandula vera was conducted by steam distillation. The average yield of essential oil obtained is 1-2%.</p> <p>The BIO anti-inflammatory cream obtained has interesting dermal properties. This cream is endowed with remarkable healing properties and anti-infectious. It leads to dermatological applications and opens the way eventually to fruitful research.</p> <p>During this work we have formulated an anti-inflammatory 100% BIO cream</p>

	<p>whose active ingredient is the essential oil of lavender with very attractive properties. Optimization of the formulation parameters made it possible to have a stable cream. Physicochemical analysis, sensory (with diagram properties evaluation) and comparative study with a reference cream (conventional) was able to show the qualities of our BIO cream.</p> <p>Keywords: formulation, emulsion, Essential oil, BIO cream, Safety testing.</p>
<p>Khil-Ha Lee GICICRST1708068</p>	<p>High Adsorption and Thermal Conduction of Lightweight Feldspar Mortar for Construction Material</p> <p>Daehong Go GI Co. Ltd., 1048-11 Joongang--daero, Yeonje, Busan, Korea</p> <p>Sung-Wook Kim GI Co. Ltd., 1048-11 Joongang--daero, Yeonje, Busan, Korea</p> <p>Eun-Kyeong Choi GI Co. Ltd., 1048-11 Joongang--daero, Yeonje, Busan, Korea</p> <p>Khil-Ha Lee Civil Engineering, Daegu University (DU), 712-714, Jillyang, Gyeongsan, Gyeongbuk, Korea</p> <p>Abstract</p> <p>This study presents the potential of feldspar as construction materials. It is likely that Feldspar has characteristics of both high absorption for noxious substances and high thermal conductance since it has high porosity and wide surface area during weathering process. These characteristics could be a good advantage for construction materials. A sample of lightweight feldspar mortar was made in order to compare the absorption and thermal conductance with the widely used Portland cement. Hot water pipes were installed inside both the samples (feldspar mortar and Portland cement), and variation of temperature in time was observed. It is found that the gap in temperature is 1 °C after 30 min, 1.6 °C after 1 hour, and 3.3 °C after 3 hours and feldspar mortar shows high capability for thermal conductance. Next absorption experiment was performed against copper and lead. It is shown that the capability of absorption for feldspar mortar is noticeably improved. The Portland cement has 30% absorption in concentration after 1 hour reaction, while the feldspar mortar has 85% (99%) absorption in concentration after 1 (10) minute reaction. The lightweight feldspar mortar is very promising for potential construction materials in that it has high absorption and thermal conductance.</p>



Keywords: Thermal conduction, Adsorption, Feldspar, Mortar

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Education Efficiency Evaluation Based on PROMETHEE: A Case Study for Chemistry Education

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ABSTRACT

There are too many studies on efficiency of education in the literature. Number of these researches is increasing, while the concept and the methodology of these studies vary on the field and the subjects. The main reason for the trend is due to the importance of education achievements in terms of life. The role of the field of chemistry, one of the major areas of science education in understanding and explaining life and nature, is understood from studies in the literature. While the effectiveness of education in all areas of life is important, it is important to examine the effectiveness of chemistry education because of the education and teaching difficulties stemming from the nature of chemistry. However, the effectiveness of education and teaching services is of interest to many people. The achievements acquired as the result of attainment of the education goals, contribute to the knowledge accumulation at the macro level and thus to the development of the science, while the realization of the goals of the individual and the education institution in a micro sense. The expectations of the relevant stakeholders and sectors make the efficiency of education and teaching service important. In this study, efficiency of high school chemistry education is evaluated in terms of academic achievement at institutional level. A group of experts used fishbone diagram to determine the elements make academic achievement of chemistry course education and teaching at high school level hinder or effect

	<p>negatively. Expert group consist of authors of study and chemistry teachers in a high school. Determined factors are transferred to the Decision Lab program and the Preference Ranking Organization Method for Enrichment Evaluations (PROMETHEE) analysis was applied. At the result of the study, efficiency factors for chemistry course education and factor priorities of an education institution in terms of chemistry education efficiency are determined.</p> <p>Keywords: Chemistry education, efficiency, fishbone analysis, academic achievement, PROMETHEE</p>
 <p>Younes El khchine GICICRST1708073</p>	<p>Maximization power coefficient of horizontal axis wind turbine blades (HAWT) using blade element momentum theory BEM</p> <p>Younes El khchine Engineering Sciences Laboratory, Polydisciplinary Faculty of Taza, Sidi Mohamed Ben Abdellah University</p> <p>Mohammed Sriti Engineering Sciences Laboratory, Polydisciplinary Faculty of Taza, Sidi Mohamed Ben Abdellah University</p> <p>Abstract The horizontal axis wind turbine (HAWT) blade geometry with the diameter of 10.054 m using the S809 airfoil profile have been investigated numerically. The optimum blade shape, obtained using improved blade element momentum (BEM) theory. The main objectives are to predict the aerodynamic performances such as forces and torque imposed on the rotor blades, which are essential to its structure or design. This approach requires much less computing time and memory than three-dimensional simulation flow around the wind turbine rotor with simple CFD method. The flow is assumed unsteady, incompressible and fully turbulent. Keywords: BEM method; CFD; aerodynamic performances; horizontal axis wind turbine</p>
 <p>Soumia Edalle GICICRST1708074</p>	<p>Maximum power tracking for the photovoltaicsystem by modified reference</p> <p>Soumia Edalle Engineering Sciences Laboratory, Polydisciplinary Faculty of Taza, Sidi Mohamed Ben Abdellah University</p> <p>Majid Ben Yakhlef Engineering Sciences Laboratory, Polydisciplinary Faculty of Taza, Sidi Mohamed Ben Abdellah University</p> <p>Abstract In this paper, the studying of the controller for the Maximum Power Point Tracking (MPPT) of a photovoltaic system under variable temperature and irradiation is presented. The reference signal for the PV system is variable and unknown. The aim of this article is to propose a controller based on the MG after having made a modification on the reference signal of an unknown and variable signal to the zero signal. A DC/DC boost converter is utilized as a control actuator for the MPP tracking using PWM control on the switches. To validate the</p>

	<p>proposed approach, it is compared with that based on the P & O with the variable reference signal. The results of the simulation show the P & O approach it has limits such as: presence of oscillations around MPP, which leads to energy losses and diverges in the case of sudden changes in climate and with the sliding mode we note the absence of the oscillations but the time of convergence increases. Keywords: MPPT, Sliding Mode Control (SMC), P&O.</p>
 <p>Dr. Arzu Cilasun Kunduraci GICICRST1708077</p>	<p style="text-align: center;">Lighting Design For The Aging Eyes</p> <p style="text-align: center;">Dr. Arzu Cilasun Kunduraci Yasar University, Faculty of Architecture Izmir TURKEY</p> <p style="text-align: center;">Abstract</p> <p>Lighting allows users to accomplish their tasks, feel safe and understand the surrounding environment. Therefore, it is an inseparable component of buildings. Building codes, energy standards and regulations determine the required illuminances to provide visual comfort. However, the existing requirements are constituted considering healthy eyes only. Different visual comfort requirements for people with visual disabilities, in particular for elderly people, are not clear. In fact, the illuminance requirements show great difference for elderly people. For instance, an average 60 years old eye requires three times more illuminance than an average 20 years old eye. Therefore, a lighting design that complies with the regulations may not satisfy elderly users' needs.</p> <p>The world's older population continues to grow remarkably. The increasing share of population of older people requires increase of awareness. In this study, technical information has been offered to obtain visual comfort in living spaces occupied by elderly. Such information is critical for lighting design yet not sufficiently covered in literature. For that reason within this study, different requirements of each space type are emphasized to promote accessible design.</p> <p>Keywords: Lighting Design, Aging Eyes, Lighting for disabled, Accessible design, Design for Elderly</p>
<p>S. M. Mosaddad GICICRST1708078</p>	<p style="text-align: center;">Investigation a Coastal Park in Coastal zone of the Karoon River, Iran</p> <p style="text-align: center;">S. M. Mosaddad Assistance Professor, Dep. of Water Sciences, College of Physics, Shoushtar Branch, Islamic Azad University, Shouhstar, Iran</p> <p style="text-align: center;">H. R. Boveiri Sama Technical and Vocational Training college, Islamic Azad University, Shoushtar Branch, Shoushtar, Iran</p> <p style="text-align: center;">Abstract</p> <p>The objectives of river improvement tasks are to aid navigation to prevent flooding to reclaim and protect land to provide water supply for irrigation, hydropower development or domestic and industrial use. Shoushtar is a coastal city that includes a big part of the Karoon river and has many water applications; so, the crevasse canal of the Gar-Gar is an artificial and manmade branch of the Karoon (the biggest river in Iran). Study of flows and sediments debby in this area associated to the centrifugal force has significant importance. As a result of</p>

	<p>effecting centrifugal force in meander of river, there are different sediments deby and currents model to produce eddy or whirlpool structure so the coastal line destruction in this coastal line and width of river would be extended. Studying water currents in different basins such as rivers, straits and bays have been important as a result of valuable matters in scientific features. When a canal of water current is direct without any in turn directivity, water body moves calmly, only a mild damping rate in time and space. Coastal parks are influenced by coastal sedimentation as a result of water currents and so, coastal water erosion should be studied to decrease its rate to some extent is possible. In this paper following an annual research project, we consider benefits of such this park and where it would be better built. Study and development of civil engineering and structure architecture are important using improved water resources to being efficient in life and progressing industry,agriculture and production too.</p> <p>Keywords: Shoushtar, Karoon River, coastal park.</p>
<p>Wenjing Wang GICICRST1708079</p>	<p>Novel amine impregnated graphene/SBA-15 composite with good stability for CO2 capture</p> <p>Wenjing Wang The University of Queensland, Australia</p> <p>Abstract</p> <p>Carbon dioxide (CO₂) is the major greenhouse gas that makes the largest contribution to global warming. Worldwide research activities have focused on developing different types of physical and chemical adsorbents for CO₂ capture. Amine functionalized mesoporous silica combining the merits of physisorption and chemisorption is one of the most promising materials for CO₂ capture. However, due to the low thermal conductivity of mesoporous silica coupled with high adsorption heat of chemisorption, the thermal stability and cycle stability are severe issues that should be considered for practical CO₂ capture. The introduction of graphene with superior properties, large theoretical specific surface area of 2630 m² g⁻¹ and excellent thermal conductivities, could be an effective way to solve the problem of stability. SBA-15 is a mesoporous silica, which has well-ordered hexagonal mesopore structure. However, to the best of our knowledge, the feasibility of graphene introduction to SBA-15 for CO₂ capture need further explore. In this work, novel nanocomposites of graphene(G) /SBA-15/hyperbranched polymer(HBP) were synthesized and texted as CO₂ adsorbent. A capacity of up to 1.50 mmol g⁻¹ was obtained by G/SBA-15/HBP (50), indicating the presence of graphene within the system increased the capacity of conventional SBA-15/HBP to adsorb CO₂ by 51.51%. SEM images and N₂ sorption analyse indicate the introduction of graphene reduced the agglomeration and HBP could disperse more evenly into G/SBA-15. What's more, G/SBA-15/HBP (50) was relatively stable for 10 thermal cycles. The presence of graphene in the nanocomposite efficiently stabilizes HBP, improving cycle stability and adsorbent longevity.</p> <p>Keywords: CO₂ capture, mesoporous silica, graphene, amine functionalization</p>
<p>Arab Loubna GICICRST1708086</p>	<p>Study of the catalytic reactivity on the CO oxidation for gold nanoparticles catalysts doped on zinc -containing hydrotalcite</p>

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Abstract

Layered double hydroxides (LDHs), also known as Hydrotalcite-like compounds (HTLcs) have received considerable attention in the recent decades due to their diverse applications related to heterogeneous catalysis, such as their high surface area, basic properties and reactivity [1-4]. In this paper, a series of gold trimetallic Au/Zn_xMg_{1-x}Al-CO₃ hydrotalcites catalysts containing 2wt% of gold, with various Zn/Mg molar ratio, were prepared using a deposition method described by Ivanova and coll [5] without adjusting the pH of the initial HAuCl₄ solution, and the different physico-chemical characteristics such thermal stability, texture and reducibility were studied. Various techniques were used such as chemical analysis, powder X-ray diffraction (DRX), surface area measurements (BET), transmission electron microscopy (TEM) and temperature programmed reduction (TPR).

The XRD results show that all supports are well-crystallized and contained only pure hydrotalcite-like phase where the Zn cations substitute isomorphically Mg cations in the lamella structure layers. For the catalyst, no change in the structure after introduction of gold was detected. The TEM images of Au/ZnMg-HT confirm the success of the preparation method with presence of small Au nanoparticles with a good dispersion of gold and an average particle size of 4 nm.

Keywords: Gold catalysts, CO-oxidation, Hydrotalcite, Direct anionic exchange.



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GICICRST1708088

Biosafety of handling with Pseudomonas aeruginosa in extraction of chitosan from Trichoderma reesei and using it as antibiofilm agent

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Abstract

Despite of *P. aeruginosa* exhibited a considerable rate of nosocomial infection in prolonged admission of patients in hospital and tendency of nosocomial pathogenic to acquire new antibiotic resistance(multi drug resistance) that leads to a great problems in their treatment and control, *P. aeruginosa* may be used as useful tool in biological treatment for deproteinization and extraction of chitosan from *Trichoderma reesei*. The best medium for higher fungal biomass production and chitosan production was malt extract yeast extract glucose medium(MYG). The chitosan was extracted by using a two-step biological treatment process: demineralization by *Lactobacillus plantarum* and deproteinization by *Pseudomonas aeruginosa*. Chitosan exhibited a strong antibiofilm effect against *Pseudomonas aeruginosa* since the inhibition rate reached to 62% followed by *Klebsiella pneumoniae* with 59% and *Enterococcus faecalis* with 52%, so that the chitosan has promising benefit as antibiofilm agent for treatment many diseases that associated with biofilm forming bacteria and fungi.

Hamid Bentarzi

FPGA Based Power System Simulator for Testing Protective Relay

<p>GICICRST1708089</p>	<p style="text-align: center;">Hamid Bentarzi Laboratory of Signals and systems (LSS), IGEE, University of M'hamed Bougara (UMBB), Boumerdes, Algeria</p> <p style="text-align: center;">Abstract</p> <p>The reliability of the power grid depends on the successful operation of thousands of protective relays. The failure of one relay to operate as intended may lead the entire power grid to blackout. In fact, major power system failures during transient disturbances may be caused by unnecessary protective relay tripping rather than by the failure of a relay to operate. Adequate relay testing provides a first defense against false trips of the relay and hence improves power grid stability and prevents catastrophic bulk power system failures.</p> <p>The goal of this research project is to design and enhance the relay tester using new technology such as FPGA implemented in acquisition card NI 7851. A new PC based tester framework has been developed using Simulink power system model for generating signals under different conditions (faults or transient disturbances) and Labview for developing the graphical user interface and configuring the FPGA. Besides, the interface system has been developed for outputting and amplifying the signals without distortion. These signals should be like the generated ones by the real power system and large enough for testing the relay's functionality. The signals generated that have been displayed on the scope are satisfactory. Furthermore, the proposed testing system can be used for improving the performance of protective relay.</p> <p>Keywords: Protective relay, tester, signals, Amplifier class D, FPGA.</p>
<p>Roufia Mezaache GICICRST1708090</p>	<p style="text-align: center;">Diarylmethyl ethers and Pd salts or complexes : a perfect combination for the protection and deprotection of alcohols</p> <p style="text-align: center;">Yann Bikard Laboratoire de synthèse et réactivité organiques, associé au CNRS, Institut de Chimie, Université de Strasbourg, France</p> <p style="text-align: center;">Roufia Mezaache Laboratoire de Chimie et Chimie de l'Environnement, Département de Chimie, Faculté des Sciences, Université de Batna, Batna 05000, Algeria</p> <p style="text-align: center;">Jean-Marc Weibel Laboratoire de synthèse et réactivité organiques, associé au CNRS, Institut de Chimie, Université de Strasbourg, France</p> <p style="text-align: center;">Abdelhamid Benkouider Laboratoire de Chimie et Chimie de l'Environnement, Département de Chimie, Faculté des Sciences, Université de Batna, Batna 05000, Algeria</p> <p style="text-align: center;">Claude Sirlin Laboratoire de synthèses mé tallo-induites, associé au CNRS, Institut de Chimie, Université, L. Pasteur, 67000 Strasbourg, France</p>

	<p style="text-align: center;">Patrick Pale Laboratoire de synthèse et réactivité organiques, associé au CNRS, Institut de Chimie, Université de Strasbourg, France</p> <p style="text-align: center;">Abstract</p> <p>The syntheses of highly functionalized molecules usually require several steps dealing with the protection and deprotection of those functional groups.1, 2 The choice of protecting groups is often critical for synthesis success, specially for the total synthesis of complex natural products and analogs.2,3 Benzyl type protecting groups are among the most commonly used, due to their deprotection conditions orthogonal to other protecting and functional groups1-3, and they have been applied to the protection of alcohols, thiols, amines, and acids. 1, 2 Nevertheless, their introduction is not always simple due to the basic or acid condition required,2 in order to solve this problem, we recently described a convenient and efficient method based on palladium catalysts (PdCl₂, PdCl₂(CH₃CN)₂) has been developed for the protection of Primary and secondary alcohols with bis(4-methoxyphenyl)méthanol (BMPMOH) in good yield. Deprotection could easily be achieved using the same catalyst but in ethanol. Both Pd-catalyzed protection and deprotection were orthogonal to other methods and fully compatible with other functional groups.</p> <p>The mildness of these protection and deprotection methods as well as their selectivity render them very useful tools for total synthesis.</p> <p>Keywords: alcohols, ethers, protection, déprotection, BMPMOH, PdCl₂, PdCl₂(CH₃CN)₂, DCE.</p>
<p style="text-align: center;">N. BENSACIA GICICRST1708091</p>	<p style="text-align: center;">Functionalized Of Double Walled Carbon Nanotube/Mixed Metal Oxides Nanocomposites</p> <p style="text-align: center;">N. BENSACIA Laboratory of chemical engineering, Faculty of Technology, University of Blida, Algeria</p> <p style="text-align: center;">K. SEFFAH Laboratory of chemical engineering, Faculty of Technology, University of Blida, Algeria</p> <p style="text-align: center;">A. Hadjziane -Zafour Laboratory of chemical engineering, Faculty of Technology, University of Blida, Algeria</p> <p style="text-align: center;">Abstract</p> <p>Various chemical methodologies have been developed for the formation of CNT chemical derivatives which further expand CNT potential applications in diverse fields of nanotechnology [1,2 ,3]. On the other hand metal and metal oxide nanoparticles (NP), is a class of materials exhibiting unique physical properties. Among the various reported NP, discrete position holds the various iron oxides NP due to their important applications in fields like catalysis [4], and magnetic</p>

	<p>information data storage [5]. The combination of the two classes of nanomaterials (CNT and NP) can lead to novel hybrid nanostructured hybrids which successfully incorporate the properties of the two counter-components. In principal, the two main pathways for the formation of CNT–NP hybrids involve either the attachment of preformed, chemically functionalized NP on suitably functionalized CNT through organic fragments or alternatively, the development of NP directly on the CNT surface.</p> <p>In this study, we report a simple, effective and reproducible approach of preparing DWCNTs/ β- FeOOH nanocomposites by ultrasonic-assisted in situ hydrolysis of the precursor ferric chloride and DWCNTs. DWCNTs were oxidized before being introduced into the synthesis DWCNTs/ Ni-Fe₂O₄. The synthesized powders were examined by Fourier transform infrared spectroscopy (FTIR) spectra were taken with a JASCO 4200 FT-IR. In the mid-IR (4000– 400 cm⁻¹) region via the KBr pellet technique. The microstructures of the products were further investigated by transmission electron microscopy (TEM). The point of zero charges (pHpzc) of DWCNTs/ β- FeOOH was determined using SZ-100 nano partica analyser.</p> <p>Keywords: β- FeOOH - Double walled carbone nanotube (DWCNTs)- Magnetic nanocomposite</p>
<p>A. Yağmur Topraklı GICICRST1708092</p>	<p>A framework proposal for assessing architectural projects of dormitories for Turkish construction industry based on environmental sustainability</p> <p style="text-align: center;">A. Yağmur Topraklı Gazi University Faculty of Architecture, Department of Architecture, Ankara, 06570, Turkey</p> <p style="text-align: center;">Aylin Adem Gazi University Faculty of Engineering, Department of Industrial Engineering, Ankara, 06570, Turkey</p> <p style="text-align: center;">İhsan Yüksel Kirikkale University Faculty of Economics and Administrative Sciences, Department of Business Administration, Kirikkale, 71450, Turkey</p> <p style="text-align: center;">Metin Dağdeviren Gazi University Faculty of Engineering, Department of Industrial Engineering, Ankara, 06570, Turkey</p> <p style="text-align: center;">Abstract</p> <p>Construction projects have a direct impact on the environment. Architectural projects are the initiating point where all major decisions are made for construction projects. Sustainable architecture and green design are the two most prevalent areas of emphasis in the academic studies related to architectural projects. The construction industry is very much affected by environmental performance of architectural projects in Turkey, however there are no current evaluation system exist for assessment purposes. Evaluating architectural projects based on environmental concerns encompasses a decision problem with multi</p>

	<p>criteria analysis. From this point of view, this study proposes an Analytical Network Process (ANP) based appraisal system for dormitory architectural projects in Turkey regarding with environmental performance. Since environmental performance is important in the decision making process for the evaluation of architectural projects, the study offers an analytical guide for choosing architectural projects grounded in environmental sustainability.</p> <p>Keywords: Architectural projects, environmental sustainability, architectural project performance, multi criteria decision making</p>
<p>Bouraiou Euchi Nabila GICICRST1708093</p>	<p>Purification Of The Water Of The Acid Benzoic In The Industriels Effluents By Liquid Liquid Extraction</p> <p>Bouraiou Euchi Nabila Process Engineering Department,Blida University,Blida, Algeria</p> <p>Zermane Samah, Meniai Abdeslem Hassen3 1 BLIDA 1 University, Process engineering Department, Alegria 2 Laboratoire de L'ingénierie des Procédés d'Environnement ,CONSTANTINE 3 University, 3 Laboratoire de L'ingénierie des Procédés d'Environnement,CONSTANTINE 3 University,</p> <p>Abstract</p> <p>In This study we have chosen to deal with the problem of elimination of organic material in industrial effluents. The separation of organic chemical compounds from a mixture is performed by several techniques (distillation, extraction, filtration ...) ; Among these techniques, liquid-liquid extraction. It is one of processes which allows the separation of one or more components of a mixture by making profitable their unequal distribution between two liquids practically non miscible. The extraction methods are essentially and primarily based on the follow of equilibrium, and thus the mass transfer cannot be ignored. To see the effectiveness of this method on the separation process, we studied the water- acid benzoic system and we tested the influence of several parameters including : The type of solvant ; The report of volumes : solvent/solute ; Initial concentration and the curve of equilibrium. This study indeed showed that the purification of the water of the benzoic acid by liquid liquid extraction is possible by using the ethyl diether as suitable and adequate solvent. It was found that there are several parameters that affect performance such as the concentration, the speed, the report V_{org} / V_{aq}, temperature ... etc.</p> <p>Keywords: Extraction, Liquid liquid equilibrium, Solvant.</p>
<p>Amer Alshihri GICICRST1708098</p>	<p>Impacts of Intellectual capital on Firm Performance</p> <p>Amer Alshihri Technical and Vocational Training Corporation, Riyadh, Saudi Arabia</p> <p>Abstract</p> <p>In the contemporary world, corporates are creating access and nurturing intellectual resources to establish a competitive advantage. Financial and physical resources have been substantially overshadowed by knowledge or intellectual resources to build value addition for corporates; thus, forming a sustainable</p>

	<p>knowledge competitive edge. Intellectual capital (IC) can be defined as the disparity between the cost of replacing firm's assets and its market value. Studies of the intellectual capital revolve around comprehending, identification and measuring of the intangible elements such as social capital, human capital and intellectual capital. Researchers of the intellectual capital report that these intangible factors have a substantial effect on the firm performance. A research study was carried out in three major banks in Saudi Arabia that heavily depends on intellectual capital. A survey questionnaire was drafted and distributed to 200 participants of our case study. These core companies are Riyadh Bank, Bank Al-Jazira (BAJ), and Alawal Bank. The collected data was analyzed using SPSS model to test the relationship between firm performance and intellectual capital. We found out that intellectual capital is emerging as one of the most valued assets. Besides that, we established that there is a positive correlation between firms' performance and intellectual capital; and IC can be applied a predictive factor of the future firm performance.</p> <p>Keywords; human capital, intellectual capital, competitive advantage, corporate performance, intangible assets</p>
<p>Merve Şen Kurt GICICRST1708099</p>	<p>Impact of the Rotor Bar Material on the Performance of 3 Phase IM :A review</p> <p style="text-align: center;">Merve Şen Kurt Department of Electric and Electronics Engineering, Amasya University 05100 Amasya, Turkey</p> <p style="text-align: center;">Ünal Kurt Department of Electric and Electronics Engineering, Amasya University 05100 Amasya, Turkey</p> <p style="text-align: center;">Ahmet Fenercioğlu Department of Mechatronics Engineering, Gaziosmanpasa University Tashciftlik Yerleskesi 60250 Tokat, Turkey</p> <p style="text-align: center;">Abstract</p> <p>The 3-phase induction motor is durable, reliable, simple (no brushes, slip rings and commutators) and maintenance free. So it's popularity is growing day by day in industrial and domestic applications. But this machine suffers for low starting torque and high starting current. It is known that starting and operating performance characteristics depend on starting torque, starting current, efficiency, electromagnetic torque, speed, slip and power factor. The performance are majorly determined by the rotor design parameters. It is concluded that in literature, rotor bar material is a significant parameter to improve motor performance and it is discussed. Several simulation and analysis studies to determine optimal rotor bar material are carried out using Maxwell, Flux and Opera etc. softwares which solve equations with finite element method (FEM). Some studies are validated experimental results. This paper deals with review of examinations and compare of rotor bar material on the performance of IMs. The higher performance is obtained using by material which has higher conductivity. This paper is reviewed consist of alot of studies in the last ten years.</p> <p>Keywords: Rotor bar material, 3-phase induction motor, FEM</p>

<p>Amara Rafik GICICRST1708102</p>	<p>Online GIS for the representation of air traffic based on radar data</p> <p>R. AMARA Department of Computer Science,ENS Kouba,Algiers, Algeria</p> <p>M. BELHADJ AISSA N. Belalia, F. Berrached</p> <p>Abstract The management of air traffic has always been a major concern of the Air Navigation organisms. To do this, various data sources are used, among them, geographic data (FIR and control areas boundaries, airways...) and also navigation data like radar data. Furthermore, the simulation of air traffic is expected to involve potential conflicts that may arise between aircraft separation during breaks and from there provide alternatives. This is especially useful when it comes to introducing a new air route in a sector or a radionavigation equipment. In the following, we offer an online representation of air traffic in which we mainly use the radar data to ASTERIX format for traffic information. The online environment is based on Mapserver. We conclude with a review and prospects to improve the solution.</p>
<p>Mr Lahmeur Karim GICICRST1708103</p>	<p>Towards Arabic parser</p> <p>Mr LAHMEUR KARIM Computer Science Department,ENS Kouba,Algiers, Algeria</p> <p>Abstract The Lexicalized Tree Adjoining Grammar (LTAG) is used in different languages such as English and French, we introduce in this work its application in Arabic. This works aims to produce an Arabic parser. We used a specific linguistic theory that helps us to produce the elementary structures of the LTAG formalism. The LTAG is based on two forms of trees, initial and auxiliaries that capture the linguistic characteristics of a language and also used the features structures of the unification grammars. We present in this work the different elementary trees and the features structures used for the different Arabic syntactic forms and the algorithm used to parse sentences. Keywords: Natural Language Processing, LTAG, parser, Arabic language.</p>
<p>Beskri Youcef GICICRST1708104</p>	<p>New tool for automated drainage network extraction in ENVI+IDL</p> <p>Beskri Youcef High Normal School of Kouba (ENS Kouba),Kouba, Algiers, Algeria</p> <p>Abstract Our work is a tool that we have developed and which enables the automatic extraction of the drainage and sub-basins network using a digital terrain model (DTM). The tool also makes it possible to automatically create the vector layer (evf), as well as the extraction of some spatial and geomorphological properties of each entity (stream or sub-basins). The tool is developed under the ENVI + IDL</p>

 <p>Mehran Yasemi GICICRST1708107</p>	<p>environment.</p> <p>Determining some biological characteristic of Frigate Tuna (<i>Auxis thazard</i> Lacepède, 1800) in Oman Sea, Iran</p> <p>Mehran Yasemi Institute of Applied-Scientific Higher Education of Jihad-e- Agriculture, Agricultural Research, Education and Extension Organization, Tehran, Iran</p> <p>Mehran Parsa Fisheries Department, Faculty of Atmospheric and Marine Sciences and Technologies, Hormozgan University, Bandar Abbas, Iran</p> <p>Mehrnaz Farzingohar Department of Non Living of Marine and Atmospheric Sciences, Faculty of Marine Science and Technology, Hormozgan University, Bandar Abbas, Iran</p> <p>Mahsa Mahmoudi Khoshdarehgi Fisheries Department, Faculty of Fisheries and Environment, Gorgan University of Agricultural Sciences and Natural Resources. Golestan, Iran</p> <p>Abstract</p> <p>Frigate Tuna (<i>Auxis thazard</i> Lacepède, 1800) is one of the most important species of tuna (scombridae family) in Oman Sea. In this study, some biological characteristics of <i>Auxis thazard</i> were determined in waters of Oman Sea, Iran. Using tuna purse seine fishery, sampling was done from April to September 2016. Fork length frequency and mean fork length were recorded as 21-56 and 40.69±0.88 cm, respectively. Weight frequency and mean weight were obtained as 25-2050 and 979.91±50.71 g, respectively. Length-weight relationship equation was obtained as: $W = 0.0306FL^{2.7686}$ with high correlation coefficient value ($R^2 = 0.9829$) and T-test showed that <i>A. thazard</i> has negative allometry growth model in Oman Sea. The relative condition factor and relative weight (W_r) were calculated as 1.001±0.005 and 0.675±0.034, respectively. Results of this study would be useful for fishery managers and biologists towards sustainable management of this species in Oman Sea.</p>
<p>Mehdi Maanan GICICRST1708109</p>	<p>Coastal multi-hazard vulnerability assessment along a lagoon barrier using a GIS multi-criteria decision analysis and vulnerability index</p> <p>Mehdi Maanan Earth sciences department, Faculty of Sciences Ain Chock, University Hassan II, Casablanca, Morocco</p> <p>Meryem El Barjy Marine geosciences laboratory (URAC 45), Earth Sciences department, Faculty of Sciences, University El Jadida, Morocco</p> <p>Nessraddine Adouk</p>

	<p>Recomposition of Space and Sustainable Development laboratory, Geography department, Faculty of Letter and Humanities, University El Jadida, Morocco</p> <p>Bendahhou Zourarah Marine geosciences laboratory (URAC 45), Earth Sciences department, Faculty of Sciences, University El Jadida, Morocco</p> <p>Henri Rueff University of Bern, Centre for Development and Environment (CDE), Hallerstrasse 10, CH-3012 Bern, Switzerland</p> <p>Hassan Rhinane Earth sciences department, Faculty of Sciences Ain Chock, University Hassan II, Casablanca, Morocco</p> <p>Mohamed Maanan LETG-Nantes, UMR 6554, Université de Nantes, BP 81227, Nantes, France.</p> <p>Abstract</p> <p>This study provides an integrated approach using geographical information system (GIS) based on a multi-criteria approach (MCDA) to assess coastal multi-hazard vulnerability. In this study, we investigated coastal vulnerability index (CVI) to map the vulnerability of the lagoon barrier (~24 km long), by using ten parameters namely: (a) geomorphology; (b) shoreline change rate; (c) coastal elevation; (d) coastal slope; (e) bathymetry;(f)sea level rise; (g)mean tide range; (h) significant wave height; (i) land use/land cover and (k) Conservation designation. The analysis of the shoreline change shows that the areas present a moderate to high risk is characterized by erosion around -1 to -2m.yr-1. The results reveal that 54 % of the shoreline is moderately vulnerable, whilst 42 % is estimated to be highly vulnerable. The vulnerability map of the socio-economic activities indicates that the wetland and forest areas 83% and 50 % respectively, present a low vulnerability for, whilst the artificial areas (52%); agricultural (73%) and natural areas (41%), present a moderate vulnerability. In contrast, the level of vulnerability of the remaining part of the artificial and agricultural areas is high to very high. Coastal vulnerability maps are clearly useful in land use planning and showed that the Northwest sector was classified as the most vulnerable area and the south-eastern part of the study area show a low to moderate vulnerability. The present study provides scientifically defensible information for decision makers.</p> <p>Keywords: Climate change, Coastal vulnerability assessment, Hazard mapping, Coastal erosion, decision-making, Mediterranean, Morocco.</p>
<p>Nacera Yeddou Mezenner GICICRST1708111</p>	<p>Degradation of an anti-tuberculosis drug by ZnO Photocatalysis upon UV Light Irradiation</p> <p>H. Kais Laboratory of Chemical Engineering, Faculty of Mechanical and Chemical Engineering, University of Sciences and Technology Houari-Boumediene,</p>

	<p style="text-align: center;">USTHB, BP 32 El Alia, Bab Ezzouar 16111, Algiers, Algeria</p> <p style="text-align: center;">N. Yeddou-Mezenner Laboratory of Chemical Engineering, Faculty of Mechanical and Chemical Engineering, University of Sciences and Technology Houari-Boumediene, USTHB, BP 32 El Alia, Bab Ezzouar 16111, Algiers, Algeria</p> <p style="text-align: center;">A. Hamadi Laboratory of Chemical Engineering, Faculty of Mechanical and Chemical Engineering, University of Sciences and Technology Houari-Boumediene, USTHB, BP 32 El Alia, Bab Ezzouar 16111, Algiers, Algeria</p> <p style="text-align: center;">F. Atmani, N. Sabba Laboratory of Chemical Engineering, Faculty of Mechanical and Chemical Engineering, University of Sciences and Technology Houari-Boumediene, USTHB, BP 32 El Alia, Bab Ezzouar 16111, Algiers, Algeria</p> <p style="text-align: center;">Abstract</p> <p>Pharmaceutical substances and personal care products are an emerging class of aquatic contaminants that have been increasingly detected in ground and surface water. Many pharmaceuticals are neither degradable nor adsorbable on sewage sludge. Hence, it is necessary to treat the effluents containing pharmaceuticals adequately before discharge or treat drinking water using water treatment plants. Therefore, the research has recently focused on the application of non-biological processes for the elimination of pharmaceuticals in waters with emphasis on photo-degradation. Photo-catalysis with UV irradiation is one of the most important processes applied in the pharmaceutical wastewater treatment. In this study we have focused in the photo-catalytic degradation of an antibiotic used to treat tuberculosis, in the presence of ZnO as catalyst. The parameters which were varied during our experiments are the pH, the catalyst mass, and the drug initial concentration. Under optimal conditions, about 100% removal was achieved in 45 min. The photo-degradation process followed pseudo- first order kinetic. Keywords: Pharmaceuticals, Photo-catalysis, ZnO, kinetic, degradation;</p>
<p style="text-align: center;">Hynda REZZAZ-YAZID GICICRST1708112</p>	<p style="text-align: center;">Biological degradation of the textile dye Remazol Blue using the pedicels of dates as a support and organic substrate for microbial consortia</p> <p style="text-align: center;">Nihad SEKKAK Laboratory of Reaction Engineering, Faculty of Mechanical and Processes Engineering, University of Sciences and Technology Houari Boumediene, BP 32 El Alia, Bab Ezzouar, 16111 Algiers, Algeria</p> <p style="text-align: center;">Imene BENBOUDADI Laboratory of Reaction Engineering, Faculty of Mechanical and Processes Engineering, University of Sciences and Technology Houari Boumediene, BP 32 El Alia, Bab Ezzouar, 16111 Algiers, Algeria</p> <p style="text-align: center;">Salima LAIB</p>

	<p style="text-align: center;">Laboratory of Reaction Engineering, Faculty of Mechanical and Processes Engineering, University of Sciences and Technology Houari Boumediene, BP 32 El Alia, Bab Ezzouar, 16111 Algiers, Algeria</p> <p style="text-align: center;">Hynda REZZAZ-YAZID Laboratory of Reaction Engineering, Faculty of Mechanical and Processes Engineering, University of Sciences and Technology Houari Boumediene, BP 32 El Alia, Bab Ezzouar, 16111 Algiers, Algeria</p> <p style="text-align: center;">Zahra SADAoui Laboratory of Reaction Engineering, Faculty of Mechanical and Processes Engineering, University of Sciences and Technology Houari Boumediene, BP 32 El Alia, Bab Ezzouar, 16111 Algiers, Algeria</p> <p style="text-align: center;">Abstract</p> <p>Anthraquinonic dyes are resistant to degradation due to their fused aromatic structure. Also, most of them are toxic, carcinogenic and mutagenic. Therefore they have to be removed before being discharged into the environment. According to the published literature, mixtures containing multiple organic matter sources may support a wider consortium of interdependent organisms and may, thus, show higher bacterial activities than those corresponding to single sources. To incite the development of biomass in the mixture, capable of degrading biorefractory compounds like anthraquinonic dyes, Pedicels of dates cut into small pieces, were used in this work, as support for bacteria and as external carbonaceous substrate source for the biological treatment of synthetic dye solution. This present study has also provided a comparative analysis of the biodecolorization under different sources of bacteria (soil and urban wastewater). Laboratory tests were performed on synthetic dye solution containing filtered urban wastewater or filtered soil (source of bacteria) and a recalcitrant anthraquinonic dye (Remazol blue) solution. Various conditions required for decolorized have been optimized. The results indicate that the biodegradability is strongly influenced by the dye concentration. Indeed, for the lowest dyes contents, improved biodegradability was observed, while it decreases when the dyes concentration increases. The decolorization was more effective in the presence of filtered urban wastewater. A maximum limit value of ~92% was observed for the colour removal in the aerobic system at 30°C, after 3 days by adopting a ratio pedicels of dates/ sludge =0,5 g/g.</p> <p>Keywords: biological treatment, anthraquinonic dye, pedicels of dates, microbial consortia.</p>
<p>REZZAZ Mohamed Abdessamad GICICRST1708113</p>	<p style="text-align: center;">The effects of the cement plant dust on the environment (Meftah's cement plant)</p> <p style="text-align: center;">REZZAZ Mohamed Abdessamad Laboratory of Geomorphology and Georisks, Faculty of Earth Sciences, Geography and Territorial Planning, University of Science and Technology Houari Boumediene, BP 32 El Alia Bab Ezzouar 16111, Algiers, Algeria</p> <p style="text-align: center;">CHICHOUNE Malika</p>

	<p style="text-align: center;">Laboratory of Geomorphology and Georisks, Faculty of Earth Sciences, Geography and Territorial Planning, University of Science and Technology Houari Boumediene, BP 32 El Alia Bab Ezzouar 16111, Algiers, Algeria</p> <p style="text-align: center;">Abstract</p> <p>An effect of cement dusts on environment represents one of the methods through them we analyse different environmental hazards and their diagnostic. for that, we preferred to integrate some of these pre-occupations in our modest work highlighting the coming points:</p> <p>-An introduction about the environmental pollution by cement rejects (especially dust).</p> <p>-Proposing a global methodology to quantify and see the different effects of cement dust on the city of Meftah, the quantified samples were taken from different directions in a suburb of 1000 m around the cement plant ; where an analysis of the initial status of the region is realised to get more profits in evaluating the impacts (concerning the climate, soil, water, constructions...etc) and proposing solutions (regulations and environmental laws, using electrofilters...etc).</p> <p>Key words: cement plant, dust, Meftah, environmental pollution, evaluating.</p>
<p>Mehrnaz Farzingohar GICICRST1708114</p>	<p style="text-align: center;">Modeling of Air Pollution due to Oil Products Emission in Persian Gulf</p> <p style="text-align: center;">Mehrnaz Farzingohar Faculty of Marine Science and Technology, Department of Non Living Marine and Atmospheric Sciences , Hormozgan University, Iran</p> <p style="text-align: center;">Mehran Yasemi Fisheries and Aquatics Department, Institute of Technical & Vocational Education, Ministry of Jihad-Agriculture Iran</p> <p style="text-align: center;">Abstract</p> <p>Many oil products transport and ship from Bandar Abbas along Persian Gulf coast daily. Sometimes damage pipes and valves result in the release of oil products into air. Areal Location Of Hazards Atmosphere (ALOHA) is a model that joins with ArcGIS or Arcmap enable to show air pollution fate and predict the trajectory of probable accidents. The model use of GIS information, oil physical, chemical and weather data then make a graph of pollution in plume polygon of threat zones. Methyl Tert-Butyl Ether (MTBE) is as one of the major oil products of concern. Model results shows that air pollution extends around the east coast of Rajae due to MTBE is released in large amounts the city of Bandar Abbas will be affected. As ALOHA predicts pollution fate it can be used by local emergency management systems to identify high risk areas to plan and develop emergency preparedness systems.</p> <p>Keywords: ALOHA, Plume Polygon, Air Pollution, Threat Zone</p>
<p>Hilal Köse GICICRST1708117</p>	<p style="text-align: center;">Production of SnO₂-B₂O₃ / Graphene Nanocomposite Anodes for Li-ion batteries</p> <p style="text-align: center;">Hilal Köse Department of Chemistry, Arts&Sciences Faculty, Sakarya University, Sakarya,</p>

	<p style="text-align: center;">Esentepe Campus, 54187, Turkey</p> <p style="text-align: center;">Şeyma Dombaycıoğlu Department of Chemistry, Arts&Sciences Faculty, Sakarya University, Sakarya, Esentepe Campus, 54187, Turkey</p> <p style="text-align: center;">Hatem Akbulut Department of Metallurgical and Materials Engineering, Engineering Faculty, Sakarya University, Sakarya, Esentepe Campus, 54187, Turkey</p> <p style="text-align: center;">Ali Osman Aydın Department of Chemistry, Arts&Sciences Faculty, Sakarya University, Sakarya, Esentepe Campus, 54187, Turkey</p> <p style="text-align: center;">Abstract</p> <p>Lithium-ion batteries have attracted considerable attention in energy required fields thanks to its environmentally friendly nature, high reversible capacity, long cycle life, and low cost. Graphite is the most popular anode material in commercial LIBs anodes and shows superb cyclability, but low capacity (372 mA h g⁻¹) negatively affects its industrial applications [1]. Tin dioxide (SnO₂) has a high specific capacity (1491 mAh g⁻¹) and is considered as one of the most suitable materials to replace the carbon anode in the lithium-ion battery. However, large volume expansion and agglomeration occur in the structure of SnO₂ during the Li-ion insertion and extraction process, which leads to failure and loss of electrical contact of the anode [2]. To prevent these reasons of capacity failure, we have used graphene and B₂O₃ as a mechanical support in ternary nanocomposite to buffer the volume change of SnO₂ during the lithium ions insertion/extraction processes [3,4].</p> <p>In this work, free-standing SnO₂-B₂O₃ / Graphene nanocomposite anodes were produced for CR2016 Li-ion cells. SnO₂-B₂O₃ composite was synthesized from SnCl₂·2H₂O and H₃BO₃ precursors by dissolving in ethanol via sol-gel method and was calcined at 500 °C in air atmosphere for 2 hours. 1:1 (w/w) ratio of composite powder and graphite oxide produced by modified Hummer's method were ultrasonicated for 2 hours and then vacuum filtration was applied through PVDF membrane. After that, SnO₂-B₂O₃ / Graphene Oxide paper was peeled off from the membrane and reduced in diluted hydrazine solution to produce SnO₂-B₂O₃-Graphene nanocomposite as free-standing anode. Scanning electron microscopy (SEM), energy dispersive X-ray spectrometer (EDS), and X-ray diffraction (XRD) analyses were conducted to characterize anode materials and electrochemical tests were performed to determine discharge capacities on a BST8-MA MTI at a constant current density.</p> <p>Keywords: SnO₂-B₂O₃ / Graphene, nanocomposite anodes, Li-ion batteries, electrochemical capacity.</p>
<p style="text-align: center;">H: Genc GICICRST1708119</p>	<p style="text-align: center;">1,3,5-Triazine-pentaethylenehexamine polymer supported Pd nanoparticle (TAPEHA-PdNPs) catalyzed hydrogenation reactions of various alkenes to alkanes</p> <p style="text-align: center;">H: Genc</p>

	<p>Sakarya University Faculty of Arts & Sciences, Chemistry Department , 54187 Sakarya, Turkey</p> <p>M. Zengin Sakarya University Faculty of Arts & Sciences, Chemistry Department , 54187 Sakarya, Turkey</p> <p>Mustafa Arslan Sakarya University Faculty of Arts & Sciences, Chemistry Department , 54187 Sakarya, Turkey</p> <p>Abstract</p> <p>Catalytic hydrogenation reactions to obtain saturated bond from double bonds are frequently used methods in organic and industrial processes. As well as the classical method is the reduction by hydrogen and palladium on carbon catalyst [1], there is a growing interest to design recyclable heterogeneous catalyst providing more sustainable systems [2]. Herein, the catalytic activity of 1,3,5-Triazine-pentaethylenhexamine polymer supported Pd nanoparticles (TAPEHA-PdNPs) were evaluated as a catalyst in the reduction of alkenes and alkynes to the corresponding alkanes by molecular H₂. TAPEHA polymer adsorbs 4.18 mmol/g Pd(II), and this is one of the highest values in the literature. Pd(II) was reduced to Pd(0) during the reaction. The optimal reaction conditions were determined based on trans-stilbene as 1.00 mmol of substrate and 20mg TAPEHA-PdNPs in THF at room temperature under 1 atm of H₂. The optimized condition was successfully tested for reducing of other alkenes and alkynes which having different environments. The catalyst- TAPEHA-PdNPs can be reused at least ten times without any loss of activity and no Pd leaching is detected after reactions. As a result, an efficient, air-stable and recyclable heterogeneous catalyst for reducing double bonds has been described.</p> <p>Keywords: polymer supported, Pd nanoparticle, hydrogenation, heterogeneous catalyst</p>
<p>Esma Hande ALICI GICICRST1708120</p>	<p>Effect of Some Inhibitors on Trachystemon orientalis L. Polyphenol oxidase</p> <p>Esma Hande ALICI Department of Chemistry, Faculty of Art and Science, Sakarya University, TR-54187, Sakarya, Turkey</p> <p>Gulnur ARABACI Department of Chemistry, Faculty of Art and Science, Sakarya University, TR-54187, Sakarya, Turkey</p> <p>Abstract</p> <p>Half of the world's fruit and vegetable crops are lost due to postharvest handling and processing. Browning is the main participator to these losses. Browning is resulted from both enzymatic and non-enzymatic oxidation of phenolic compounds. Polyphenol oxidase (PPO) that found in most fruits and vegetables is</p>

	<p>responsible for enzymatic browning of fresh horticultural products. Browning in fruits and in some vegetables is initiated by the enzymatic oxidation of phenolic compounds to quinones by PPOs. Quinones rapidly condense to produce relatively insoluble brown melanin polymers. Various applications for controlling of enzymatic browning caused by PPO have been used for years that will make it possible to obtain crops of improved quality for marketing and storage [1]. In the present study, effects of some compounds on <i>Trachystemon orientalis</i> L. (borage) PPO activity were investigated. Borage is a plant that can be a good source of bioactive polyphenols in the human diet because of its high phenolic compound, anthocyanin and flavonoid contents [2].</p> <p>All parts of the plant were homogenized in 0.1 M phosphate buffer (pH 7.0) containing 1 mM ascorbic acid, 0.5% polyvinylpyrrolidone, and 2% (v/v) Triton X-100, for 5 min at 4 °C. After filtration and centrifugation (5000 rpm, 15 min) of the homogenate, supernatant was used as crude enzyme extract. PPO activity was determined by measuring the initial rate of quinone formation as indicated by an increase in absorbance at 420 nm. The effects of ascorbic acid, sodium metabisulfite, l-cysteine and sodium azide on the PPO enzyme activity were investigated by using 4-methylcatechol and pyrogallol as substrates and crude borage enzyme extract as enzyme solution. Among all the compounds tested in this study, ascorbic acid was the most effective inhibitor for borage PPO and sodium azide showed a weak inhibition effect on enzyme activity.</p> <p>Keywords: Enzyme kinetics, Enzymatic browning, Polyphenol oxidase, <i>Trachystemon orientalis</i> L.</p>
<p>Faroudja Mohellebi GICICRST1708122</p>	<p style="text-align: center;">Adsorption of oxytetracyclin on modified bentonites</p> <p style="text-align: center;">Faroudja Mohellebi Laboratoire de valorisation des énergies fossiles, Département Génie Chimique, Ecole Nationale Polytechnique, 10 Avenue Hassen Badi, Belfort, El-Harrach, Alger, Algérie</p> <p style="text-align: center;">Fairouz Kies Laboratoire de valorisation des énergies fossiles, Département Génie Chimique, Ecole Nationale Polytechnique, 10 Avenue Hassen Badi, Belfort, El-Harrach, Alger, Algérie</p> <p style="text-align: center;">Abir Azara Laboratoire de valorisation des énergies fossiles, Département Génie Chimique, Ecole Nationale Polytechnique, 10 Avenue Hassen Badi, Belfort, El-Harrach, Alger, Algérie</p> <p style="text-align: center;">Kamel Rebai Laboratoire de valorisation des énergies fossiles, Département Génie Chimique, Ecole Nationale Polytechnique, 10 Avenue Hassen Badi, Belfort, El-Harrach, Alger, Algérie</p> <p style="text-align: center;">Abstract</p> <p>Environmental pollution as a consequence of technological evolution has become one of the most crucial problems of the century [1]. Pharmaceutical pollutants (PPs) are a group of emerging anthropogenic hazard contaminants that</p>

	<p>contain different groups of human and veterinary medicinal compounds that are used widely all over the globe. PPs exist in the environment at a very low concentration but, generally due to their bio-accumulation, they pose a potential long-term risk for aquatic and terrestrial organisms.. Among the pharmaceuticals pollutants, the antibiotics deserve special attention because they are used in very large quantities and are biologically active molecules that can interact with specific biological targets leading to emergence of the phenomenon of microorganism's resistance towards the potential pathogens such as bacteria.</p> <p>The adsorption process under laboratory conditions showed promising results in oxytetracyclin wastewater treatment in comparison with the traditional methods to treat pharmaceuticals discharge. Adsorbents that are commercially available, e.g., commercially activated carbon, are very effective but expensive [2,3]. Therefore, research is currently focused on adsorbents that remove pharmaceuticals pollutants from wastewater at a low cost [4,5]. An adsorbent can be considered low cost if it requires little processing is abundant in nature, or is a byproduct or waste material from another industry. Therefore, the natural adsorbents have gained much attention for the adsorption of various pollutants from an aqueous medium [6]. Bentonite clay may be an alternative adsorbent because of their abundance in most continents of the world and its low cost [7,8]. Bentonite is mainly composed of montmorillonite, consists of layers of two tetrahedral silica sheets sandwiching one octahedral alumina sheet. Adsorption of oxytetracyclin on grinded bentonite (particle size of 100 μm) was studied in batch reactor. This study investigated the influence of various parameters on the oxytetracyclin removal efficiency. These include bentonite types (untreated bentonite, Na-bentonite and H-bentonite), contact time, and effects of temperature.</p> <p>Results show that equilibrium was reached after 30 minutes of contact for the different bentonites. The results clearly depict that the Na-bentonite exhibited the best absorption under the conditions: Na-bentonite dosage of 4g/L, pH 6, reaction temperature of $19\pm 1^\circ\text{C}$. It was found that the removal efficiencies of oxytetracyclin are of 70% and 80 % for antibiotic concentrations of 20 and 50 ppm, respectively.</p> <p>The adsorption isotherm data were well fitted well with Langmuir better than Freundlich models. Oxytetracyclin adsorption onto Na-bentonite was well represented by the pseudo second-order kinetic model. Thermodynamic parameters such as free energy change (ΔG°), enthalpy change (ΔH°) and entropy change (ΔS°) have been calculated on the basis of Langmuir constants. The negative values of ΔG° were indicative of the spontaneity of the adsorption process. The negative values of ΔH° revealed the exothermic nature of the adsorption process. The negative values of ΔS were due to the decrease in the degree of freedom resulting from the immobilization of pollutant molecules on the Na-bentonite surface.</p> <p>Keywords: Adsorption, antibiotic, waste treatment.</p>
<p>N. Güy GICICRST1708123</p>	<p>High-Efficiency Visible Light Response Plasmonic Photocatalyst Ag/Ag₂CrO₄/ZnO and Its Photocatalytic Properties</p> <p>N. Güy Department of Chemistry, Science & Arts Faculty, Sakarya University, Sakarya 54187, Turkey</p>

	<p style="text-align: center;">M. Özacar Department of Chemistry, Science & Arts Faculty, Sakarya University, Sakarya 54187, Turkey Biomedical, Magnetic and Semiconductor Materials Research Center (BIMAS- RC), Sakarya University, Sakarya 54187, Turkey</p> <p style="text-align: center;">Abstract</p> <p>Recently, visible light driven photocatalysts for degradation of pollutants and hydrogen production has raise attention since they can directly use the sunlight to deal with the energy source and environmental problems. ZnO is the most advantageous due to its stability, nontoxicity, and low cost. However, its poor quantum yields, low utilization in the visible light region, and insufficient charge separation ability limit its solar efficiency. One of the most effective strategies to solve this problem is implementing semiconductor coupling, such as ZnS/ZnO, CuO/ZnO, g-C₃N₄/ZnO and TiO₂/ZnO [1]. By combining ZnO and Ag₂CrO₄, as n-type semiconductors, n-n heterojunctions could be formed at the interface of them, resulting in more separation of the photogenerated electron-hole pairs [1]. Surface plasmonic resonance (SPR) originates from the collective oscillation of valence electrons upon interaction with the incident photons [1-2]. Here, we report preparation of ternary Ag/Ag₂CrO₄/ZnO plasmonic photocatalysts using a precipitation-photoreduction method. The as-prepared products are characterized by X-ray diffraction (XRD), scanning electron microscope (SEM), energy dispersive analysis of X-rays (EDX), diffuse reflectance spectra (DRS), Fourier-transform infrared (FTIR) spectroscopy and vibrating sample magnetometer (VSM). The photocatalytic activities of Ag/Ag₂CrO₄/ZnO plasmonic photocatalysts were evaluated by the photocatalytic decolorization of dye aqueous solution under visible-light irradiation. The degradation mechanism of dye over the Ag/Ag₂CrO₄/ZnO composites is discussed. Keywords: Plasmonic photocatalyst, visible light, ZnO.</p>
<p>Şeyma Dombaycıoğlu GICICRST1708124</p>	<p style="text-align: center;">TEGDME Based Electrolytes with Different Li Salts for Li-air batteries</p> <p style="text-align: center;">Şeyma Dombaycıoğlu Department of Chemistry, Arts&Sciences Faculty, Sakarya University, Sakarya, Esentepe Campus, 54187, Turkey</p> <p style="text-align: center;">Hilal Köse Department of Chemistry, Arts&Sciences Faculty, Sakarya University, Sakarya, Esentepe Campus, 54187, Turkey</p> <p style="text-align: center;">Hatem Akbulut Department of Metallurgical and Materials Engineering, Engineering Faculty, Sakarya University, Sakarya, Esentepe Campus, 54187, Turkey</p> <p style="text-align: center;">Ali Osman Aydın Department of Chemistry, Arts&Sciences Faculty, Sakarya University, Sakarya, Esentepe Campus, 54187, Turkey</p>

	<p style="text-align: center;">Abstract</p> <p>Electrochemical power sources using oxygen as cathode active material have the highest energy density. Because oxygen, cathode active material, does not stored in the battery, but can be gained from the environment [1]. In recent years, lithium-air batteries (known as lithium-oxygen) have taken global attention since they provide 5–10 times higher energy density (11,140 whkg⁻¹) with regard to conventional lithium-ion batteries [2]. Since electrolyte acts as a bridge connecting the positive and negative electrodes, the development of new electrolyte with high conductivity, stability and safety constitutes a crucial factor [3]. In aprotic Li-air batteries ether-based electrolytes, 1,2-dimethoxyethane (DME), triethylene glycol dimethyl ether, tetraethylene glycol dimethyl ether (TEGDME), have been widely studied due to their benefits such as high stability toward reduced O₂ species and oxidation potentials (up to 4 V vs Li/Li⁺), good electrode wetting properties, low volatility, low cost and safety [4].</p> <p>In this work, in order to investigate the effect of electrolyte salts on the electrochemical performance of Li-air battery, different electrolyte solutions were prepared. For this purpose, electrolyte solutions (including 1 m Li⁺ ion) were prepared with different Li salts in a glove box. Tetraethylene glycol dimethyl ether (TEGDME) was used as solvent and LiBF₄ (Lithium tetrafluoroborate), LiPF₆ (Lithium hexafluorophosphate) and LiTFSI (Lithium Bis(trifluoromethane)sulfonimide) were used as lithium salt in electrolyte solutions. An ECC-Air test cell (supplied from EL-Cell GmbH) was assembled in an Ar-filled glove box. Prepared electrolyte solutions and graphene oxide were used as electrolyte and cathode, respectively. Also, as anode material lithium foil and as separator glass fibers were used. Electrochemical tests were performed to determine discharge capacities on a BST8-MA MTI at a constant current density at room temperature. After charge-discharge cycles, electrochemical impedance spectroscopy (EIS) measurements were carried out using Gamry Instrument.</p> <p>Keywords: Electrolytes, Li-air batteries, electrochemical capacity, stability.</p>
<p>Abdul Aziz K Abdul Hamid GICICRST1708125</p>	<p style="text-align: center;">An Automated Clarias gariepinus Fecundity Eggs Estimation Technique Using Cubic Spline Interpolation and Gaussian Quadrature</p> <p style="text-align: center;">Abdul Aziz K Abdul Hamid Universiti Malaysia Terengganu, Kuala Terengganu, Terengganu, Malaysia</p> <p style="text-align: center;">R.U. Gobithaasan Universiti Malaysia Terengganu, Kuala Terengganu, Terengganu, Malaysia</p> <p style="text-align: center;">Sumazly Sulaiman Universiti Malaysia Terengganu, Kuala Terengganu, Terengganu, Malaysia</p> <p style="text-align: center;">NurFazlina Universiti Malaysia Terengganu, Kuala Terengganu, Terengganu, Malaysia</p> <p style="text-align: center;">ABSTRACT</p> <p>This measurement of fish fecundity which refers to the amount of eggs produced helps to assess stock reproductive potential, which is of vital importance for sustainability and conservation management planning. There are several methods</p>

	<p>that have been introduced namely gravimetric, volumetric, auto-diametric and stereo metric method. These methods are simple, cheap and precise; however time-consuming due to the intervention of experienced technicians to manually compute the numbers. This process is also prone to human errors. Hence, this research addresses the problem by means of constructing a computer vision algorithm. The objectives include clearly investigating, identifying and developing state-of-the-art method to measure catfish (<i>Clarias gariepinus</i>) fecundity. First, the fish eye will be detected using Haar Cascade Algorithm and we denote this point as point of origin in euclidean space. Next, we identify the region of interest which reflects the fish's fecundity to obtain the pixels corresponding to the silhouette of the region. Next each pixel are carefully sampled to represent as coordinates in euclidean space which are then represented with a function using cubic interpolation function. Using this function, we compute the region of interest using numerical integral approach, e.g., Gaussian Quadrature. Hence, based on the proposed algorithm, new mobile applications can be develop to enable the aquaculturist to utilize the computer vision technologies. This approach can easily be used in Malaysian aquaculture industries for a number of tasks, including fish maturity and fecundity identification with minimal effort yet saving time and energy, directly inline with food security as our top most priority.</p> <p>Keyword : Fish fecundity; Computer vision; Edge detection; Object recognition; Texture analysis; Classification</p>
<p>Abdulrahman N. Alseqyani GICICRST1708127</p>	<p>Comparative study between E-learning and M-learning in TVTC Colleges</p> <p>Abdulrahman N. Alseqyani Lecturer at Zulfi College of Technology, TVTC, Saudi Arabia</p> <p>Abstract</p> <p>The information, communication, and technology (ICT) have become one of the most significant developments of the twenty-first century. This development has been widely used by the people to acquire knowledge and skills. This development has been employed in Technical and Vocational Training Corporation (TVTC) to equip learners with knowledge and expertise through E-learning and M-learning. Technical colleges have become the source of a workforce in various countries around the world. This program is touted by many as the project to tackle poverty and equip employment skills to the young population. No one can ignore the importance of E-learning and M-learning in this program. The two platforms have brought revolution in education where each presents a raft of ideas and resources to teachers. However, there has been confusion on differences between the E-learning and M-learning and where they interact. Looking at differences between E-learning and M-learning can be of importance to teachers who use the technology in (TVTC). This knowledge can help them to choose which techniques fit best in a particular education scenario. This research paper uses secondary sources of data to highlight the comparison of characteristics, concept, similarities and differences, advantages and disadvantages between the E-learning and M-learning.</p> <p>Keywords: E-learning, M-learning, ICT, Technology, TVTC</p>
<p>Dr. Mahshid MIKAEILI GICICRST1708128</p>	<p>Evaluation of Iran Cultural Tourism potential from the European Union Perspective: Jolfa Region</p>

	<p style="text-align: center;">Dr. Mahshid MIKAEILI Department of Architecture, Ajabshir Branch, Islamic Azad University, Ajabshir, Iran</p> <p style="text-align: center;">Dr. H.Kutay AYTUĞ Political Science and International Relations Department, Manisa Celal Bayar University, Faculty of Economics and Administrative Sciences, Manisa, Turkey</p> <p style="text-align: center;">ABSTRACT</p> <p>Cultural tourism is the subset of tourism concerned with countries or regions' culture, religions, history of the people and their lifestyle in their geographical areas, art, architecture, and rural elements which have shaped their way of life. According to the European Union, tourism, and especially cultural tourism has become recognized as an important agent of economic and social change in Europe. In this regard cultural consumption has grown, and cultural tourism is an increasingly important form of cultural consumption, that persuaded and funded by local, national and international/supranational policy frameworks. Therefore the cultural tourism market in Europe has become increasingly competitive. A growing number of cities and regions in the European Union have based their tourism development strategies on the promotion of cultural heritage attractions. The attractions of the traditional culture, historical heritage and architecture are recognized and used based on their especial roles for increasing of the income.</p> <p>The present study was designed in three parts to determine the evaluation of Iran cultural tourism in Jolfa region base on the EU tourism policies. The first part will be investigated conceptual framework of cultural tourism. Then, the significance of the European Union cultural tourism and their policies will be elucidated. Finally, Jolfa Region the northern border of Iran where is introduced as a Free Trade Zone will be verified due to the cultural tourism potential base on the region's historical architecture and events, landscape values and economic potential.</p> <p>Keywords: Cultural Tourism, EU Cultural Tourism Policy, Historical Architecture, Iran, Jolfa.</p>
<p>Mishaal Almutairi GICICRST1708130</p>	<p style="text-align: center;">Big Data Changes and Challenges in Education Ministry-A Case Study in Saudi Arabia</p> <p style="text-align: center;">Mishaal Almutairi Buraidah College of Technology (Asyah campus), Technical and Vocational Training Corporation (TVTC), Buraidah, Saudi Arabia</p> <p style="text-align: center;">Abstract</p> <p>The revolution of Information Communication and Technology (ICT) has significantly changed today teaching-learning methodology. The innovations in the technology have led to classrooms becoming virtual, and knowledge is now on the cloud. The education sector is under pressure to respond to the national and global changes by improving the quality of teaching-learning methods. Despite the adoption of these technologies, education sector still faces the problem of</p>

	<p>improving education standards and diminishing dropout rates. This paper focuses the role of Big Data Analytics in solving challenges facing education sector in Saudi Arabia. Firstly, the paper identifies the key global trends affecting education sector and the potential of Big Data in addressing these changing trends. Secondly, the research outlines the challenges associated with implementation and governance of Big Data in Education Ministry. Finally, the paper highlights the future directions in development and implementation of the institutional project on Big Data. The research will use a case study in Saudi Arabia to achieve its objectives.</p> <p>Keywords: Cloud, Education, Teaching Learning Methodology, Quality Standards, Big Data Analytics, ICT, Knowledge</p>
 <p>Mohammad Fhaid Alharby GICICRST1708 131</p>	<p style="text-align: center;">Fighting Phishing</p> <p style="text-align: center;">Mohammad Fhaid Alharby Buraydah College of Technology, Buraydah, Qassim, Saudi Arabia, Buraydah, Fourty street</p> <p style="text-align: center;">Abstract</p> <p>As people continue to depend on the internet usage for business purposes and personal investment and finance, internet fraud has emerged as a greater risk. Internet deception occurs in various ways, from pretentious items available for sale on websites such as eBay, to scandalous reports that influences stock prices, to deceiving promise that assure people great riches if they assist in a particular financial transaction via their own bank account. Phishing is one of the interesting branches of internet fraud. Phishing attacks occurs in form of email and websites created to appear as if they belong to a legitimate and a known organization, in order to appeal to users into disclosing computer or personal financial information. In the past few years, Anti-Phishing Working group indicate that phishing activities have been unfolding very fast where financial industry being the most affected sector. Many researches concentrate on helping users to differentiate spoofed sites and legitimate sites, which need the user to make the right call concerning computer security. In this regard, our research study focuses on clearly outlining measures that should be employed to protect users account in spite presence of hackers. To accomplish the study objective, the study will systematically analyze previous research to draw a comprehensive conclusion regarding necessary measures for fighting phishing.</p> <p>Keywords: phishing, attack, fraud, internet</p>
<p>Awad Alharbi GICICRST1708134</p>	<p style="text-align: center;">Relevance of GIS to learning and teaching</p> <p style="text-align: center;">Awad Alharbi Buraidah College of Technology, Buraidah College of Technology, Saudi Arabia</p> <p style="text-align: center;">Abstract</p> <p>For the past few decades, application of Geographic Information Systems (GIS) has drastically increased. GIS applications are in a ‘golden stage’ due to technology advancement and expansion of system memories. GIS has emerged as an important part of contemporary environmental science. Several universities around the globe have opted to offer masters degrees particularly in GIS or</p>

	<p>diplomas and post-graduate certificates with a prerequisite degree of environmental undergraduate. GIS applications make the job faster and easier and enable a person to handle several activities within a specified time. In simple terms, GIS is a computer-based technology with general-purpose for managing geographical information in digital point of view to display, store, capture, analyze and manipulate various sets of georeferenced or spatial data. GIS applications assist students and teachers in carrying out various functions which help them to answer various questions. For instance, they can be able to measure a distance between two locations which in turn assist to answer questions relating to length, perimeter, area, and distance. That being well said, this paper seeks to investigate the relevance of GIS applications to learning and teaching. Besides that, we shall focus on strategies that can be employed to enhance GIS in the education sector. The study will systematically analyze previous research to investigate relevance of GIS to learning and teaching and apparently outline strategies that can be implemented to enhance GIS applications. The descriptive approach will be used to analyze the collected information.</p> <p>Keywords: GIS, technology, environment, data.</p>
<p>Alshehri Maryam Gharamah Ali GICICRST1708135</p>	<p>Particle density of the CARalgebra and particle-hole duality in continuum</p> <p>Alshehri Maryam Gharamah Ali Swansea University, Swansea, Wales, United Kingdom</p> <p>Abstract</p> <p>We discuss the particle density of the gauge-invariantquasi-free states on the algebra of the canonical ant commutation relations (CAR algebra). It is knownthat, for the vacuum state, the corresponding particledensity is a determinant point process with correlationkernel $0 \leq K \leq 1$. In the case of a discrete underlying space a particle-hole duality leads to a determinantpoint process with a J-Hermitian correlation kernel, i.e.,the corresponding operator K is self-adjoint in anindefinite scalar product. We propose how to perform a particle-hole duality in the case of a continuous underlying space by modifying the notion of a particledensity. My aim is to show that the correspond modified particle density is a determinant point process with aJ-Hermitian correlation kernel. We will consider quasifreerepresentations of the canonical ant commutationrelations, in which the role of the creation andannihilation operators will be swapped on part of thespace. We then have to consider the correspondingoperators of particle density and find the joint spectral Measure for this family of commuting self-adjoinoperators.</p>
 <p>Dr. Madhujit Deb GICICRST1708139</p>	<p>AFuzzy-based Multi-Responsive Inference using GEP Model for Experimental Investigationon Performance and Emission Analysis of a Single Cylinder DI Diesel Engine Fueled with Neem Methyl Ester-based biodiesel and Ethanol</p> <p>Madhujit Deb Assistant Professor of Mechanical Engineering Department NIT Agartala, Tripura</p> <p>Mrinal Bhowmik Associate Professor of Production Engineering Department NIT Agartala, Tripura</p>

	<p style="text-align: center;">G.R.K Sastry</p> <p style="text-align: center;">Research Scholar of Mechanical Engineering Department, NIT Agartala, Tripura Gaurav Sharma</p> <p style="text-align: center;">Mechanical Engineering Department National Institute of Technology, Agartala, Barjala, Jirania, Tripura</p> <p style="text-align: center;">Abstract</p> <p>In this paper, an experimental exploration has been carried out on a Single cylinder, 4-Stroke, DI-Diesel engine to rationalize the feasibility of diesel fuel by utilizing neem (Azadirachta indica) biodiesel and ethanol with effective performance and emission legislations. A Fuzzy-based Gene Expression Programming (GEP) model has been developed to carry out trade-off analysis between engine performance and emission spectra. The results of such experimentation have categorically synthesized the potentiality of GEP model which effectively can emulate the trade-off potential of BTHE-NO-UHC model with an R-square value of 0.9918-0.9998, which further confirmed the robustness and prediction capability of the models. The optimality of this trade-off venture has been achieved using fuzzy based approach at half load condition with 85.53% base diesel along with 8.78% and 5.68% of neem methyl ester-based biodiesel and ethanol respectively.</p> <p>Keywords DI Diesel Engine; Neem Methyl Ester; Performance and Exhaust emissions; Gene Expression Programming; Fuzzy Optimization.</p>
<p>Dr. Apu Kumar Saha GICICRST1708140</p>	<p style="text-align: center;">A New Hybrid PSOBBSA for Function Optimization</p> <p style="text-align: center;">Apu Kumar Saha, Department of Mathematics, National Institute of Technology Agartala, Tripura, India.</p> <p style="text-align: center;">Sukanta Nama Department of Mathematics, National Institute of Technology Agartala, Tripura, India.</p> <p style="text-align: center;">Abstract</p> <p>In this paper, a new hybridization of Particle swarm optimization (PSO) with Backtracking Search Algorithm (BSA) has been proposed, called PSOBBSA. The main idea behind the hybridization is to incorporate the exploitation ability of PSO with the exploration ability of BSA so that the resultant method can improve the performance. During the execution of the optimization process of the proposed PSOBBSA, the whole swarm splits into two sub-swarms in such a way that all the operators of PSO are applied on one sub-swarm, whereas all operators of BSA are applied on the other sub-swarm. For the performance comparison of PSOBBSA with both the basic PSO and BSA algorithms, a set of CEC2015 test functions are considered. The numerical and graphical results show the proposed</p>

	<p>hybridized approach has better search ability with faster convergence than the basic PSO and BSA. Keywords: Particle Swarm Optimization, Backtracking Search Algorithm, Hybrid Optimization, Function Optimization, CEC2015.</p>
<p>Daddy Kiliopa – Nsakala GICICRST1708142</p>	<p>Estimation of the geometrical characteristics of a propagating wildfire (case of the democratic republic of Congo)</p> <p>Daddy Kiliopa NSAKALA Sakarya University, Electrical Electronic, Sakarya-Turkey</p> <p>Aydın MÜHÜRÇÜ Sakarya University, Department of Electrical and Electronics, Sakarya-Turkey</p> <p>Abstract</p> <p>Republic Democratic of Congo is one of the countries of Central Africa with a large part of the equatorial forest. It is the second largest tropical forest after the Amazon. It covers more than 2,000,000 Km² and is divided between six countries, Cameroon, Central African Republic, Republic of Congo, Republic Democratic of Congo, Gabon and Equatorial Guinea. Every year, this forest is severely damaged by the wildfires. The aim of this work is to develop a vision device for estimating geometric characteristics of wildfires propagation. This device is composed of several multimodal stereovision systems generating pairs of stereoscopic images from which three-dimensional points are calculated and the geometric characteristics of the fire such as its position, speed, height, depth, inclination, surface and volume are estimated. The expected results of this work allow stopping in time and limiting the damage caused usually by these wildfires. Keywords: Wildfires, multimodal stereovision, stereoscopic images.</p>
<p>Mevlut Uyan GICICRST1708143</p>	<p>Comparison of Interpolation Methods used to Determining of Soil Index on Land Consolidation</p> <p>Mevlut Uyan Selcuk University, Vocational School of Technical Sciences, 42031, Konya, Turkey</p> <p>Sukran Yalpir Selcuk University, Geomatics Engineering Department, 42031, Konya, Turkey</p> <p>Abstract</p> <p>Land consolidation (LC) is a planned readjustment and rearrangement of agricultural areas for the promotion of sustainable agriculture. Land reallocation stage is the most important step of LC. The purpose of this step is to ensure equivalent that the new parcels will be given to the landowners after LC with their previous parcels. In order to achieve the reallocation process, determining the correct of soil index (SI) for each of the agricultural parcels is very important. Since these values are necessary for the landowners to be able to give the equivalent of land as before. The purpose of this study was to evaluate and compare the performance of three interpolation methods for the SI values maps on LC projects based on data from</p>

	<p>109 SI observation points. Three spatial interpolation methods Ordinary Kriging (OK), Inverse Distance Weighted (IDW) and Local Polynomial Interpolation (LPI) were utilized for determining the SI values. In this study, all methods provided high prediction accuracy, although the best performed interpolation method was the OK. Spatial structure of SI values was better explained using exponential models. Results of OK, IDW and LPI for SI values were underestimated by 37%, 43% and 41% respectively.</p> <p>Key Words: Land consolidation (LC); Soil index (SI); Ordinary Kriging (OK); Inverse Distance weighting (IDW); Local Polynomial Interpolation (LPI).</p>
<p>Hand Chetouane GICICRST1708144</p>	<p>Environmental Impact of past mining activity and abandoned mine sites – A case study at the abandoned polymetallic mine of Sidi Kamber, Skikda, NE</p> <p style="text-align: center;">Hand Chetouane Department of Geology, Faculty of Earth Sciences, Geography and Land Use Planning, Houari Boumediene University of Science and Technology, Algiers, Algeria</p> <p style="text-align: center;">Abstract :</p> <p>Abandoned mines present serious threats to human health and the environment. Addressing their impacts is becoming increasingly important due to increased exposure to people and risks of accidents and injuries. The impacts of this environmental issue can be extended to the following:</p> <ul style="list-style-type: none"> -Water pollution, -Sediment and soil contamination, -Air pollution, -Health concerns, -Threatened and Endangered species. <p>My study addresses the issue of the environmental impact of past mining activity on surface waters and stream sediments of a river at Sidi Kamber abandoned mine. It aims to gain an understanding of the sources and origins of potential heavy metal contaminants by determining their type and assessing their temporal and spatial distribution along the suspected area. In order to achieve that knowledge, and evaluate the relation between the spatial distribution of the pollutants and their environmental impact from one part, and establishing and analyzing the origin and speciation of these potential contaminants from another part, we are going to place this subject in its environmental geochemical concept.</p> <p>Keywords: Environmental Pollution, Abandoned Mines, Acid mine drainage, Potentially Toxic Elements, Environmental Impact, Mining Activity, Speciation.</p>
<p>Pankaj Kumar Das GICICRST1708145</p>	<p>Friction and wear behavior of Aluminum –Copper alloy using Taguchi technique</p> <p style="text-align: center;">Pankaj Kumar Das Mechanical Engineering Department, NIT AGARTALA INDIA</p> <p style="text-align: center;">Abstract:</p> <p>There are several applications where Al-Cu alloy is used and its tribological</p>

	<p>properties play crucial role on the performance of the system. For such applications we have investigated the tribological properties of the Al-Cu alloy using Pin on Disc Tribometer at different values of temperature, load and sliding speed. Finally we optimize the input and output parameter using Taguchi Technique and it has been found that the wear rate mainly depends upon temperature, applied load and sliding speed. Above all addition of copper in aluminum increases wear resistance characteristics.</p> <p>Keywords: Taguchi Technique, Tribometer and Wear rate</p>
<p>Priyanath Das GICICRST1708147</p>	<p>Influence of Irradiance and Temperature Variation On PV Modules In Grid Connected MPPT Based Distributed Generation System</p> <p>Priyanath Das Department of Electrical Engineering, National Institute of Technology Agartala, Jirania, Tripura India</p> <p>Saptadip Saha Department of Electrical Engineering, National Institute of Technology Agartala, Jirania, Tripura India</p> <p>Santanu Satpati Department of Electrical Engineering, National Institute of Technology Agartala, Jirania, Tripura India</p> <p>Abstract</p> <p>Now a day, photovoltaic (PV) system finds extreme interest as an alternative source of energy and they are integrated with grids forming distributed generation (DG) systems. But, the output of the PV system is dependent of irradiance and temperature. As these parameters change location to location in a very unpredictable way due to weather and shading and also for some other reasons, it affects the overall performance of DG system. Here such three PV systems of each 300 KW were considered to be located in different locations. These PV systems feed power to the grid and acts like a DG system. But what if the irradiance and temperature change in random behavior in these different locations and what will be their impact on the total system. The model was designed in PSCAD and the possible scenarios are considered and also the effect it is analyzed. The comparison study is done with normal condition and varying condition. The study reveals the effect on PV, inverter and transformer output. The stability of the overall system is effected and also harmonics are injected and also the differences in phase and amplitude are observed which degrades the system performance.</p> <p>Keywords: Solar photovoltaic, irradiation, distributed generation, PSCAD, EMTDC</p>
<p>Sukran Yalpir GICICRST1708148</p>	<p>Criteria to be Used in Land Valuation Reduction with Principal Component Analysis And GIS Integration</p>

	<p style="text-align: center;">Şükran Yalpir Selcuk University, Geomatics Engineering Department, Konya, Turkey</p> <p style="text-align: center;">Fatma Bünyan Ünel Selcuk University, Geomatics Engineering Department, Konya, Turkey</p> <p style="text-align: center;">Abstract</p> <p>Impartial, accurate and actual valuation of real estates of great significance to the economy of any country is among the issues that are studied most diligently today. The valuation of real estate is taken into account in a number of fields including taxation, banking transactions, expropriation and buying and selling. Today, methods used as classical valuation methods which are also preferred in these areas are insufficient when more than one real estate valuation is the subject. Therefore, there is an increasing trend towards methods that can be used for mass appraisal. It is important to consider which of the criteria affect the value of real estate property in mass appraisal.</p> <p>The study; The survey was conducted in Ankara, Konya and Kayseri/Turkey in order to determine the criteria affecting the land value. The form of survey was regulated at Five-Point Likert Scale by considering 116 criteria affecting the value of land. It was answered a total of 2531 by participants. According to the results of the survey based on the PCA, it was reduced to the number of components 11 and the number of criteria to 30. It was determined as the study area within the boundaries of Konya province in order to examine the success of the criterion obtained according to the PCA method in predicting land value in market conditions. The data set was prepared consisting of all criteria and values of 558 sample of land that are the subject of purchase and sale in this area. The two models was estimated by using MRA. The R² values for the all and reduced criteria were calculated as 0,815 and 0,712. Both applications were compared and the results were integrated into the GIS to compare the spatial distributions of land and the values obtained from two models and the market.</p> <p>Keywords: Land Value, Principal Component Analysis, Geographic Information System</p>
<p>Biman Debbarma GICICRST1708149</p>	<p style="text-align: center;">Clock gated round robin arbiter for NOC router</p> <p style="text-align: center;">Biman Debbarma National Institute of Technology Agartala, India</p> <p style="text-align: center;">Jeetu Debbarma Tripura Institute of Technology, India</p> <p style="text-align: center;">Abstract:</p> <p>Network on chip is now a days the choice of a processor designer for transfer of data in a packet based communication system as conventional bus based communication medium is not scalable with the increasing numbers of cores. In an NoC system, each core is connected to a local router and all the routers are connected via communication links. Power is a major concern in an NoC based</p>

	<p>system. In this paper, we propose a low power NoC router based on the principle of clock gating technique by modifying the arbiter block of the router and compare the result with conventional Round-Robin arbiter. Keywords: NoC, Roun-Robin Arbiter, Clock gating.</p>
<p>Rubab Ammad GICICRST1708152</p>	<p>Sensitivity Assessment of Spectral Salinity Indices over Desert Sabkha of Western UAE</p> <p>Rubab Ammad Department of Biology College of Science United Arab Emirates University Al-Ain, Abu Dhabi UAE</p> <p>Abdelgadir Abuelgasim Department of Geography and Urban Planning College of Humanities and Social Sciences United Arab Emirates University Al-Ain, Abu Dhabi 15551, UAE</p> <p>Abstract</p> <p>UAE typically lies in one of the most arid regions of the world and is thus home to geologic features common to such climatic conditions including vast open deserts, sand dunes, saline soils, inland Sabkha and coastal sabkha. Sabkha are characteristic salt flats formed in arid environment due to deposition and precipitation of salt and silt over sand surface because of low laying water table and rates of evaporation exceeding rates of precipitation. The study area, which comprises of western UAE, is heavily concentrated with inland Sabkha. Remote sensing is conventionally used to study the soil salinity of agriculturally degraded lands but not so broadly for Sabkha. The focus of this study was to identify these highly saline Sabkha areas on remotely sensed data, using salinity indices. The existing salinity indices in the literature have been designed for agricultural soils and they have not frequently used the spectral response of short-wave infra-red (SWIR1 and SWIR2) parts of electromagnetic spectrum. Using Landsat 8 OLI data and field ground truthing, this study formulated indices utilizing NIR-SWIR parts of spectrum and compared the results with existing salinity indices. Most indices depict reasonably good relationship between salinity and spectral index up until a certain value of salinity after which the reflectance reaches a saturation point. This saturation point varies with index. However, the study findings suggest a role of incorporating near infra-red and short-wave infra-red in salinity index with a potential of showing a positive relationship between salinity and reflectance up to a higher salinity value, compared to rest. Keywords: Sabkha, Salinity, Salinity index, Saline soils, Landsat 8, SWIR1, SWIR2, UAE desert</p>
	<p>The binding ability of Aflatoxin B₁ by lactic acid bacteria (LAB) isolated from fermented vegetables in Thailand</p> <p>Pinyapach Dungkokkrud, Nutritional and Food Safety Management, Faculty of Public Health, Maharakham University</p>


	<p style="text-align: center;">Abstract</p> <p>Aflatoxin B₁ (AFB₁) produced from mold <i>Aspergillus flavus</i> and classified as carcinogens when contaminating food grains. This research aimed to study the ability of lactic acid bacteria (LAB) to bind with AFB₁. Samples were isolated from 3 types of fermented vegetables were mix cabbage, onion, pickle and sour pickled asparagus collected from various local markets in Mahasarakham province, Thailand such as Mahasarakham Market, Ban Din Dum Market, Mahasarakham University surrounding Market, Ban Mho Market and Ban Kham Rieng Market. Standard Aflatoxin B₁(AFB₁) at 20 mg L⁻¹ was test with LAB at different duration time (24 and 48 hours). Quantity of Free AFB₁ was analyzed by HPLC-FL (High-performance liquid chromatography with fluorescence).</p> <p>The results showed 15 strains of LAB isolated from fermented vegetables. 11 strains were bacillus group as <i>Lactobacillus</i> sp. (B1-B11), the others 4 strains were coccus group such as <i>Streptococcus</i> sp., <i>Leuconostoc</i> sp., <i>Pediococcus</i> sp. and <i>Diplococcus</i> sp. (C1-C4). The results showed all strains which were incubated at 37 °C for 48 hours had high ability to bind with AFB₁ more than 80%. The highest ability was strain B4 at 96.3%, followed by C2, C4, B1 and C13 at 96.2, 95.9 and 95.6%, respectively with no significantly difference. Then all five strains were conducted to test the binding ability AFB₁ at different duration times. The results reveal that all five strains have had high potential binding AFB₁, strain C4 had the highest potential at 94.3%, followed by the strain C2, B4, B1 and C13 accounted for 92.0, 90.9, 90.6 and 88.9%, respectively. Furthermore, The study found LAB could higher ability of 5.3% to bind AFB₁ within 48 hours more than 24 hours at temperature 37 °C with statistically different (p-value <0.001). Therefore, the consumption of fermented vegetables containing LAB with food grains could prevent the poison from AFB</p> <p>Keyword: Lactic Acid Bacteria, Aflatoxin B₁, Fermented vegetables</p>
<p>Cheraghifar Farnaz GICICRST1708156</p>	<p style="text-align: center;">A New Approach to Sustainable architecture based on the works of Louis Kahn</p> <p style="text-align: center;">Cheraghifar Farnaz Architecture, South Tehran Branch, Islamic Azad University, Tehran, Iran Ghoddusifar S Hadi Architecture, South Tehran Branch, Islamic Azad University, Tehran, Iran</p> <p style="text-align: center;">Abstract</p> <p>This article aims to show the position of Louis Kahn attitudes in sustainable architecture. Louis Kahn is one of most famous modern architects who never followed from his predecessors. He as a unique architect applied modern architecture of organic organization based on archetypal. According to Jurgula, one of Kohn's students, Louis attitudes divided into 4 sections as following: 1. silence and light, 2. human feeling, 3. sense of place, 4. human religious natures. Components of sustainable architecture used for all above. Addition to energy control, sustainable architecture is association with optimizes fuel consumption and other physical problems, sense of place, spirituality, economic problems and</p>


	<p>identification. The research methodology is analytical and descriptive using qualitative method. In this research, the theory is deductive and part to the whole. The result of this research indicated that Louis Kohn used silence and light and creating sense of place in sustainable architecture.</p> <p>Keywords: Louis Kohn, sustainable architecture, silence and light, sense of place</p>
<p>Kussay Subhi GICICRST1708163</p>	<p>Improvement of Friction Condition between Human Skins at Lower Limb Stump with Different Textiles</p> <p>Kussay subhi Dept. of Machine Elements and Tribology, University Politehnica of Bucharest, Romania</p> <p>Emad hussein AL-FURAT AL-AWSAT Technical University, Babylon, Iraq,</p> <p>Andrei tudor Dept. of Machine Elements and Tribology, University Politehnica of Bucharest, Romania</p> <p>Abstract: Human skin considered as an important organ in the human body since it works as a barrier between outside environment and the internal components, also it covers approximately two square meters in total area and around 18% of human weight in the adult. In the case of lower limb amputation, the stump will be in direct and continuous touch with a textile material in between the polymeric socket and stump itself, so to avoid skin injuries or ulcers which are caused if bad contact conditions occur for long time duration. In present work coefficient of friction of different textiles with human skin at the stump, the region is investigated, this specific contact area is influenced by many factors such as skin humidity, nature of the employed textile itself, temperature, and other factors. This paper will clarify how the coefficient of friction varies together with different textile to provide comfortable ambient at this sensitive region.</p> <p>Keywords:Skin friction, Biotribology, Lower limb, Viscoelasticmaterials.</p>
<p>Yamina Chergui GICICRST1708164</p>	<p>Biosorption of ETL dye from aqueous solution by low cost sorbent</p> <p>Yamina Chergui Laboratory of recovery materials. Faculty of Science and Technology University of Mostaganem Bp 27, Mostaganem Algeria.</p> <p>A. Iddou Laboratory of recovery materials. Faculty of Science and Technology University of Mostaganem Bp 27, Mostaganem Algeria.</p>

	<p style="text-align: center;">ABSTRACT:</p> <p>This present study is investigates to the batch ETL dye sorption by Grap seeds. The sorbent was synthesized and characterized by scanning electron microscope (SEM) and Fourier transform infrared spectroscopy (FTIR). The effects of pH, initial dye concentration, contact time and mass sorbent in the efficiency of ETL sorption were investigated. Furthermore, pseudo-first and second-order kinetic models were also used to analyze sorption kinetics. The equilibrium adsorption results were fitted by the Langmuir and Freundlich isotherms. Maximum amount ETL removal 95.36 mg/g was observed at pH 2, sorbent weight 500mg and contact time 60 min. The Langmuir model feted well the experiments data. Key words: waste water, biosorbant, isotherms, modeling</p>
 <p>Elza M M Fonseca ICICRST1708055</p>	<p style="text-align: center;">Dynamic numerical simulation of different drill bit diameter on the polyurethane foams drilling</p> <p style="text-align: center;">Maria G Fernandes PhD Student, INEGI, Faculty of Engineering, University of Porto, Porto, Portuga</p> <p style="text-align: center;">Elza M M Fonseca LAETA, INEGI, Polytechnic Institute of Bragança, Portugal</p> <p style="text-align: center;">Tiago A S Teixeira MSc Student, Polytechnic Institute of Bragança, Bragança, Portugal</p> <p style="text-align: center;">Renato N Jorge INEGI, Faculty of Engineering, University of Porto, Porto, Portugal</p> <p style="text-align: center;">Abstract</p> <p>Drilling is one of the most common processes involved in different cutting operations and may affect the mechanical properties of the workpiece by creating residual stresses around the opened hole and highly stressed on the newly formed surface. Nevertheless, when it comes to the living tissues, drilling assumes more attention to guarantee a non-invasive procedure. Drilling of bone is common in orthopaedic surgical process, to produce a hole to screw insertion to fix the fractured members for immobilization, or even in dental implant interventions. This work describes a conventional drilling process performed on solid rigid polyurethane foams blocks with similar mechanical properties to the human bone. A dynamic and numerical study was conducted to evaluate the use of different drill diameters (4, 5 and 6mm) on the stresses generated during the drilling process. Different numerical simulations using the LS-DYNA program were performed to assess the level of stresses and the damage effect on the foam structure. This program is based on the explicit dynamic finite element method and incorporates the dynamic characteristics involved in the drilling process. Different drill bit geometries and foam blocks were developed through the SolidWorks program and imported into LS-DYNA program for the numerical simulation. The main objective of this study is to verify the combination between</p>

	<p>some drill parameters that reduce the mechanical damage during bone drilling procedures. The obtained results permit to assess the influence of the drill bit diameter, concerning on strains and stresses evolution, using a constant feed-rate (75mm/min) and drill speed (600rpm). For these conditions, numerical results show that the smaller drill bit diameter leads to a decrease in the stresses generation in solid rigid foam materials during the drilling process.</p> <p>Keywords: polyurethane foam, drilling process, drill diameter, stress level.</p>
<p>Paulo Alexandre Gonçalves Piloto GICICRST1708056</p>	<p>Fire performance of non-loadbearing light steel framing walls – numerical and simple calculation methods</p> <p>Prof. Paulo A. G. Piloto LAETA-INEGI, Department of Applied Mechanics, Polytechnic Institute of Bragança (IPB), Bragança, Portugal</p> <p>MSc. Mohamed S. Khetata Science and Technology Park – Brigantia-EcoPark, Bragança, Portugal</p> <p>Prof. Ana B. R. Gavilán Department of Mechanical Engineering, University of Salamanca (USAL), Zamora, Spain</p> <p>Abstract</p> <p>Light steel frame and prefabricated panels are widely used in non-loadbearing walls, with direct application to steel framed buildings. Such panels consist of channel steel sections (studs and tracks) with gypsum plasterboard layers attached to the flanges on the outside and use insulation material in the cavities. The fire resistance is usually provided by one or more layers of panels and also by the insulation material. This investigation evaluates the thermal behaviour of the unexposed surface and also of the internal layers, using numerical simulations and a simple calculation method, assuming that heat flux is almost one-dimensional. The fire resistance is compared for both models using a two dimensional cross section of the wall. The insulation criterion is the only one used for the calculation of the fire resistance, based on the calculation of the average and maximum temperature of the unexposed surface above the initial average temperature. Good approach is achieved by the simple calculation model, when optimum effective width is used in the model.</p> <p>Keywords: LSF walls, fire resistance, numerical simulation, simple calculation method.</p>
<p>Dr. Sezai Kutuk GICICRST1708059</p>	<p>Particle size distribution of nano-scale ulexite mineral prepared by ball milling</p> <p>Dr. Sezai Kutuk Department of Electronics and Automation, Vocational School of Technical Sciences, RecepTayyip Erdogan University, Rize, Turkey</p> <p>Tuba Kutuk-Sert</p>

	<p style="text-align: center;">Department of Civil Engineering, Faculty of Engineering, RecepTayyip Erdogan University, Rize, Turkey</p> <p style="text-align: center;">Abstract</p> <p>Commercially available raw ulexite (U) minerals were milled up to 8 h by using a high-energy ball grinder for different initial feed sizes (–75 µm and–3 mm), ball to powder ratios (5:1 and 10:1), ball sizes (5 mm and 10 mm), and process control agents (3% and 6%). Particle size distribution and morphology measurements of milled powders were carefully studied. In particle size analysis, the lowest d_{90}, d_{50}, d_{10} and d_{min} values were detected to be 17.547 µm, 1.732 µm, 283 nm and 35 nm, respectively. Therefore, nano-scale in particle size for the ulexite mineral has been achieved. In addition, the smallest milling time was found as 0.5 h. Moreover, the best powder yield was determined to be 90.5 %. In morphology analysis, the milled powders were observed to be more homogeneous than the initial feed size minerals. Besides, findings of morphology analysis were in agreement with that of particle size analysis. It was decided that optimized ball milling parameters are –3 mm for initial feed size; 10:1 for ball to powder ratio; 5 mm for ball size; 3% for process control agent. The results obtained from this work will be useful for nano-scale researches and industrial applications of ulexite ($\text{Na}_2\text{O}\cdot 2\text{CaO}\cdot 5\text{B}_2\text{O}_3\cdot 16\text{H}_2\text{O}$), which is boron mineral.</p> <p>Keywords Ulexite; Milling; Particle size; Morphology; Optimization</p>
<p style="text-align: center;">Tuba Kutuk GICICRST1708060</p>	<p style="text-align: center;">Laboratory test researches on warm mix and hot mix asphalt included sub-micron sized ulexite mineral</p> <p style="text-align: center;">Tuba KUTUK-SERT Department of Civil Engineering, Engineering Faculty, Recep Tayyip Erdogan University Rize, Turkey</p> <p style="text-align: center;">Sezai KUTUK Department of Electronics and Automation, Vocational School of Technical Sciences, Recep Tayyip Erdogan University Rize, Turkey</p> <p style="text-align: center;">Resul Ekrem GUNBEY Department of Civil Engineering, Engineering Faculty, Recep Tayyip Erdogan University Rize, Turkey</p> <p style="text-align: center;">Aykut CANAKCI Department of Metallurgical and Materials Engineering, Engineering Faculty, Karadeniz Technical University Trabzon, Turkey</p> <p style="text-align: center;">Mehmet Muhtar KOCAKERIM Department of Chemical Engineering, Engineering Faculty, Cankiri Karatekin University Cankiri, Turkey</p> <p style="text-align: center;">Abstract</p> <p>Warm mix asphalt (WMA) is a new technology which asphalt mix is produced and placed at lower produced temperature than hot mix asphalt (HMA). By WMA</p>

	<p>technology can reduced the mixing and compaction temperatures by 30 C. This technology has advantages including low cost, more environmentally friendly. Therefore, it has been widely tested and applied in many countries. In this paper, both WMA and HMA added sub-micron particle sized boron mineral were investigated. This boron mineral was ulexite with -25 μm and +53 μm different grinding sizes. As a WMA additive, Advera synthetic zeolite commercial product was preferred. According to laboratory tests carried out, effective results were obtained and WMA containing sub-micron sized ulexite minerals have been analyzed and compared with HMA.</p> <p>Keywords: Warm mix asphalt; Hot mix asphalt; Advera; Ulexite; Sub-micron sized</p>
<p>Jaejoon Kim GICICRST1708062</p>	<p>Application on Panoramic Image Merging based on Multi-band Blending Technique</p> <p>Jaejoon Kim School of Computer and Communication, Daegu University 201 Daegudaero Jillyang, Gyeongsan, GyeongbukSouth Korea</p> <p>Abstract- Recently, various types of multimedia contents are widely used, so realistic contents that provide multidimensional information instead of one-dimensional information from the viewpoint of the user are required. Among these realistic contents, the panoramic image can be considered to convert the existing limited and planar digital contents into stereoscopic, volumetric and rich contents with the expansion of time. In addition, multi-view video contents require technologies that provide stereoscopic feeling to users through entertainment such as movies or dramas subject. In this paper, we prove the possibility of applying multi-band blending to various applications by experimentally confirming multi-band blending method to minimize the ghosting effect caused by stitching of multiple images. In terms of merging images, we also need to further develop matching algorithm, implement seam reduction, and stitch with wider angle images.</p> <p>Keywords: multi-view contents, realistic contents, panorama image, ghosting effect, multi-band blending</p>
 <p>İhsan Yüksel GICICRST1708070</p>	<p>Development of an Early Warning Model Based on MCDM for Disaster Risk Management</p> <p>İhsan Yüksel Department of Business Administration, Faculty of Economics and Administrative Sciences, Kırıkkale University Kırıkkale, Turkey</p> <p>Ahmet Aktaş Department of Industrial Engineering, Faculty of Engineering, Abant İzzet Baysal University, Gölköy Bolu, Turkey</p> <p>Yağmur Topraklı</p>

	<p>Department of Architecture, Faculty of Architecture, Gazi University, Maltepe, Ankara, Turkey</p> <p>Mehmet Kabak Department of Industrial Engineering, Faculty of Engineering, Gazi University, Maltepe, , Ankara, Turkey,</p> <p>ABSTRACT</p> <p>Although the disaster concept has been defined in different contexts in the literature, the main frame expresses that incidents lead to loss of life. Eventually, natural, technological or human-caused events, which cause causalities in domains with physical, economic, social and psychological dimensions, are expressed with disaster concept. Defining characteristic of disaster phenomenon, in other words distinctive feature of disaster from ordinary events is that the people who are affected by the event are suffer to losses against using their resources and opportunities and their life are affected. Nevertheless, in the literature, the predictability of disaster is determinant in terms of vitality and material loss. The predictability of the disaster event and its preliminary detection of possible impacts can allow avoiding or minimizing the negative consequences of the event. For this reason, it is known that scientific studies for predicting disaster incidents have been performed and researchers have tried to develop the proposed methods and models to the level of applicability. In this study, an early warning model has been developed in order to provide decision support for disaster risk management. The proposed model is in an integrated structure with multiple factors. In the solution phase of the proposed model, decision-making trial and evaluation laboratory (DEMATEL) technique is used for determining interactions between the factors, then factor weights based on the relational pattern are obtained by using Analytic Network Process (ANP) technique. Analytical structure of the proposed model resolves the neglecting possible disaster risk factors. Additionally, the possibility of assessment of qualitative and quantitative factors by using analytic techniques used in the process of the model, makes it possible to assess the problem in an integrated manner. The model can perform risk assessment of each factor, but can also perform holistic risk assessment.</p> <p>Keywords: Disaster Management, Disaster Risks, Analytic Network Process, DEMATEL</p>
 <p>Mehmet Yüksel GICICRST1708071</p>	<p>Education Efficiency Evaluation Based on PROMETHEE: A Case Study for Chemistry Education</p> <p>Mehmet Yüksel Ministry of National Education, Alparslan Anatolian High School, Yenimahalle, Ankara, Turkey</p> <p>Metin Dağdeviren Department of Industrial Engineering, Engineering Faculty, Gazi University, Maltepe Ankara, Turkey</p>

	<p style="text-align: center;">Mehmet Kabak Department of Industrial Engineering, Engineering Faculty, Gazi University, Maltepe, Ankara, Turkey</p> <p style="text-align: center;">ABSTRACT</p> <p>There are too many studies on efficiency of education in the literature. Number of these researches are increasing, while the concept and the methodology of these studies vary on the field and the subjects. The main reason for the trend is due to the importance of education achievements in terms of life. The role of the field of chemistry, one of the major areas of science education in understanding and explaining life and nature, is understood from studies in the literature. While the effectiveness of education in all areas of life is important, it is important to examine the effectiveness of chemistry education because of the education and teaching difficulties stemming from the nature of chemistry. However, the effectiveness of education and teaching services is of interest to many people. The achievements acquired as the result of attainment of the education goals, contribute to the knowledge accumulation at the macro level and thus to the development of the science, while the realization of the goals of the individual and the education institution in a micro sense. The expectations of the relevant stakeholders and sectors make the efficiency of education and teaching service important. In this study, efficiency of high school chemistry education is evaluated in terms of academic achievement at institutional level. A group of experts used fishbone diagram to determine the elements make academic achievement of chemistry course education and teaching at high school level hinder or effect negatively. Expert group consist of authors of study and chemistry teachers in a high school. Determined factors are transferred to the Decision Lab program and the Preference Ranking Organization Method for Enrichment Evaluations (PROMETHEE) analysis was applied. At the result of the study, efficiency factors for chemistry course education and factor priorities of an education institution in terms of chemistry education efficiency are determined.</p> <p>Keywords: Chemistry education, efficiency, fishbone analysis, academic achievement, PROMETHEE</p>
 <p style="text-align: center;">Mehmet Kabak GICICRST1708072</p>	<p style="text-align: center;">A Hybrid Approach Based on Hesitant Fuzzy Sets: Vehicle Selection Problem Application</p> <p style="text-align: center;">Ahmet Aktaş Department of Industrial Engineering, Faculty of Engineering, Abant İzzet Baysal University, GolkoyBolu, Turkey</p> <p style="text-align: center;">Mehmet Kabak Department of Industrial Engineering, Faculty of Engineering, Gazi University, Maltepe, Ankara, Turkey</p> <p style="text-align: center;">İhsan Yüksel Department of Business Administration, Faculty of Economics and Administrative Sciences, Kırıkkale University Kırıkkale, Turkey</p>

	<p style="text-align: center;">Abstract</p> <p>Most of the decision problems consist conflicting criteria and non-dominating alternatives. Multiple criteria decision-making (MCDM) techniques are commonly used for solving such kind of decision-making problems. Hybrid decision-making approaches that are constructed by integrating different MCDM techniques, which are used for determination of importance degrees of criteria and evaluation of alternatives, support decision makers in their analyses. In the scope of this study, decision making problems in which decision makers with hesitance at criteria evaluation and determination of alternative values are considered. Hesitance of decision makers is shown by using hesitant fuzzy numbers in problem data. AHP (Analytic Hierarchy Process) technique is used for determining criteria importance degrees and TOPSIS (Technique for Order Preference by Similarity to Ideal Solution) technique is used for evaluating alternatives. The proposed technique is tested on an application of truck selection problem. Six decision-making criteria (transportation capacity, selling price, fuel consumption, availability of spare parts, number of service stations and warranty period) are taken into account for five alternative trucks and the best alternative is determined. Application results show that the proposed technique is suitable for using in MCDM problems.</p> <p>Keywords: Hesitant fuzzy sets, AHP, TOPSIS, Multiple criteria decision making.</p>
<p>Sehwan Oh GICICRST1708075</p>	<p style="text-align: center;">Roles of Individual- and Country-level Social Capital in Entrepreneurial Activities of Crowdfunding</p> <p style="text-align: center;">Sehwan Oh School of Business Administration, Kyungpook National University, Daegu, Republic of Korea</p> <p style="text-align: center;">Sungho Rho Division of International Studies, Sejong University, Seoul, Republic of Korea,</p> <p style="text-align: center;">Abstract</p> <p>Purpose – Previous researchers have not paid much attention to what affects entrepreneurial activities in terms of creating new crowdfunding projects. From the perspective of the social capital theory, this study examines the roles of individual- and country-level social capital in entrepreneurial activities from the context of crowdfunding.</p> <p>Research design, data, and methodology – From Kickstarter, the largest U.S.-based crowdfunding platform, this study obtained 15,716 crowdfunding projects and individual-level social capital. For country-level social capital, the social capital index from the 2016 Legatum Prosperity Index was utilized. By matching individual- and country-level social capital for each crowdfunding project, this research estimates the role of social capital in entrepreneurial activities using the Poisson regression and the negative binomial regression.</p> <p>Findings – The study finds that both individual- and country-level social capital have a positive impact on entrepreneurial activities in terms of the creation of new crowdfunding projects. In details, the number of Facebook friends (i.e., structural social capital), the number of other crowdfunding projects which a crowdfunding</p>

	<p>project founder has invested in (i.e., relational social capital), and word count of the description of a crowdfunding project (i.e., cognitive social capital) are positively associated with the number of crowdfunding projects created by founders. In addition, social capital at the country level is positively associated with entrepreneurial activities for launching crowdfunding projects. Keywords: Social capital, crowdfunding, entrepreneurship, Kickstarter</p>
<p>Metin DAĞDEVİREN GICICRST1708076</p>	<p>Ranking of Transition Stages to Green Supply Chain Management: A Fuzzy AHP Approach</p> <p>Aylin Adem Gazi University Faculty of Engineering, Department of Industrial Engineering, Ankara, Turkey</p> <p>Metin Dağdeviren Gazi University Faculty of Engineering, Department of Industrial Engineering, Ankara, Turkey</p> <p>Mehmet Kabak Gazi University Faculty of Engineering, Department of Industrial Engineering, Ankara, Turkey</p> <p>A.Yağmur Toprakli Gazi University Faculty of Architecture, Department of Architecture, Ankara, Turkey</p> <p>Abstract</p> <p>Since environmental pollution is becoming a matter of increasing importance, there is a lot of responsibility for the industry-oriented firm within the measures taken against this pollution. The green supply chain concept has been put forward by researchers to make purchasing, production, and post-production processes more sensitive to the environment. In order for a firm to adapt itself to the green supply chain management approach, it must keep in view all the processes it undertakes within the firm. The scope of green supply chain management could be considered as green procurement, green production, green distribution, green packaging and reverse logistics. For a company that operates at a medium size, it is important that which one of these steps will be a priority among others when the company decided to transition to green supply chain management system will take place. In this study, for a small medium sized company in Ankara, a decision model was developed to find out which is the first process that transition to green supply chain management stages. In order to prioritize these processes, 3 experts were asked to state their priorities for the process. The fuzzy Analytical Hierarchy Process method was used for prioritization these stages and the α-cut method was used for defuzzification the obtained fuzzy values. According to the results obtained in the study, this industrial establishment must first focus on internal factors and should start with the green production process to have a successful green supply chain management system. In future works can be done by comparing the results obtained by changing the method used to determine the priorities of processes in the green supply chain management system. Keywords: Green Supply Chain Management, Analytical Hierarchy Process,</p>

	<p>fuzzy numbers, α-cut approach</p>
<p>Serhan Yesilkoy GICICRST1708080</p>	<p>Determination And Prediction Of Carbon Fluxes Using Eddy Covariance (Ec), Artificial Neural Network (Ann) And Multiple Lineer Regression (Mlr) Methods Over An Agricultural Ecosystem</p> <p>Serhan Yesilkoy</p> <p>Meteorological Engineering Department, Istanbul Technical University, Istanbul, Turkey</p> <p>Abstract Climate studies demonstrate that the determination and prediction of carbon fluxes over agricultural areas has become more important for the studies on the global carbon budget and climate change. In this study, the components of carbon fluxes such as the net ecosystem exchange (NEE), gross primary product (GPP), ecosystem respiration (R_{eco}) over the winter wheat which it is an important nutritional source for Turkey are measured, analyzed, estimated with Eddy Covariance (EC) method and predicted using Artificial Neural Network (ANN) and multiple regression (MLR) method. EC method that it uses CO_2, temperature and vertical wind speeds between the atmosphere and measurement sites is an efficient, well-known, micrometeorological approach. ANN based on the neural structure of a brain is a commonly used, nonlinear method which it gathers and models the knowledge in the data and finds patterns of the data. MR is a well-known regression method when it is used that there are more variables and complicated relationships among them.</p>
 <p>Ersin Aytac GICICRST1708082</p>	<p>Influence of flow rate on the removal of copper, lead and nickel from solutions in electro dialysis process</p> <p>Ersin aytac Faculty of engineering department of environmental engineering, bülent ecevit university, zonguldak, turkey</p> <p>Süreyya altın Faculty of engineering department of environmental engineering, bülent ecevit university, zonguldak, turkey</p> <p>Abstract In electro dialysis (ed) of heavy metals such as copper, lead and nickel from solutions, one of the main operating parameter is the flow rate. The study focus on understanding the impact of different flow rates on removal efficiency, current efficiency, specific electrical energy consumption and removed amount of matter in mg. 70, 140 and 200 ml/min of flow rates has been applied to ed stack which has constant operating parameters of 0.05 m nacl containing electrolyte solutions, 45 v of applied voltage, ph of 6 and dilute solutions with heavy metal concentrations of 2 mg/l. After 360 min. Of ed process removal efficiencies of all types of metals has shown an increment trend. As an opposite effect current efficiencies has been declined. When examining the removed amount of matter during process parallel indications to removal efficiencies has been determined. Increasing flow rates has</p>

	<p>increased the amount of matter removed. Last findings on the removal of heavy metal depending on flow rates were specific electrical energy consumptions. Comparing flow rates of 70 and 200 ml/min, energy consumptions per mg of heavy metal removed has raised. These results clearly points out that flow rate of dilute and electrolyte solutions in ec has an alternating effect on process.</p> <p>Keywords Electro dialysis, flow rate, heavy metal removal</p>
<p>Şenol, Nurgül GICICRST1708083</p>	<p>Investigation of Vasoactive Intestinal Polypeptide (VIP)/ Secretin Positive Cell Density in Digestive Tract of Vimba vimba</p> <p>Şenol, Nurgül Süleyman Demirel University, Faculty of Health Sciences, Isparta, Turkey</p> <p>Abstract This study aims to immunohistochemically determine the concentration and localization of VIP and secretin gastrointestinal peptides in Vimba vimba, which has economic importance. This study was supported by Tubitak Project No. 114O144. 15-20 Vimba vimba aged 1-2 years were obtained from the Lake Eğirdir. Length and weight of the fish were measured and materials were taken from stomach and gut. Materials were fixed in 10% formalin for 24-48 hours. Then, the routine histological tissue tracking procedure was performed. 5-6 µ thick sections were taken from paraffin blocks. Peroxidase anti-peroxidase (PAP) method was used to determine cells that contain VIP and secretin. It was found that digestive tract consisted of tunica mucosa, tunica muscularis and tunica serosa layers. Lamina muscularis was evident in the entire digestive tract. Also, no mucosal gland was found in the entire digestive tract. VIP positive cells were densely found in stomach and midgut, while the density decreased in other regions. It was determined that VIP positive cells were localized in lamina epithelialis, lamina propria and submucosa of stomach and gut; however, the concentration of VIP positive cells increased in lamina epithelialis. The minimum level of density was in hindgut among gut regions. The maximum secretin positive cell concentration was in foregut, followed by midgut and hindgut respectively. Similar to VIP positive cells, the concentration of secretin positive cells decreased in hindgut. Secretin positive cells mostly localized in lamina epithelialis.</p> <p>Keywords: Digestive tract, secretin, VIP, Vimba vimba</p>
<p>Hüseyin Şenol GICICRST1708084</p>	<p>Determination of Soil Colour by Visible near Infrared Reflectance Spectroscopy (VNIR)</p> <p>Hüseyin ŞENOL Suleyman Demirel University, Faculty of Agriculture, Department of Soil Science and Plant Nutrition, Isparta, Turkey</p> <p>Pelin ALABOZ Suleyman Demirel University, Faculty of Agriculture, Department of Soil Science and Plant Nutrition, Isparta, Turkey</p> <p>Ahmet Ali İŞILDAR Suleyman Demirel University, Faculty of Agriculture, Department of Soil Science and Plant Nutrition, Isparta, Turkey</p>

Abstract

Soil has physical, chemical and mineralogical properties and a different reflection characteristic at different rates, which has some characteristics such as absorbs incoming light, reflection, different albedo (reflected light/incident light). Reflection is used as an important parameter in determining the physical, chemical and mineralogical properties of the soil. It is fast and inexpensive to define the soil properties. Clay quantity and type, organic matter type and quantity, lime content, amount of sesquioxides, soil particle size and soil colour are known as factors affecting reflection. In this study, 41 soil samples was used and taken from the district of Isparta Atabey in order to determine the relationship between soil colour and VNIR spectroradiometer (350-2500 nm). Soil colour chart (Munsell) readings transformed into reflectance. The relationship was compared between the wave length selected from the reading values and the reflectance-type transformations of the reading values of the Munsell color chart and r^2 values have been revealed. Hue values were obtained as dry and wet in the graphs of reflection-munsel reflectance. The highest relationships (r^2) were determined 5YR ($r^2 = 0.86$) and 2.5YR ($r^2 = 0.74$) for hue, 4 ($r^2 = 0.71$) and 6 ($r^2 = 0.87$) for value, 1 ($r^2 = 0.94$) and 4 ($r^2 = 0.65$) for chroma.

Keywords— soil colour chart, chroma, hue, value, visible near infrared reflectance (VNIR)

A Small Cross-Section Of The Relationship Between Elevation And Soil Properties In The Grasslands

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Abstract


For grasslands, altitude is one of the determinants of weed species, quality and density, and grazing capacities. Although climatic conditions, which are the most important factors related to altitude, do not vary much at short distances, it is not possible to have a similar approach for soil characteristics. In this study, clay, silt and sand%, organic matter electrical conductivity (EC) and reaction (pH) (in 1: 1 soil water suspension), % CaCO_3 and Fe, Cu, Zn, Mn, Na, K, N and Al contents. of surface soil (0-25 cm) taken from different altitudes between 1783- 2211 meter in Boğatepe, Bulanık and Dikme villages of Kars province located in the eastern part of Turkey were determined. Organic matter, Fe, Zn and N were positively and significantly ($P < 0.01$) related to altitude ($r = 0.69$, $r = 0.82$, $r = 0.69$ and $r = 0.81$, respectively). For EC and pH, which had a negative and significant correlation ($P < 0.01$), the coefficients were $r = -0.70$ and $r = -0.78$. For other


	<p>features, the correlation coefficient values were smaller than $r = 0.47$ and evaluated as correlations in the medium-to-very-poor range. Within this 428 m altitude difference in grasslands, the organic matter content was varied between 3.9 and 12.09 %, pH 4.03 and 7.87, EC 42.6 and 127.3 $\mu\text{mhos cm}^{-1}$, Fe 1.21 and 33.23 mg kg^{-1}, Zn 1.08 and 3.24 mg kg^{-1}, N 0.19 and 0.65 %, respectively. The results indicated that decomposition of the organic matter accelerated with increasing temperature at lower altitudes and less basic cationic leaching were achieved with decreasing precipitation.</p> <p>Keywords: Grasslands, Elevation, Soil Properties.</p>
<p>Ahmet Ali İŞILDAR GICICRST1708085</p>	<p>The effect of straw and biochar on the behavior of the lead and cadmium in the soil</p> <p>Ali Hussein Hano AL-SHOHANI Suleyman Demirel University, Faculty of Agriculture, Department of Soil Science and Plant Nutrition, Isparta, Turkey</p> <p>Ahmet Ali İŞILDAR Suleyman Demirel University, Faculty of Agriculture, Department of Soil Science and Plant Nutrition, Isparta, Turkey</p> <p>Abstract</p> <p>In this study, the effects of straw and biochar derived from it on lead and cadmium adsorption and leachability of a coarse textured soil (UTM36 S; 284609, 4185511) were investigated. The straw (0, 0.4, 0.8 and 1.2 g kg^{-1} defined as D0, D1, D2 and D3) and equivalent biochar were mixed to a depth of 0-5 cm of soil in PVC columns. At the beginning, column soils have been kept at field capacity moisture level for some time. A total of 450 ml of water were then applied to the column soil as 50 ml every 5 days. At the end of the experiment, the column soils were divided into 0-5, 5-10, 10-15, 15-20, > 20 cm depths. Samples taken from the soil depths were milled and digested at acid, and then concentrations of its lead and cadmium were determined. In the column soils, cadmium concentrations was found in the range of 0.139-0.164 mg kg^{-1} and lead in the range of 45.45-53.99 mg kg^{-1}. The differences found for soil depths were not statistically significant.</p> <p>Key Words: Biochar, Heavy metal, Lead, Cadmium.</p> <hr/> <p>ASSESSMENT of Cr, Ni and Cd CONCENTRATIONS in SOME VEGETABLES</p> <p>Merve İŞBECER GECİR Suleyman Demirel University, Faculty of Agriculture, Department of Soil Science and Plant Nutrition, Isparta, Turkey</p> <p>Ahmet Ali İŞILDAR Suleyman Demirel University, Faculty of Agriculture, Department of Soil Science and Plant Nutrition, Isparta, Turkey</p> <p>Pelin ALABOZ Suleyman Demirel University, Faculty of Agriculture, Department of Soil Science and Plant Nutrition, Isparta, Turkey</p> <p>Abstract</p>


	<p>Nowadays, over-population and some applications due to intense industrial development have lead directly or indirectly to an increase in the amount of pollutants supplied into the environment. In this context, heavy metals are also considered to be important pollutants in terms of soil and water resources, while legal measures are taken, intensive studies on remediation methods are being continued. As it is known, some plants have accumulator properties and can accumulate heavy metals at much higher levels in organs and roots than other plants. Some of these plants play an important role especially in human consumption. Therefore, it is necessary to know the heavy metal contents of these plants. This study was carried out to determine some heavy metal (Cr, Ni, Cd) concentrations of cabbage and broccoli vegetables of Brassicaceae family which were marketed in Turkey- Isparta- Central open market. The highest Cd concentrations of the vegetables were 0.042 mg kg-1 on dry weight basis. Chromium concentrations varied between 0.155-0.200 mg kg-1, Ni was found to be the highest 0.443 mg kg-1. The values of Cr and Ni concentrations were found in broccoli while Cr concentration was found at the highest level in cabbage.</p> <p>Keywords: Heavy metals, Brassicaceae, Pollution</p>
<p>Ali Kara GICICRST1708094</p>	<p>Kinetic, Isotherm and Thermodynamic Analysis on Sorption Acid Violet 7 From Aqueous Solutions by Synthesis and Characterization of Well-Defined Crosslinked Copolymer Spherical Polymers</p> <p style="text-align: center;">A. Kara Uludag University, Chemistry Department, Bursa, Turkey</p> <p style="text-align: center;">A. Alan Uludag University, Faculty of Science and Arts, Chemistry Department Nilüfer, Bursa, Turkey</p> <p style="text-align: center;">Abstract</p> <p>Synthetic dyes by dyeing industrial effluents largely affect the ground water. So, with the use of a wide variety of synthetic dyes, dye-water is becoming an increasingly alarming source of toxic wastewater. Azo dyes, the largest group of synthetic dyes, have been used increasingly in industries because of their ease and cost effectiveness in synthesis compared to natural dyes. Azo dyes, synthetic organic dyes with basic structure are toxic to aquatic life; carcinogenic and mutagenic to humans. Azo dyes are synthetic organic dyes with basic structure Ar-N=N-Ar, where Ar is aromatic compound. Acid Violet 7 (AV7), a very important commercial azo dye, is a serious hazard to aquatic living organisms. Accordingly, to protect humans and the receiving ecosystem from contamination, azo dyes such as AV7 must be to decolourise their effluents from the dye-contained wastewaters before discharging.</p> <p>Well-Defined Crosslinked Copolymer Spherical Polymers produced by suspension polymerization and characterized, was found to be solid polymer for AV7 sorption. The crosslinked copolymer spherical polymers were prepared by copolymerizing of monomers. The crosslinked copolymer spherical polymers were characterized by N₂ adsorption/desorption isotherms, X-ray photoelectron spectrometry (XPS), X-ray diffraction (XRD), fourier transform infrared spectroscopy (FTIR), thermal gravimetric analysis (TGA), elemental analysis, scanning electron microscope (SEM) with energy dispersive X-Ray Analysis</p>

	<p>(EDX) and swelling studies.</p> <p>The crosslinked copolymer spherical polymers were used at sorbent/AV7 dye ratios. Kinetic, Isotherm and Thermodynamic studies of the AV7 sorption from the aqueous solutions were analyzed.</p> <p>Keywords Crosslinked copolymer spherical polymers; sorption isotherm, kinetic, thermodynamic; acid violet 7</p>
<p>Prof. Dr. Asim OLGUN GICICRST1708095</p>	<p>Acid Blue 113 remediation from water using polymer modified waste containing boron impurity</p> <p>ASİM OLGUN Uludağ University, Department of Chemistry, Bursa, Turkey</p> <p>VURAL BÜTÜN Osmangazi University, Department of Chemistry, Eskişehir, Turkey</p> <p>HAKAN ANNAÇ Dumlupınar University, Department of Chemistry, Kütahya, Turkey</p> <p>Abstract</p> <p>The aim of this study address the severe environmental impact on water pollution due to the land filling of boron containing wastes (BW) originating from Bigadiç boron plant in Turkey. It is proposed to investigate the production of a new low-cost adsorbents from this wastes. The approach is based on the “end of waste” concept where a waste after treatment could be regarded as secondary product to be freely traded on the open market.</p> <p>The BW was modified by using diblock copolymer. Their physico-chemical properties,, and surface chemistries were determined using X-ray diffraction (XRD), Fourier transform infrared spectroscopy (FTIR) and scanning electron microscopy (SEM), and Zetameter. Batch adsorption studies were carried out. Polymer modified samples were tested for the removal of Acid Blue 113 (AB113) impurities from aqueous solutions. The operating variables studied were the initial dye concentration, contact time, solution pH, and adsorbent dosage. The dye adsorption largely depends on the initial pH of the solution with maximum uptake occurring at pH 3. The adsorption followed pseudo second-order kinetics, and the isotherm fit well to the Langmuir model.</p> <p>Keywords: Zeta potential, Adsorption, Acid blue 113, Isothern</p>
<p>Ozlem Baydaroglu Yesilkoy GICICRST1708101</p>	<p>A Spatiotemporal Analysis of Turkey Wind Speed Data with the Bayesian Maximum Entropy Approach</p>



	<p style="text-align: center;">Ozlem Baydaroglu Yesilkoy School of Engineering and Natural Sciences, Istanbul Kemerburgaz University, Istanbul</p> <p>Abstract Spatiotemporal mapping of wind speed data is of great importance on determining the wind energy potential, construction zones, projecting future values and planning resources. From this point of view, monthly and yearly mean wind speed maps of Turkey are generated using with the Bayesian Maximum Entropy (BME) approach. The BME, a nonlinear geostatistical approach, is the only approach which it uses not only data on the process but also all information of the data in a spatiotemporal mapping. During processing data with the BME, physical laws, hypotheses, experiences, scientific theories, high order space/time moments, various types of uncertain information, outputs of models etc. are incorporated to the process. Hence, it maximizes knowledge about the variable processed because it uses exact and auxiliary data belonged to the regarding variable.</p> <p>In this study, Turkey daily mean wind speed data (m/s) measured at 10 m between the years 2010 and 2015 are used. 0.05^0, 0.1^0, 0.3^0, 0.5^0 and 10^0-spatial range and one day, week, month-temporal range are tried in order to determine the most appropriate spatial and temporal intervals in the yearly forecast. Different kinds of local means are used so as to find proper kriging method. In the forecast process, hard data (raw data), hard data with soft data (auxiliary data), detrended hard with soft data are implemented, separately. All studies show that using hard with soft data gives the best forecast results and the most appropriate kriging method is determined as the ordinary kriging. Similarly to the other techniques which they involve kriging methods, variances of errors are observed as a performance criterion. With using the soft data, variances of the forecast errors reduce by half. Also, all forecast results stays the interval of confidence levels and error variances of forecast results are quite low.</p>
<p>Gln Demirel Bayik GICICRST1708108</p>	<p style="text-align: center;">Mapping of Vehicle Emissions in Zonguldak Province</p> <p style="text-align: center;">Gülçin DEMİREL BAYIK Res. Ass. Bulent Ecevit University, Turkey</p> <p style="text-align: center;">Mine POLAT Res. Ass. Bulent Ecevit University, Turkey</p> <p style="text-align: center;">Çağlar BAYIK Res. Ass. Bulent Ecevit University Turkey</p> <p style="text-align: center;">Mustafa TANIŞ Asst. Prof. Bulent Ecevit University Turkey</p> <p>Abstract</p> <p>Air pollution is one of the most important environmental problem that have significant harmful effects on ecosystem and human. Effects of air pollution range from simple respiratory diseases to nervous system diseases and death. For this reason, more researches are conducted on air pollution during the recent year</p> <p>Main sources of air pollution are; Industrial emissions, domestic heating and</p>


	<p>traffic related emissions. Emissions from vehicles depend on the number of vehicles, type of the vehicle, fuel used, usage pattern and many other variables. Increase in the rate of individual vehicle use and decrease in the usage habits of public transportation results in significant increase in traffic-related emissions. Main pollutants emitted from vehicles are water vapor, carbon dioxide, nitrogen and oxygen. Carbon monoxide, nitrous oxide, unburned fuel and small dust particles are also release from automobile exhausts.</p> <p>In this study, vehicle emissions were determined in Zonguldak province and emissions intensity maps were prepared. In this context, hourly vehicle counts were conducted at Zonguldak D010 highway in four zones in the coastal area. In addition, speed counts were carried out in the same zones. Emissions were calculated by the obtained data and IPCC guidance was used for these calculations. The IPCC guidelines include main headings such as energy, industrial processes, agriculture and waste. In this study, emission related data under the head of “energy” were used. Emission intensity maps for Zonguldak province were established by using the obtained values. Keywords: Air pollution, Traffic</p>
 <p>Ammar AL-Gizi GICICRST1708110</p>	<p>Comparative Study of Some FLC-Based MPPT Methods for Photovoltaic Systems</p> <p style="text-align: center;">Ammar AL-GIZI Electrical Engineering Faculty, University Politehnica of Bucharest, Romania,</p> <p style="text-align: center;">Sarab AL-CHLAIHAWI Electrical Engineering Faculty, University Politehnica of Bucharest, Romania,</p> <p style="text-align: center;">Aurelian CRACIUNESCU Electrical Engineering Faculty, University Politehnica of Bucharest, Romania,</p> <p style="text-align: center;">Abstract</p> <p>In this paper, an asymmetrical and symmetrical fuzzy logic controller (FLC) based maximum power point tracking (MPPT) methods are compared. The input membership function (MF) setting values are calculated based on the power-voltage (P-V) characteristics of the utilized photovoltaic (PV) module at standard technical conditions (STC). Moreover, five and seven triangular (5-tri and 7-tri) MFs are also analyzed. The performance comparisons of the different categories of the FLC-based PV MPPT methods are performed using Matlab/Simulink package. In this paper, a BP SX150S PV module is used in the simulation at STC. According to the simulation results, the asymmetrical FLC-based MPPT method has the superior results in terms of transient and steady state tracking performances for the different numbers of utilized MFs. Where, in the case of 5-tri MFs, the asymmetrical FLC-based MPPT method can enhance the rising time (tr), tracking accuracy, and energy yield by 84%, 0.05%, and 13.25% respectively, compared to the symmetrical FLC. Whereas, in the case of 7-tri MFs, the rising time (tr), tracking accuracy, and extracted energy are enhanced by 86.7%, 0.04%, and 14.72% respectively. Hence, the tr and extracted energy are approximately improved by 10% and 0.08%, respectively by using 7-tri MFs in the proposed</p>


	<p>asymmetrical FLC. Keywords: Fuzzy logic controller, Maximum power point tracking, Photovoltaic systems</p>
 Ali Bilek GICICRST1708118	<p style="text-align: center;">Photoelastic Analysis and Modeling of Contact Stresses Between two Deformable Bodies</p> <p style="text-align: center;">Mustapha Beldi, L.M.S.E. Laboratory, Mechanical Engineering Department UMMTO University</p> <p style="text-align: center;">Ali Bilek, L.M.S.E. Laboratory, Mechanical Engineering Department UMMTO University</p> <p style="text-align: center;">Said Larbi L.M.S.E. Laboratory, Mechanical Engineering Department UMMTO University</p> <p style="text-align: center;">Said Djebali L.M.S.E. Laboratory, Mechanical Engineering Department UMMTO University</p> <p style="text-align: center;">Abstract</p> <p>This paper deals with a contact problem between two deformable bodies. This kind of problem can be encountered in mechanical systems where contact between moving components can give rise to high stresses, particularly in the neighborhood of the contact zones. To improve design and durability one should determine accurately the type and the amplitude of the imposed stresses. Experimental as well as numerical solutions were used by various authors to tackle this kind of problem. In this paper we are mainly interested in developing a finite element solution which can give the whole stress field developed in the models. The analyzed model consists of a birefringent deformable disc loaded along its diameter by a birefringent deformable plan. The two stress fields developed in the neighborhood of the contact zones are analyzed experimentally with plan polarized light and circularly polarized light in order to obtain the isoclinic fringe pattern and the isochromatic fringe pattern which allow the determination of the stress fields; the principal stresses directions and the values of the principal stresses difference were easily determined. We used <i>castem package</i> to obtain numerically the photoelastic fringes; the isochromatic fringes and the isoclinic fringes were determined in the whole model in order to compare them with the experimental ones. Good agreements were achieved. Analysis of stresses along the axis of symmetry showed good agreements between the experimental values and the simulated ones. The next step is to develop a finite element solution for a three dimensional contact problem of two deformable bodies in contact. For validation of the finite element solution, stresses can be locked inside the model for further analysis on either a regular polariscope by using the mechanical slicing method, or by using the optical slicing method which uses laser planes to optically isolate a slice. Keys words: contact, stress, isochromatic, isoclinic.</p>
Fenil Modi GICICRST1708121	<p style="text-align: center;">Design and simulation of di wheel automotive vehical (d.w.a.v.)</p> <p style="text-align: center;">Fenil Modi</p>

	<p style="text-align: center;">G.H.Raisoni College, Jalgaon, India</p> <p style="text-align: center;">Mayurkumar Chauhan G.H.Raisoni College, Jalgaon, India</p> <p style="text-align: center;">Shubham Khadke G.H.Raisoni College, Jalgaon, India</p> <p>In this work, a prototype model of D.W.A.V is proposed by considering various factors viz. load carrying capacity, weight of the vehical, centrifugal stresses and centripetal stresses affecting on di-wheel automotive vehicle's inner frame and outer wheel. Tried to achieve the self-balancing of the vehical with the help of center of gravity and control the yaw and slash control of vehical mechanically. Equation for motor torque calculation is used and for dynamics of two degree of freedom Langrangains equation is used. Assumptions and approximate values are taken for designing of prototype. The parametric software CREO 3.0 is used for design, analysis and simulation of D.W.A.V.</p> <p>Key words-di-wheel, simulation, design, automotive</p>
 <p style="text-align: center;">Adem Atmaca GICICRST1708141</p>	<p style="text-align: center;">A Review of Studies on Life Cycle Assessment of Commercial Buildings</p> <p style="text-align: center;">Adem Atmaca Department of Energy Systems Engineering, Gaziantep University Gaziantep, Turkey</p> <p style="text-align: center;">Sara Kanbar Department of Civil Engineering, Gaziantep University, 27310 Gaziantep, Turkey</p> <p style="text-align: center;">Nihat Atmaca ³Vocational School of Technical Sciences, Gaziantep University, 27310 Gaziantep, Turkey</p> <p style="text-align: center;">Abstract</p> <p>The energy consumption in buildings has been increasing steadily in the world. The balance between the amount of energy we harness and the amount of energy we consume is a very critical issue that mankind has to deal seriously. As buildings become more energy efficient over time, the relative proportion of embodied energy in the total life cycle energy increases. The electricity that we use in commercial buildings, records for about one-third of the total energy consumption in Turkey and fully air-conditioned office buildings are important commercial electricity end-users. Recently, conventional energy efficiency technologies can be used to decrease energy use in new commercial buildings by</p>

	<p>20–30% on average and up to over 40% for some building types and locations.</p> <p>This study provides a review and methodology of life cycle assessment (LCA) of typical commercial buildings</p>
<p>JeongHoon Park GICICRST1708157</p>	<p>Study of CEB cleaning characteristics using NaOCl and the fouling characteristics at different water temperatures.</p> <p style="text-align: center;">Jeonghoon Park Department of Water Resources, Graduate School of Water Resources, Sungkyunkwan University</p> <p style="text-align: center;">Kitae Park Department of Water Resources, Graduate School of Water Resources, Sungkyunkwan University</p> <p style="text-align: center;">Abstract</p> <p>Compared to other conventional filtration processes, membrane bioreactor (MBR) process is far more attractive for sewage treatment management because it is easier to be automated, and more compact.</p> <p>However, the application of MBR has many limitations such as membrane fouling, which leads to an increased maintenance cost, and contamination which results from overusing the cleaning agents. Thus, using the right amount of cleaning agent is considered to be one of the important factors in MBR process.</p> <p>Most membrane fouling is reversible fouling and irreversible fouling. Irreversible fouling is mostly caused by EPS, and chemical cleaning is used to remove it. It is known that more irreversible fouling occurs at low water temperature.</p> <p>In this study, one of the chemical cleaning methods, chemically enhanced backflush (CEB) using NaOCl, was used at various temperatures and concentrations. Through this, characteristics of membrane fouling and CEB cleaning using NaOCl, at different temperatures were investigated.</p> <p>For the cleaning experiment using CEB, when the temperature was decreased from 30 °C to 10 °C, the recovery rate for the filtration resistance decreased from 72.5% to 40%, 51.5% to 21.0% and 32% to 20.5%, for concentration of 1000 ppm, 800 ppm and 600 ppm, respectively.</p> <p>However, as the water temperature increased, the recovery rate of the filtration resistance and the reaction rate of NaOCl were increased</p> <p>This is because the reaction rate for chemical cleaning increases at higher Reynold's number, which results from lower viscosity, resulting from higher temperature.</p> <p>From this, it can be concluded that the concentration of the cleaning agent should be optimized for each and different temperatures. Hence, it seems the maintenance cost and the severity of contamination from overusing the cleaning agent could be minimized by optimizing the concentration of the cleaning agent at different temperatures.</p> <p>Key words : Membrane bioreactors, Membrane fouling, Irreversible fouling, Filtration resistance, Chemically enhanced backflush, NaOCl</p>

	<p>Performance, emission and efficiency analysis of a diesel engine operated with diesel and diesel-ethanol (E20) blend</p> <p>Erdi Tosun Department of Mechanical Engineering, Çukurova University, 01330, Adana, Turkey</p> <p>Tayfun Özgür Department of Automotive Engineering, Çukurova University, 01330, Adana, Turkey</p> <p>Ceyla Özgür Department of Automotive Engineering, Çukurova University, Adana, Turkey</p> <p>G. Tüccar Department of Mechanical Engineering, Adana Science and Technology University, 01180, Adana, Turkey</p> <p>K. Aydın Department of Automotive Engineering, Çukurova University, 01330, Adana, Turkey</p>
<p>Erdi Tosun GICICRST1708158</p>	<p>ABSTRACT</p> <p>In this study, performance and emission characteristics of a diesel fuel and ethanol added (20% vol.) diesel fuel (E20) operated compression ignition engine was studied in between 1000 - 2600 engine speed. Torque, power, specific fuel consumption curves as performance and carbon monoxide (CO), nitrogen oxides (NO_x) curves as emission parameters with respect to engine speed were obtained. Energy and exergy efficiency curves versus engine speed in order to assess the system thermodynamically were also obtained. Results showed that, while torque, power, CO emission were decreased, specific fuel consumption, NO_x emission were increased with use of diesel-ethanol blends. On the other hand, both energy and exergy efficiency values were decreased when alcohol was added to diesel fuel. Keywords: Alcohol; diesel engine; energy; exergy.</p>
	<p>Comparison of the effects of reaction parameters on cold flow properties of biodiesel</p> <p>Ceyla Özgür Department of Automotive Engineering, Çukurova University, 01330, Adana, Turkey</p> <p>Erdi Tosun Department of Mechanical Engineering, Çukurova University, 01330, Adana, Turkey</p> <p>Tayfun Özgür Department of Automotive Engineering, Çukurova University, 01330, Adana,</p>
<p>Ceyla Özgür GICICRST1708159</p>	

	<p style="text-align: center;">Turkey</p> <p style="text-align: center;">Abstract</p> <p>Biodiesel is biodegradable, renewable and nontoxic fuel source instead of petroleum fuel. In biodiesel production transesterification reaction is used and transesterification reaction is affected by diverse reaction parameters like as catalyst amount, molar ratio of alcohol to oil, time of reaction and temperature of reaction. In this experimental study, transesterification method was chosen in the production of biodiesel from linseed oil and the impacts of operation parameters on cold flow properties of linseed oil biodiesel was compared. In production process potassium hydroxide (KOH) was chosen as catalyst and ethanol was used as alcohol. The impacts of catalyst amount (0.3-1.1 wt%), molar ratio of ethanol to oil (4:1-8:1), reaction time (45-105 min) and reaction temperature (50-65 °C) was investigated. According to results, the minimum cold flow property values were obtained at 0.5% catalyst concentration, 7:1 molar ratio of ethyl alcohol to oil, 90 min of reaction time, 65°C of reaction temperature.</p> <p>Keywords: Linseed oil; biodiesel; reaction parameters; cold flow properties.</p>
 <p style="text-align: center;">Tayfun Özgür GICICRST1708160</p>	<p style="text-align: center;">Effect of mgo nanoparticle additives on performance and exhaust emissions of diesel fuelled compression ignition engine</p> <p style="text-align: center;">Tayfun Özgür Department of Automotive Engineering, Çukurova University, 01330, Adana, Turkey</p> <p style="text-align: center;">Erdi Tosun Department of Mechanical Engineering, Çukurova University, 01330, Adana, Turkey</p> <p style="text-align: center;">Ceyla Özgür Department of Automotive Engineering, Çukurova University, 01330, Adana, Turkey</p> <p style="text-align: center;">G. Tüccar Department of Mechanical Engineering, Adana Science and Technology University, 01180, Adana, Turkey</p> <p style="text-align: center;">K. Aydın Department of Automotive Engineering, Çukurova University, 01330, Adana, Turkey</p> <p style="text-align: center;">ABSTRACT</p> <p>Nowadays energy requirements have been rapidly growing due to increasing population and industrialization. Harmful gas emissions increase along with energy consumption, therefore, new ways to restrict harmful gases and to take precautions are sought. In this study, MgO nanoparticle additive with extra oxygen content were used in diesel fuel in compression ignition engines, in order to monitor fuel properties, performance and emission values. Dosage of additive into diesel fuel were 25, 50 and 100 ppm and the optimum dosage of additives was determined in relation to decrease of NOx and CO emissions.</p>

	<p>Keywords: Compression ignition engine, nanoparticle, engine performance, exhaust emissions</p>
 <p>Seung Hyeon Yun GICICRST1708161</p>	<p>A Study on the Efficiency Cleaning as Low Chemicals Cleaning Technology for Fouling Control of Membrane</p> <p>Seung Hyeon Yun Department of Water Resources, Graduate School of Water Resources, Sungkyunkwan University</p> <p>Min Jung Jeon Department of Water Resources, Graduate School of Water Resources, Sungkyunkwan University</p> <p>Hyung Soo Kim Department of Water Resources, Graduate School of Water Resources, Sungkyunkwan University</p> <p>Abstract</p> <p>Membrane_based processes are very susceptible to flux decline due to fouling problems and the concept of fouling control via process optimization, thus cleaning have been the focus of research in water</p> <p>Conventional methods for removing membrane fouling include both chemical and physical cleaning. However, the secondary treatment costs incur due to the use of chemicals required for cleaning, which is one of the reasons for the increased operating costs.</p> <p>The aim of this study is to reduce the total usage of chemicals through steam cleaning technology. Lab-scale experiments were adapted to compare cleaning strategies. Membrane filtration was performed with constant flow rate of about 80 L/m2h with the change of TMP being monitored. Tensile strength analysis, surface analysis by SEM, and pore size distribution analysis using CFP were done. To prevent deterioration during the membrane steam cleaning operation, the application of the steam technology in the membrane process was performed for approximately 3 minutes. after 3 filtration cycles, with each cycle lasting for 30 minutes, backwashing, after backwashing and steam washing, was compared through TMP.</p> <p>The findings from this work suggest that the use of steam cleaning process is more effective in membrane cleaning compared to the conventional backwashing method.</p> <p>Key words : Membrane cleaning , Membrane fouling, Filtration resistance, Steam Cleaning , Microfiltration</p>

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