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## CONFERENCE PROCEEDINGS

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09-10 June 2017, Rome, Italy**

**09-10 June 2017**

### Conference Venue

University of Washington - Rome Center (UWRC), Piazza del Biscione 95,  
00186 Roma, Italy

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**KEYNOTE SPEAKER**



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**Efficiency of Trichoderma spp. for Controlling Cercospora spp. of Water Lily (Mankalaubol variety.)**

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**Abstract**

Trichoderma spp is a fungi use for controlling Cercospora spp Infected in plant and flora. However, there are various forms of Trichoderma spp application ,so this research aimed to evaluate an efficiency of Trichoderma spp on leaf spot disease control in Water Lily (Mankalaubol variety). The studies were conducted using the Completely Randomized Design(CRD) to compare of 5 treatments with 4 replications. Trichoderma spp application in forms of granular, solution, powder, rice seed media and chemical captan(control) were applied in order to compare an efficiency in controlling lesions spot,diseased leaves and infected leaves percentage. The evaluation was conducted every 14 days in 10 weeks period. The results showed that Trichoderma spp is effective in controlling Cercospora nymphaeacea infection,however there were no significant different (  $p \geq 0.05$ ) in form of application. It was conducted that any form of Trichoderma spp application has similar efficiency.

**Keyword: Trichoderma spp, Cercospora nymphaeacea, Mankalaubol variety, Water Lily**

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GICICRST1707055**

**SUSTAINABILITY OF DRINKING WATER SUPPLY PROJECTS IN SOUTH WEST NIGERIA: A CASE STUDY OF ODEDA LOCAL GOVERNMENT AREA OGUN STATE NIGERIA**

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**ABSTRACT**

This study reviews the sustainability of drinking water supply projects in rural south west Nigeria. Since several inhabitants of these communities rely on water projects for source of drinking water supply, the functionality of these projects must be ensured. Data were collected from three locations in Odeda Local Government Area, Ogun State, namely, Odeda, Osiele/Obantoko and Bode-Olude through one-on-one interview, focus group discussions and field observation. This study revealed that the government is the sole body responsible for water supply projects in these areas; the

	<p>community members, majorly, were not consulted as regards the planning, implementation and management of the water supply projects and there were no collaboration(s) with external agencies, NGOs and Private sectors in these areas. Some of the factors affecting the functionality of these projects were also uncovered and recommendations were provided to guarantee sustainability.</p>
<p>Nasrin Hadidi Tamjid GICICRST1707057</p>	<p><b>THE RELATIONSHIP BETWEEN IRANIAN EFL TEACHERS' PERCEPTION OF THEIR SOCIO-AFFECTIVE STRATEGY USE AND EFL LEARNERS' COMMUNICATION APPREHENSION WITH A FOCUS ON GENDER</b></p> <p>Sahar Zamani (MA) Department of English, Tabriz Branch, Islamic Azad University</p> <p>Nasrin Hadidi Tamjid (PhD) Department of English, Tabriz Branch, Islamic Azad University</p> <p><b>ABSTRACT</b></p> <p>The present study aimed at investigating the relationship between Iranian EFL teachers' perception of their socio-affective strategy use and EFL learners' communication apprehension with a focus on gender. To this end, 20 teachers (10 male and 10 female) and 280 (140 male and 140 female) students of the same teachers were selected. The students were at intermediate level with the age range of 15 to 35. The teachers and the students were selected randomly from different branches of one of the language centers in Tabriz. To collect the data, two questionnaires of socio-affective strategy use and communication apprehension were used. The results of the correlational analyses and independent samples t-test indicated that there was not a significant relationship between the teachers' socio-affective strategy use and the learners' communication apprehension. Moreover, it was found that female teachers use socio-affective strategy more than male teachers. The results regarding the students' communication apprehension showed that there was not a significant difference between the male and female learners. Also, the analysis of the male teachers' socio-affective strategy use and male learners' communication apprehension showed that there was a non-significant relationship between the male teachers' socio-affective strategy use and the male learners' communication apprehension, but the analysis of the female teachers' socio-affective strategy use and female learners' communication apprehension showed that there was a significant negative relationship between the female teachers' socio-affective strategy use and the female learners' communication apprehension. The findings can have some implications for teachers, syllabus designers, and teacher trainers.</p> <p><b>Keywords:</b> EFL learners, socio-affective strategy, comprehension apprehension</p>
 <p>Keka Talukdar GICECG1707058</p>	<p><b>Energy storage applications of nanocrystals</b></p> <p>Keka Talukdar Department of Physics, Nadiha High School, Durgapur-713218, West bengal, India</p> <p><b>Abstract</b></p> <p>Energy storage applications of AlNi and AuZn nano crystals are investigated by Density functional approach. Parallel plate nano capacitors with separating distance in nano range are subjected to atomic scale simulation and capacitance of the nanodevice is found by finding the electrostatic energy as a function of bias voltage. Calculations are done by ATK-DFT engine offered by the commercial software ATK-QuantumWise. Electrostatic difference potential and electrostatic difference</p>

	<p>density are found at a bias voltage of 1 volt and plotted against distance. A capacitance of <math>6.15674e-14</math> F is calculated for AlNi crystal. Negative resistance of the AuZn nanocrystal is another important result of this work. With the increase of forward bias, capacitance falls towards more and more negative value i.e. the nanocrystal functions as an inductor. Due to the very small size of the compact parallel plate device, negative capacitance results due to quantum confinement. The capacitance of the AuZn nanocrystal is calculated as <math>-1.28683e-21</math> F. The existence of negative resistance of nanocrystals is in agreement with recent studies. Some results are given in Fig 1 and Fig 2. Future study of this work includes the investigation of change of capacitance of the crystals in various conditions and also the interface properties of the nanocrystals.</p>
<p>Ghoualem Hafida GICECG1707059</p>	<p style="text-align: center;"><b>Hydrochemical characteristics of the Waters of the Blida Watershed</b></p> <p style="text-align: center;"><b>H.HADDAD</b> Laboratory of Electrochemistry-Corrosion, Metallurgy and Inorganic Chemistry. Faculty of Chemistry. University of Sciences and Technology.Houari Boumediene. Box N°32 El-Alia. Bab-Ezzouar. Algiers. Algeria</p> <p style="text-align: center;"><b>H.GHOUALEM</b> Laboratory of Electrochemistry-Corrosion, Metallurgy and Inorganic Chemistry. Faculty of Chemistry. University of Sciences and Technology.Houari Boumediene. Box N°32 El-Alia. Bab-Ezzouar. Algiers. Algeria</p> <p style="text-align: center;"><b>Abstract</b></p> <p>Water shortage is recognized as one of the key issues facing many countries. However, the water demand is still increasing due to population growth and higher standard of living. A several water resources are available in Algeria. Unfortunately majority of these resources are not quantified. The physicochemical analysis of water resources can play a very important role in future water management and prospective sustainable living in Algeria</p> <p>In this work, special attention is given to the source waters of the Blida region. The objective of this work is to contribute of water quantification from recovered sources at different sites of Blida. The characterization of these sources allowed us to evaluate quantitatively and qualitatively the quality of waters in the region of Blida. Hydrochemical and statistical method were used for chemical analysis</p> <p>The analysis have concerned the parameters such as pH, temperature, conductivity, dissolved oxygen and ions of <math>Ca^{2+}</math>, <math>Mg^{2+}</math>, <math>Na^+</math>, <math>K^+</math>, <math>SO_4^{2-}</math>, <math>NO_3^-</math>, <math>NO_2^-</math>, <math>Cl^-</math> and <math>PO_4^{3-}</math>.</p> <p>The use of the Piper and Stabler diagram, the correlation matrix and the statistical analysis of the data by the PCA made it possible to carry out a hydrochemical study of these source waters and to know their chemical facies and to classify them. Statistical analysis of the data allowed us to note that a significant correlation existed between certain parameters and also to identify the distribution of the mineralization of these waters.</p> <p>The various analyzes carried out on samples of water from the Blida region have revealed the behavior of some parameters describing the physicochemical water quality.</p> <p>Descriptive analysis of parameters showed that the main elements measured in</p>

	<p>groundwater in this region for the different sampling stations indicate a difference in concentration between the different measuring stations. Analyses are performed by UV-Visible spectrophotometry, flame spectrophotometry and atomic absorption. Keywords: Groundwater, water analysis, physical-chemical parameters, piper diagram, PCA.</p>
<p><b>AJAY KUMAR AGARWAL GICECG1707062</b></p>	<p><b>ADSORPTION ISOTHERM STUDY FOR THE REMOVAL OF NICKEL IONS FROM AQUEOUS SOLUTION USING THERMAL POWER PLANT FLY ASH</b></p> <p><b>Agarwal, A. K.,</b> Department of Mining Engineering, Visvesvaraya National Institute of Technology, Nagpur- 440 010, India</p> <p><b>Muthreja, I. L.</b> Department of Mining Engineering, Visvesvaraya National Institute of Technology, Nagpur- 440 010, India</p> <p><b>Kadu, M. S.</b> Shri Ramdeobaba College of Engineering and Management, Nagpur- 440 013, India</p> <p><b>Pandhurnekar,</b> Shri Ramdeobaba College of Engineering and Management, Nagpur- 440 013, India</p> <p><b>C. P.</b> Shri Ramdeobaba College of Engineering and Management, Nagpur- 440 013, India</p> <p><b>Abstract</b> The removal of nickel by adsorption process using fly ash was investigated in this study. Nickel removal capacity of fly ash was performed by batch mode adsorption experiment using Atomic Absorption Spectroscopy (AAS) Technique. The results obtained from batch adsorption experiments were fitted to Temkin, Harkins Jura and Brunauer-Emmett-Teller (BET), adsorption isotherms using least square fit method. The best fit among the isotherm models is assessed by the linear coefficient of correlation (<math>R^2</math>) and non-linear Chi-square test (<math>\chi^2</math>). The theoretical value of <math>q_e</math> calculated from the best fit linear equation of each adsorption isotherm and the experimental values of <math>q_e</math> are calculated to compare the experimental and theoretical value of <math>q_e</math>. It was observed from the investigations that, BET adsorption isotherm is best fit adsorption isotherm as per linear coefficient of correlation and by nonlinear Chi square test (<math>\chi^2</math>). Key words: Fly ash, Nickel, Water pollution, Adsorption isotherms, Temkin, Harkins Jura and Brunauer-Emmett-Teller (BET)</p>
<p><b>Yahya Bozkurt GICECG1707064</b></p>	<p><b>Friction Stir Welding of Aluminium to Metal Matrix Composite Plates</b></p> <p><b>Yahya BOZKURT</b> Marmara University Faculty of Technology, Department of Metallurgy and Materials Engineering, Goztepe Campus, 34722, Kadikoy – Istanbul, Turkey</p> <p><b>Abstract</b> Considerable research in the field of material science has been directed towards the development of new light-weight, high performance engineering aluminium and metal matrix composites because of its useful mechanical properties such as specific</p>



	<p>modulus, strength, toughness and impact resistance. Aluminium and metal matrix composite materials have wide application areas, such as in aircrafts, space, marine, construction and automotive industries. It is important to choose appropriate welding methods to successfully assemble such materials.</p> <p>In the present study, aluminium and metal matrix composite plates were successfully joined by friction stir welding method. The high strength plate was placed on the retreating side of the tool. A tool rotation speed of 900 and 1120 rpm, tool traverse speed of 125 and 40 mm/min were performed, respectively. Tool tilt angle was kept constant. Tensile strength, joint efficiency and microstructural investigation were conducted. The maximum tensile strength value was obtained more than aluminium base metal, which corresponds to a joint efficiency of 40.2% that of the metal matrix composite plate.</p> <p><b>Keywords:</b> Friction stir welding, metal matrix composite, dissimilar joint, mechanical properties</p>
<p><b>Hadjer Ouriache</b> GICECG1707065</p>	<p><b>Remediation of petroleum hydrocarbons-contaminated soil by Fenton-like oxidation</b></p> <p><b>Hadjer OURIACHE</b> Laboratoire des Sciences et Techniques de l'Environnement (LSTE), Ecole Nationale Polytechnique, 10 Avenue Hassen Badi, Belfort, El-Harrach, 16110 Alger, Algeria</p> <p><b>Jazia ARRARI</b> Laboratoire des Sciences et Techniques de l'Environnement (LSTE), Ecole Nationale Polytechnique, 10 Avenue Hassen Badi, Belfort, El-Harrach, 16110 Alger, Algeria</p> <p><b>Abstract</b> Remediation of soils polluted by petroleum hydrocarbons is a very interesting topic in environmental research, several techniques have been used and others are in development. Advanced oxidation technologies have received increasing attention recently, for their significant effectiveness on various recalcitrant organic pollutants destruction. Among these technologies, we are interested in Fenton-like oxidation because of its application at neutral pH favored for indigenous microorganisms' development for eventual biodegradation.</p> <p>The present study aims to investigate the influence of hydrogen peroxide, iron zero-valent contents and chelating agent presence on petroleum hydrocarbons degradation efficiency by Fenton-like oxidation is evaluated.</p> <p>For this effect, we follow the temporal evolution of total petroleum hydrocarbons (TPH), the pH change, and the humidity was kept constant during the treatment period.</p> <p><b>Key words:</b> Fenton-like, EDTA, petroleum hydrocarbon, soils remediation, advances oxidation</p>
<p><b>Dr. Pankaj Dewangan</b> GICECG1707066</p>	<p><b>Fly Ash Mixing with Mine OB Dumps: An Enviro-friendly, Clean and Green Method of Disposal</b></p> <p><b>Dewangan P.K.</b> Associate Prof. and Head, Deptt. of Mining Engineering, NIT, Raipur, C.G., India</p> <p><b>Lokhande R. D.</b> Assistant Prof., Deptt. of Mining Engineering, VNIT, Nagpur, M.S., India</p> <p><b>Patel R.</b> Student, B.Tech., Final Year, Mining Engg, NIT, Raipur</p>

	<p style="text-align: center;"><b>Bhargav H.</b> Student, B.Tech., Final Year, Mining Engg, NIT, Raipur</p> <p style="text-align: center;"><b>Abstract</b></p> <p>Fly ash generation, its utilization and safe disposal is a major problem faced by thermal power plants (TPP) in India. Despite several efforts of the government, the utilization of fly ash is reached to only 55% of the total fly ash generated and remaining 45% fly ash is still being dumped into poorly designed and maintained ash ponds. At present, fly ash is mainly being utilized for making cement, bricks, concrete, roads and small quantity in mine void filling. The consumption of fly ash in construction activity has reached to almost saturation level and there is not much potential to consume more fly ash in these segments. Mine void filling is the only potential area where bulk quantity of fly ash can be utilized and 100% utilization target can be achieved. This paper investigates the suitability of fly ash to be disposed of by mixing it with overburden (OB) dumps in coal mines. Characterization of both the OB dump material and fly ash were carried out in the laboratory. The compaction and shear tests were performed on OB dump material and the same mixed with 25% fly ash by volume as per the guidelines issued by Ministry of Environment Forest and Climate Change, Govt. of India. The stability condition of both OB dump and fly ash mixed OB dump at varying slope angles were analyzed using FLAC 3D slope stability software and dump angle were optimized for safe disposal of the fly ash by mixing it with overburden dumps in the coal mines.</p> <p><b>Key words:</b> Stability, Overburden dumps, fly ash, shear strain, plasticity</p>
<p><b>Dr.Ritesh D.Lokhande GICECG1707067</b></p>	<p style="text-align: center;"><b>Impacts of Sinkhole Subsidence on Environment; Issues and Challenges</b></p> <p style="text-align: center;"><b>Sahu P</b> National Institute of Technology, Raipur</p> <p style="text-align: center;"><b>Lokhande R D</b> Visvesvaraya National Institute of Technology, Nagpur</p> <p style="text-align: center;"><b>Pradhan M</b> National Institute of Technology, Raipur</p> <p style="text-align: center;"><b>Dewangan P K</b> National Institute of Technology, Raipur</p> <p style="text-align: center;"><b>Agarwal A K</b> Visvesvaraya National Institute of Technology, Nagpur</p> <p style="text-align: center;"><b>Abstract</b></p> <p>Subsidence in general occurs in two different forms, namely, trough and sinkhole. Sinkhole subsidence is a common type of subsidence which occurs only at shallow depth of underground working. It is a localized phenomenon occurring due to sudden collapse of overburden into the underground voids. The impact of sinkhole subsidence in underground coal mining can occasionally be very catastrophic, destroying property and even leading to the loss of life. The environmental components can be defined as public health and safety, social relationships, air and water quality, flora and fauna. Although subsidence cannot be eliminated, it can be reduced or controlled in areas where deformation of the ground surface would produce dangerous or costly effects. The study mainly highlights the various impact of sinkhole on environment</p>



	<p>and also issues and challenges while dealing with sinkhole. <b>Keywords:</b> <b>subsidence; sinkhole: environment</b></p>
 <p><b>Dr. Nawal Kishore</b> GICECG1707069</p>	<p><b>Continuous Surface Miner- An Environmental Friendly Prospective in Indian Coal Mines</b></p> <p><b>Dr. Nawal Kishore, M.Mutyal Rao &amp; Roshan Kumar patel</b> Department of Mining Engineering, IIT(BHU) Varanasi, India</p> <p><b>ABSTRACT</b></p> <p>The growth of the Indian Coal Industry is to be understood by the fact that the coal mining industry has acquired a sound base and is ready to adopt new technology and further investment for a faster rate of growth considering the remedial measures of impacts on environment due to mining activities. Technology is advancing now days in order to meet the requirement of higher production rate and energy demands owing to the need of mechanisation with minimum cost and economy considering its least impact on environment. As a result there is a need of adoption of better mining method and technology which successfully meet the desired production rate as well as fulfil environmental requirement. Surface miner, a continuous mining machine, is emerging in recent days due to its high capacity of production and flexibility in operation. Continuous Surface Miners (CSM) were initially developed in the mid-1970s and their use has gained popularity since the 2000s, with improved cutting drum design and higher engine power leading to more efficient machines. These improvements have enabled operators to excavate rock in a more eco-friendly and economical manner.</p> <p>As per past record, there were 300 surface miners being operated globally out of which approximately 105 machines operated in India. At present, around 80 surface miners are working in coal mines and 50 surface miners are deployed in limestone mines in India .The continuous increase in the number of continuous surface miners in Indian coal mines as well as limestone mines shows that its applications and advantages over other combination of mining machines.</p> <p>A proper planning is the pre-requisite process required for achieving the production both in terms of cost and economics as well for sustainable and eco-friendly mining. The present paper would discuss various parameters affecting the operation of surface miner and proper planning of deployment of continuous surface miner in opencast coal mines. This also helps in the selection of the optimum mode of operation in terms of optimum length and width of coal bench on which the surface miners are deployed to achieve the maximum possible production.</p> <p><b>Key Words</b> <b>Continuous Surface Miner (CSM), Operation, Planning, Deployment, Economics</b></p>
<p><b>Dr. Manoj Pradhan</b> GICECG1707070</p>	<p><b>Impact of Copper Mining on Adjoining Natural Water Resources: A Case Study of Malanjkhanda Copper Mine</b></p> <p><b>O. N. Tiwari</b> Executive Director, Malanjkhanda Copper Project, Malanjkhanda, India</p> <p><b>Dr. Manoj Pradhan</b> Professor, Department of Mining Engineering, National Institute of Technology, Raipur, India</p> <p><b>Dr. T. Nandy</b> Chief Scientist, Wastewater Management Division, National Environmental</p>

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**ABSTRACT**

Mining of minerals specially sulfide ore mining affects the quality of surrounding surface water and ground water. Water quality problem caused by mining include acid mine drainage, heavy metal contamination, and increased sediment level. Malanjkhanda Copper Mine, located in Madhya Pradesh state of central India is the largest copper mine of Asia. It is an open-pit copper mine and contributes to around 80% of total copper production of India. The present production capacity of the mine is 2.0 million tonnes of ore per annum with a matching copper concentrator plant. The acidity of water in the Malanjkhanda copper mine is mainly attributed to the presence of various rocks and mineral assemblages which pass on their acidic characteristics to water that comes in their contact. The most predominant minerals found in order of abundance are chalcopyrite, chalcocite and malachite. The mine is surrounded by two major rivers namely Banjar and Son and their tributaries and two water tanks. The mining activity at Malanjkhanda Copper Mine is severally affecting the water quality of these rivers and their tributaries. This paper describes Acid Mine Drainage generation sources, its pathway and its impact on the surrounding water resources at Malanjkhanda Copper Mine.



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**COMBUSTION EMISSIONS RATIO OF MUNICIPAL SOLID WASTE  
CONDUCTED WITH AND WITHOUT BIO-DRYING**

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**ABSTRACT**

Gas emission level produced from combustion process of municipal solid waste (MSW) mainly traditional market waste can disturb the environment due to lower combustion temperature as a result of high water content. The purpose of this study was to find the relation between combustion temperature and gas emissions of organic waste from traditional markets with and without bio-drying process and analyze the quantitative relationship with potential emissions of organic degradation. This study was carried out under aerobic conditions and MSW were taken as samples have moisture content of 60% to 75%. The results showed that there was a rise in the combustion temperature and a reduction in total emissions of combustion products using bio-drying treatment. Combustion gas emissions also correlate with degradation of organic compounds. Hydrocarbons (HC) gas was significantly reduced from 646 ppm (combustion temperature of 300 °C) up to 2 ppm (at a combustion temperature of 700 °C). The CO<sub>2</sub> gas also decreased from 13.4% to 7.8%. At the same conditions of combustion temperature with non-bio-drying MSW feed, the total gas emissions do not decline significantly. Overall, the results obtained indicate that the gas emissions by applying biodrying process were significantly decrease compared to the process without biodrying.

	<p><b>Keywords:</b> gas emissions; bio-drying; combustion; municipal solid waste; organic degradation</p>
 <p>Anna Gyulkhandanyan GICECG1707072</p>	<p><b>New biopreparation MM based on natural minerals and microorganisms to increase fertility of soil</b></p> <p><b>Anna G. Gyulkhandanyan</b> Institute of Biochemistry, National Academy of Sciences, Armenia, Department of Pathological Biochemistry, Group of Bioengineering</p> <p><b>H. H. Sargsyan</b> “Biomaterial” Co. Ltd., Yerevan, Armenia;</p> <p><b>R. A. Madoyan</b> Biomaterial” Co. Ltd., Yerevan, Armenia;</p> <p><b>Aram G. Gyulkhandanyan</b> University of Evry-Val-d'Essonne (UEVE) - University Paris-Saclay, Group of Structural Bioinformatics, Laboratory “SABNP”, INSERM U1204, Evry, France;</p> <p><b>ABSTRACT</b></p> <p><b>Research Objectives.</b> The problem of obtaining sustainable harvests and increasing yields while maintaining soil fertility is the most important for humanity. Currently, the world has about 2 billion hectares of degraded land (23% of all usable land). Restoration of microbiota and fertile soil layer of degraded lands (due to excessive abuse of fertilizers) is a big and important problem. At present, the use of natural minerals-adsorbents (zeolites, diatomites, dolomites, etc.) is one of the most promising directions for solving the problem of soil restoration, preservation and increase in yield. The purpose of the present studies was to develop a technology for obtaining a new biopreparation (the composite from minerals-adsorbents and microorganisms) and its use in degraded lands of Armenia.</p> <p><b>Methodology.</b> The new biopreparation MM (minerals + microorganisms) consists of microparticles of natural minerals (zeolite, diatomite and dolomite), obtained by crushing, sifting on sieve and separation of microparticles. Immobilization of 3 groups of more than 10 symbiotic microorganisms (Lactobacillus sp., Nitrogen-fixing bacteria and Pseudomonas sp.) into minerals was carried out at the 25-35 grade C.</p> <p><b>Findings.</b> With the use of the biopreparation MM on a degraded soils of Armenia, the following measures were implemented: a) restoration of useful microflora and increase of the content of biological nitrogen in the soil; b) the optimum quantities of the biopreparation delivered per hectare of degraded soils are determined to obtain a high yield of agricultural crops (50-70 kg/ha).</p> <p><b>Research Outcomes.</b> Experiments on degraded soils in Armenia showed a high efficiency of MM biopreparation and an increase in yields of crops (tomatoes, cucumbers, beans, wheat, potatoes, beets, watermelon and raspberries) by 30-51% compared to the control.</p> <p><b>Future Scope.</b> The use of the MM biopreparation will not only stop the degradation of soils, but also obtain high yields of agricultural crops without significant economic investment.</p> <p><b>Keywords:</b> sustainable harvest, degraded land, natural minerals, microorganisms, increase in yields of crops</p>

<p><b>Yusuf TIBET</b> <b>Semra Coruh</b> <b>GICECG1707073</b></p>	<p><b>Adsorption of nickel removal from aqueous solutions using natural and modified montmorillonite clays: Factorial design analysis</b></p> <p><b>Yusuf TIBET</b> <b>OndokuzMayis University, Environmental Engineering Dept., Samsun, Turkey</b></p> <p><b>Semra ÇORUH1</b> <b>OndokuzMayis University, Environmental Engineering Dept., Samsun, Turkey</b></p> <p><b>ABSTRACT</b></p> <p>In this study removal of dye ions from aqueous solutions using monmorillonite clay was studied. A 23 full factorial design analysis was performed to screen the variables affecting nickel removal efficiency. The effects of pH, initial dye concentration and adsorbent dosage on nickel removal efficiency were examined in a batch system. Factorial design of experiments is employed to study the effect of three factors pH (3-7), initial metal concentration (25-250 mg/L), and adsorbent dosage (1.25-10g/L), at two levels low and high. The results were statistically analyzed by using the student's t-test, analysis of variance (ANOVA) and an F-test to define important experimental factors and their levels. A regression model that considers the significant main and interaction effects was suggested. The results showed that initial nickel concentration is the most significant factor that affects the removal of nickel ions.</p> <p><b>Key Words: Nickel, montmorillonite, adsorption, full factorial design</b></p>
<p><b>Raha Ardeshiri</b> <b>GICECG1707074</b></p>	<p><b>Present Functional Plans in the Design of the Residential Unit Base on the Sustainable Architecture and Ecological System in Hot and Humid Climate in Bandar Abbas</b></p> <p><b>Raha Ardeshiri</b> <b>Department of Architecture, Science and Research Branch, Islamic Azad University, Hamedan, Iran</b></p> <p><b>Seied Majid Mofidi Shemirani</b> <b>Department of Architecture, University of Science and Technology, Tehran, Iran</b></p> <p><b>Abstract.</b></p> <p>Buildings are one of the main energy consumers and thus, trying to find ways of creating structures that get their energy from alternative sources rather than from fossil fuels has created a new challenge among architects and designers. If the environmental conditions of the location are taken into consideration, the shape of the building, the way it is positioned and interior design can make living in that house much more comfortable. Each building must be designed in a way that minimizes the use of new sources of energy. In this article, different methods of overcoming critical situations or benefiting from favorable climatic conditions have been introduced; hence, it will become possible to take advantage of natural environmental conditions and provide considerable heat and comfort.</p> <p>In order to reach this goal, first, the influence of weather conditions on a house in a hot and humid area was studied in Bandar Abbas. The final form was gained through the study of the consistency and the efficient use of useful sources of energy in nature such as sunlight and wind. Given the nature of the subject, descriptive research and observation have been employed in this study.</p> <p><b>Keywords:</b> <b>Sustainab Sustainable development, Renewable energy, Fossil fuel, Eco-tech, Climate, Wind-catcher (Badgir), Badkhan</b></p>

<p><b>Jaber Aazami</b> GICECG1707075</p>	<p><b>The challenges and strategies of Urban Green Roofs Development in Iran Case study: Zanjan City</b></p> <p><b>Mohsen Kalantari</b> Associate professor, Department of Geography, University of Zanjan, Zanjan, Iran,</p> <p><b>Younes Khosravi</b> Assistant professor, Department of Environmental Science, University of Zanjan, Zanjan, Iran ({khosravi},</p> <p><b>Jabber Aazami</b> Assistant professor, Department of Environmental Science, University of Zanjan, Zanjan, Iran ({khosravi},</p> <p><b>Abstract</b></p> <p>Green Roof offers many benefits, especially for sustainability, increasing biodiversity and quality of life in urban areas. The green roof provides critical ecosystem services and promotes the general public health of urban residents. This article describes the main challenges and strategies of developing green roof in Zanajn city, Iran. This city has faced many problems in the process of urbanization, thus one of the significant problems in this city is the shortage of green spaces. Data collection methods for the study are the triangulation of interviews, documentation, archival records and observation. Results show the main strategies to develop rooftop gardens are increasing collaboration between authorities and specialized agencies, NGOs and private developers, reducing technical issues and uncertainty by providing financial support for increased research and creating high standards for both retrofitted and new installations. The government should actively support, by introducing relevant procurement policies, implementing aggressive plans for installations and making it mandatory to include these technologies in new buildings. Introducing grants or indirect subsidies to reduce payback periods and associated economic uncertainties might encourage private owner installations.</p> <p><b>Keywords:</b> Green Roof, Urban Ecology, Zanjan, Iran.</p>
<p><b>Aderonke Okoya</b> GICECG1707076</p>	<p><b>ASSESSMENT OF THE EFFICIENCY OF HYDROXYAPATITE IN TEXTILE DYE WASTEWATER REMEDIATION</b></p> <p><b>Aderonke A. Okoya</b> Institute of Ecology and Environmental Studies, Obafemi Awolowo University, Ile-Ife, Nigeria</p> <p><b>Somoye Oluwaseun</b> Institute of Ecology and Environmental Studies, Obafemi Awolowo University, Ile-Ife, Nigeria</p> <p><b>Ofoezie E. Emmanue</b> Institute of Ecology and Environmental Studies, Obafemi Awolowo University, Ile-Ife, Nigeria</p> <p><b>Omotayo S. Amuda</b> Ladoke Akintola University Of Technology, Ogbomosho, Nigeria</p> <p><b>ABSTRACT</b></p>



	<p>This study determined the quality of effluents released from textile dye industries into the environment and assessed the efficiency of a poorly crystallized Hydroxyapatite Powder (HAP) for the textile dye wastewater remediation. The wastewater sample was characterized using standard methods. The HAP was used as adsorbent to treat the wastewater and the reduced trends in the change in the values of the following parameters ( dye concentration, acidity, alkalinity, chloride, chromium, iron, cadmium, zinc, lead, total dissolved solids (TDS), chemical oxygen demand (COD), turbidity and colour ) after treatment indicated that HAP has great potential for the treatment of the wastewater. Also the HAP used can be regenerated and reused severally. The percentage removal of indigo dye after treatment with HAP was above 90%. The wastewater was highly alkaline in nature. The study concluded that the treatment techniques used by textile industry is not sufficient enough and there is need for effective and economical methods such as using HAP as adsorbent for the remediation of textile wastewater.</p> <p><b>Keywords:</b> Hydroxyapatite Powder, textile dye wastewater, physicochemical, remediation.</p>
<p>Ali Khouider GICECG1707077</p>	<p style="text-align: center;"><b>Hydrochemical Characteristics of the Watershed Sources of Blida</b></p> <p style="text-align: center;"><b>H.HADDAD</b> Laboratory of Electrochemistry-Corrosion, Metallurgy and Inorganic Chemistry. Faculty of Chemistry. University of Sciences and Technology.Houari Boumediene. Box N°32 El-Alia. Bab-Ezzouar. Algiers. Algeria</p> <p style="text-align: center;"><b>A KHOUIDER</b> Laboratory of Electrochemistry-Corrosion, Metallurgy and Inorganic Chemistry. Faculty of Chemistry. University of Sciences and Technology.Houari Boumediene. Box N°32 El-Alia. Bab-Ezzouar. Algiers. Algeria</p> <p style="text-align: center;"><b>H.GHOUALEM</b> Laboratory of Electrochemistry-Corrosion, Metallurgy and Inorganic Chemistry. Faculty of Chemistry. University of Sciences and Technology.Houari Boumediene. Box N°32 El-Alia. Bab-Ezzouar. Algiers. Algeria</p> <p style="text-align: center;"><b>Abstract</b></p> <p>The importance of water in the human economy is growing and the supply of fresh water became increasingly difficult. One of the vital issues in Algeria is to ensure that people in the industry and agriculture all booming.</p> <p>The objective of this work is to examine water quality from different sources in the region of Blida. Blida is located south of Algiers. The characterization of these sources allowed us to evaluate quantitatively and qualitatively the quality of waters in the region of Blida.</p> <p>The analysis of the samples have concerned the physical and chemical parameters such as pH, temperature, conductivity, dissolved oxygen and ions of Ca<sup>2+</sup>, Mg<sup>2+</sup>, Na<sup>+</sup>, K<sup>+</sup>, SO<sub>4</sub><sup>2-</sup>, NO<sub>3</sub><sup>-</sup>, NO<sub>2</sub><sup>-</sup>, Cl<sup>-</sup> and PO<sub>4</sub><sup>3-</sup>.</p> <p>The various analyzes carried out on samples of water from the Blida region have revealed the behavior of some parameters describing the physical-chemical water quality.</p> <p>Descriptive analysis of physical and chemical parameters showed that the main elements measured in groundwater in this region for the different sampling stations indicate a difference in concentration between the different measuring stations.</p> <p>Analyses are performed by UV-Visible spectrophotometry, flame spectrophotometry and atomic absorption.</p>



	<p><b>Key words:</b> Groundwater, water analysis, physical-chemical parameters.</p>
<p><b>Prabhat Kumar Singh</b> GICECG1707056</p>	<p><b>Energy value in biomass and plastic components of municipal solid waste</b></p> <p><b>Chaitanya Nidhia</b> Department of Civil Engineering, Indian Institute of Technology (BHU), Varanasi, India</p> <p><b>Prabhat Kumar Singh,</b> Department of Civil Engineering, Indian Institute of Technology (BHU), Varanasi, India</p> <p><b>Bhoora Sharma</b> Department of Civil Engineering, Indian Institute of Technology (BHU), Varanasi, India</p> <p><b>Abstract</b></p> <p>Burning potencies of constituents of municipal solid waste indicate energy value stored in them. A significant portion of biodegradable as well as non-biodegradable waste is still not recycled and most of them are either burnt or dumped in the landfills. The scope of this work is to study the energy value of selected biomass (dry garden leaves) and two plastic materials, low density polyethylene (LDPE) and polystyrene, collected from an educational campus in Varanasi, India. Cow dung which is still used as domestic fuel in dry cake form in many parts of the country, has also been included. Two pellet batches of biomass, one each of Ashoka (Saraca Asoca) tree leaves and cow dung, two pellet batches of plastic, one each of low density polyethylene (LDPE) and polystyrene; and twelve biomass-plastic blended pellets have been prepared and tested. Proximate analyses and higher heating values (HHVs) were measured and compared with the gross calorific values (GCVs) of various grades of Indian non-coking thermal coals. The results indicate that on blending of biomass materials with plastics in 1:1 ratio, the HHV of mix exceed GCV of grade A non-coking coal. A 2:1 ratio gives material with heating values higher than grade C coal. Other tested mix proportions also produced heating values exceeding D grade coal. Thus, it appears feasible to produce secondary fuel using components of municipal solid waste for domestic consumptions. This is a non-conventional and renewable source of energy. This may partly reduce the dependence on fossil fuel (like coal) and provide an alternate reuse path way for such materials, thereby decreasing load on landfill sites and consequent environmental concerns emanating from them.</p> <p><b>Key Words:</b> Biomass, Plastic waste, Reuse, Proximate Analysis, HHV.</p>
	<p><b>Does the presence of e-waste in landfills affect the viability of landfill mining projects?</b></p> <p><b>Maria Menegaki</b> School of Mining and Metallurgical Engineering, National Technical University of Athens, Athens, Greece</p> <p><b>Andreas Benardos</b> School of Mining and Metallurgical Engineering, National Technical University of Athens, Athens, Greece</p>


	<p><b>Dimitris Damigos</b> School of Mining and Metallurgical Engineering, National Technical University of Athens, Athens, Greece</p> <p><b>Dimitris Kaliampakos</b> School of Mining and Metallurgical Engineering, National Technical University of Athens, Athens, Greece</p> <p><b>Kostas Tsakalakis</b> School of Mining and Metallurgical Engineering, National Technical University of Athens, Athens, Greece</p> <p><b>Abstract</b></p> <p>The Landfill Mining (LFM) concept refers to the process of excavating, and sorting solid waste from operating or closed landfills in order to recycle or produce energy from recovered materials, conserve landfill space, and rehabilitate/redevelop contaminated land. Although LFM offers a wide range of environmental and social benefits, LFM projects need to be, at the same time, economically feasible. The latter is heavily influenced from the composition of the waste excavated from the landfill, the quality of recovered materials and the recycling market conditions. This paper aims at exploring the viability of LFM projects, with emphasis on the role of e-waste. For the purposes of the analysis, a “typical” Greek landfill site is examined forming different alternatives with respect to the objectives of e-waste recovery and processing and, consequently, the cost and benefits of the LFM operations, based on the findings of the first pilot project of LFM carried out in Greece, at Polygyros landfill. The results of the study show that the presence of e-waste improves the profitability indices. However, it seems that the adoption of more complex recycling and recovery processes leads to no gain in the financial results.</p> <p><b>Keywords:</b> landfill mining, WEEE, financial analysis</p>
<p>Vithaya Tavenooth GICICRST1707051</p>	<p><b>Efficiency of Trichoderma spp. for Controlling Cercospora spp. of Water Lily (Mankalaubol variety.)</b></p> <p><b>Vithaya Tavenootha</b> aDepartment of Crop Production and Landscape Technology, Faculty of Agricultural Technology, Rajamangala University of Technology Thanyaburi, Thailand</p> <p><b>Dowroong Watcharinrata</b> Department of Crop Production and Landscape Technology, Faculty of Agricultural Technology, Rajamangala University of Technology Thanyaburi, Thailand</p> <p><b>Tongme Mosom</b> Department of Crop Production and Landscape Technology, Faculty of Agricultural Technology, Rajamangala University of Technology Thanyaburi, Thailand</p> <p><b>Abstract</b></p> <p>Trichoderma spp is a fungi use for controlling Cercospora spp Infected in plant and flora. However, there are various forms of Trichoderma spp application ,so this research aimed to evaluate an efficiency of Trichoderma spp on leaf spot disease control in Water Lily (Mankalaubol variety). The studies were conducted</p>

	<p>using the Completely Randomized Design(CRD) to compare of 5 treatments with 4 replications. Trichoderma spp application in forms of granular, solution, powder, rice seed media and chemical captan(control) were applied in order to compare an efficiency in controlling lesions spot,diseased leaves and infected leaves percentage. The evaluation was conducted every 14 days in 10 weeks period. The results showed that Trichoderma spp is effective in controlling Cercospora nymphaeacea infection,however there were no significant different ( <math>p \geq 0.05</math>) in form of application. It was conducted that any form of Trichoderma spp application has similar efficiency.</p> <p>Keyword : Trichoderma spp, Cercospora nymphaeacea, Mankalaubol variety, Water Lily</p>
<p>Adebola Adebayo Adekunle GICICRST1707055</p>	<p><b>SUSTAINABILITY OF DRINKING WATER SUPPLY PROJECTS IN SOUTH WEST NIGERIA: A CASE STUDY OF ODEDA LOCAL GOVERNMENT AREA OGUN STATE NIGERIA</b></p> <p>Adebola A. Adekunle Department of Civil Engineering, Federal University of Agriculture, Abeokuta</p> <p>Adekoya O. Olusola Department of Civil Engineering, Federal University of Agriculture, Abeokuta</p> <p>Ogundare T. Ibilola Department of Civil Engineering, Federal University of Agriculture, Abeokuta</p> <p><b>ABSTRACT</b></p> <p>This study reviews the sustainability of drinking water supply projects in rural south west Nigeria. Since several inhabitants of these communities rely on water projects for source of drinking water supply, the functionality of these projects must be ensured. Data were collected from three locations in Odeda Local Government Area, Ogun State, namely, Odeda, Osiele/Obantoko and Bode-Olude through one-on-one interview, focus group discussions and field observation. This study revealed that the government is the sole body responsible for water supply projects in these areas; the community members, majorly, were not consulted as regards the planning, implementation and management of the water supply projects and there were no collaboration(s) with external agencies, NGOs and Private sectors in these areas. Some of the factors affecting the functionality of these projects were also uncovered and recommendations were provided to guarantee sustainability.</p>
<p>Nasrin Hadidi Tamjid GICICRST1707057</p>	<p>The relationship between Iranian EFL teachers' perception of their socio-affective strategy use and EFL learners' communication apprehension with a focus on gender</p> <p>Sahar Zamani (MA) Department of English, Tabriz Branch, Islamic Azad University Nasrin Hadidi Tamjid (PhD) Department of English, Tabriz Branch, Islamic Azad University</p> <p><b>ABSTRACT</b></p> <p>The present study aimed at investigating the relationship between Iranian EFL teachers' perception of their socio-affective strategy use and EFL learners' communication apprehension with a focus on gender. To this end, 20 teachers (10 male and 10 female) and 280 (140 male and 140 female) students of the same teachers were selected. The students were at intermediate level with the age range of 15 to 35. The teachers and the students were selected randomly from different branches of one</p>

	<p>of the language centers in Tabriz. To collect the data, two questionnaires of socio-affective strategy use and communication apprehension were used. The results of the correlational analyses and independent samples t-test indicated that there was not a significant relationship between the teachers' socio-affective strategy use and the learners' communication apprehension. Moreover, it was found that female teachers use socio-affective strategy more than male teachers. The results regarding the students' communication apprehension showed that there was not a significant difference between the male and female learners. Also, the analysis of the male teachers' socio-affective strategy use and male learners' communication apprehension showed that there was a non-significant relationship between the male teachers' socio-affective strategy use and the male learners' communication apprehension, but the analysis of the female teachers' socio-affective strategy use and female learners' communication apprehension showed that there was a significant negative relationship between the female teachers' socio-affective strategy use and the female learners' communication apprehension. The findings can have some implications for teachers, syllabus designers, and teacher trainers.</p> <p><b>Keywords:</b> EFL learners, socio-affective strategy, comprehension apprehension</p>
<p>Anam Iqbal GICICRST1707059</p>	<p>Language, Culture, and History: A Stylistics Analysis of language in multicultural context in some selected poems OF Bin Okri and Usman Ali</p> <p style="text-align: center;"><b>Anam IQBAL</b> Department of English, University of Sargodha Mandi Bahuddin campus New Rasool Road, Punjab, Pakistan</p> <p style="text-align: center;"><b>ABSTRACT</b></p> <p>The present study aims at investigating Bin Okri's poem "A New Dream of Politics" and Usman Ali's poem "Standing Under the Neem tree" in the play "The Odyssey" and other selected poems from the view point of stylistics analysis. Bin Okri is a Nigerian poet and novelist and Usman Ali is an eminent Pakistani poet and dramatist. The objective of this study is to show that how formal stylistics feature are used by Bin Okri and Usman Ali that has helped the reader to infer the meanings. The analysis covers the different aspects such as the lexico syntactic patterns and choices, semantically, grammatically, graphological and phonological patterns. This analysis is helpful in understanding the basic concept of the poems that the most simple words belies the extraordinary hidden meaning which contain profound philosophical meditation. The language of the poems is simple, courtly, but it created unique and beguiling world of his own imagination. This research is helpful to analyze the structure and style of Bin Okri's and Usman Ali's poetry. Both poet conveys the intrusion of humanity's and inhumanity, imaginative generosity and the darkness of the world. The researcher has used Linguistic description in order to interpret and suggest the significance of the poems that explores a tender thread, alive to human frailty... (Okri,Ali) seduces the reader with a rapt recounting of the infinite within the particular. Stylistics features are crossrespondence between thought and expression. The researcher explores them Okri's and Ali's poems sweeps across the whole of the mythical world and each phrase is pregnant with possibility and magic. Each sentence is like a magical capsule breaking open with a burst of colored light. Okri's and Ali's poems carries off a remarkably difficult balancing act in which reality is transfigured into poetry that inspires to readers because of its hallucinatory quality. Apart from the hallucinatory quality these poems enriched with the exploration of freedom, regeneration and complex themes. On the other hand, both poets displaying the history of the generations, the result is</p>

	<p>the obtuse socio political context and with future held in abeyance. These poem are also analyzed under the model of jackbson's poetic function of language in order to find out the process of poetic practice. <b>Keywords:</b> Culture, History, language , Poetic function, qasam pursi, phonological, semantics, grammatical, lexico-semantic.</p>
 <p>Sangar Saud Hamad Amin GICICRST1707060</p>	<p><b>Pushover Analysis and Incremental Dynamic Analysis of Steel Braced Reinforced Concrete Frames</b></p> <p>Sangar Saud Hamad Amin Civil Engineering, Engineering Faculty, Eastern Mediterranean University, Cyprus</p> <p><b>ABSTRACT</b></p> <p>The recent earthquakes in some part of the world showed the disastrous effect on civilian areas. Most of the existing RC buildings designed only considering gravity loads without seismic design criteria. Therefore, an accurate knowledge is extremely necessary for those buildings that need seismic retrofitting. Steel bracing system can be considered as the most reasonable solution for seismic performance enhancing of RC buildings. The use of steel braces for retrofitting or strengthening seismically deficient RC frame is a reasonable solution for upgrading seismic resistance. Steel bracing is easy to erect, has the flexibility to design for meeting the required stiffness and strength, occupies less space, and economical. This study discusses the seismic behavior of RC buildings strengthened with various types of concentric steel braces, Diagonal-braced, Inverted V-braced, Zipper-braced, and X-braced. The models that have been studied are 3-storey, 6-storey, 9-storey and 12-storey buildings of which are designed by using Etabs. The static pushover analysis and incremental dynamic analysis have been conducted utilizing Seismostruct software to estimate the lateral capacity and compare the results of all the frames and bracing types. It is observed that adding braces upgrade the global capacity of the buildings in terms of lateral load capacity, displacement and stiffness compared to the cases with no bracing, and the X-braced systems performed much better than the other types of bracing. <b>Keywords:</b> Earthquake, Seismic design, Retrofitting, Steel bracing, Pushover analysis, Incremental dynamic analysis.</p>
 <p>Babak Dehghan B. GICICRST1707061</p>	<p><b>Thermal conductivity determination of ground by new modified two dimensional analytical models: A case study</b></p> <p>Babak Dehghan B. Istanbul Technical University, Mechanical Engineering Faculty, Gumussuyu, Istanbul, Turkey Istanbul Technical University, Energy Institute, Maslak, Istanbul, Turkey</p> <p><b>ABSTRACT</b></p> <p>Determining thermal conductivity of ground plays an important role in designing procedure of ground source heat pump (GSHP) systems. In this paper new modified 2D analytical models which are depending on thermal conductivity of ground are derived and results are compared with experimental ones. In an experimental study, a single borehole ground heat exchanger (GHE) with polyethylene U-tube pipe is considered for two different regions. Fluid is pumped into the pipes in a specific temperature and inlet and outlet temperatures are measured as well as volumetric flow rate. Analytical results curves are fitted to experimental one and thermal conductivities of ground are calculated for each region. Based on validated analytical models, long term performance of a single borehole GHE is determined. Additionally, temperature distributions around borehole GHE are investigated</p>



	<p>analytically in region 1(N.D.B. residence region). Analytical models given in this study can easily help designers to evaluate thermal conductivity of ground and thermal performance of the borehole GHEs. <b>Keywords:</b> Ground source heat pump applications, Green's function method, Analytical model, borehole ground heat exchanger, borehole performance prediction</p>
 <p>Ajay Kumar Mittal GICICRST1707062</p>	<p><b>An Efficient technique for solution of adsorption problems with steep moving profiles</b></p> <p>Ajay Mittal Department of Mathematics, Aryabhata College, Barnala - 148101 (Punjab) INDIA</p> <p>V.K. Kukreja Department of Mathematics, Sant Longowal Institute of Engineering and Technology, Longowal - 148106 (Punjab) INDIA</p> <p><b>Abstract</b></p> <p>A numerical technique of orthogonal collocation on finite elements method using Hermite basis is applied to problems with steep gradients. The applicability of the method is shown for the solution of adsorption in solids with bidisperse pore structures. The results are shown in good agreement with the analytic ones when adsorption isotherm is linear. Comparison is made with the results of fitted mesh finite difference method and fitted collocation method. The technique is simple to apply and can be widely applied to the models of adsorption and desorption in bidisperse solids with non linear isotherms. <b>Keywords:</b> Collocation, steep moving profiles, adsorption problems.</p>
<p>Silvia Maria Castellanos Reyes GICICRST1707065</p>	<p><b>DRYING PROCESS OF YACON AS A POTENTIAL HEALTHY FOOD PRODUCT FOR COMMERCIALIZATION</b></p> <p>Msc. Silvia María Castellanos R . Master in International Trade, Industrial Engineer, Associated Professor at University Pontificia Bolivariana Bucaramanga Faculty of International Business Administration</p> <p>Dr.agr. Sandra Patricia Cuervo-Andrade Ph.D Universität Kassel, Ph.D in agricultural sciences, Agronomi Engineer, Professor at University Pontificia Bolivariana Bucaramanga Faculty of Mechanical Engineering</p> <p>Msc. Alimar Benitez Master in Statistics, Statistician, Professor at University Pontificia Bolivariana Bucaramanga Faculty of Industrial Engineering</p> <p><b>Abstract</b></p> <p>Yacon scientifically call <i>Smallanthus sonchifolius</i>, is a pre-Hispanic Andean tuber plant mainly grown and cultivated for its tuberous roots. It has been a traditionally grown vegetable for thousands of years and has a wide variety of uses. Yacon powder and syrup can often be use as healthy option replacing sugar for a natural plant sweetener in various foods. The tuber grows throughout the Andes in different regions of Colombia. During the last year have been increasing the interest for this product and researchers have collected information that indicates the great potential of yacon, whose cultivation has been promoted over the past few years, slightly increasing the number of producers interested in this crop. It contains FOS</p>



	<p>(fructooligosaccharides) of low molecular weight and due to the small amount of calories it is attractive and seems to be good for overweight and diabetic people. Raw yacon shelf life is about 15-20 days in environmental conditions. Due to the importance of its health properties, a study should be carried out to analyze the effect of the drying parameters on the quality characteristics of yacon in order to commercialize it as a healthy option. For this, an experiment was performed considering two factors of the drying process: thickness of the layer (1cm, 2cm and 3cm) and temperature (50°C, 60°C and 70°C), with measurements of the physicochemical properties in fresh, before drying and after the drying process, with 6 replicates for each combination of levels. In order to establish which of the combinations had better effects on the product quality, the results obtained using MANOVA of repeated measurements where two factors were compared. All of this research with the result of a high quality commercial presentation throws the drying process of yacon in order to sell alone or mix, and become a healthy commercial product.</p> <p><b>Key Words: Yacon, Colombia, Commercialization.</b></p>
<p><b>Dr Mac-Anthony Chukwuka Onyema GICICRST1707067</b></p>	<p><b>THE AFRICAN EMPLOYEE AND INDUSTRIAL ACCIDENTS: THEMATIC EVALUATION AND PROJECTIONS FOR SAFER WORKPLACE IN NIGERIA</b></p> <p><b>M. C. Onyema</b> Department of Forestry and Wildlife Technology, Federal University of Technology Owerri, Imo State, Nigeria.</p> <p><b>N. C. Osuagwu</b> School of Natural Resources and Environmental Management Technology, Imo State Polytechnic Umuagwo, Nigeria</p> <p><b>ABSTRACT</b></p> <p>Accidents claim not only valuable assets but also human lives most times involving professionals who do not have immediate replacement. To identify and evaluate industrial accidents in organizational firms, a large public outfit with over 368 employee numeric strength engaged in production activities was targeted in Southern Nigeria. Preliminary desk review of within-organization's security structures, in-depth interviews of on-ground situation on accident trend at workplace in an associated forestry (wood-producing) outfit bordering the study area as well as questionnaire administration to 162 employee (low and middle class employee) were altogether employed to elicit relevant information. Questionnaire covered forms of industrial accidents, causes, individual employee accident history and employee socioeconomic background details. Identified accident causes were subjected to principal component analysis (PCA) using Varimax Orthogonal Rotation Method and scree plot to pin down top three forms of industrial accidents in the organization. In the results, six different forms of accidents were identifiable stemming from 10-13 varying causes. Major accidents reportedly result from employee attitude, technical errors and administrative lapses. The study therefore suggests emergency public sector drive on safety, adherence and improvement in safety regulations and installations, frequent/periodic retraining as well as closer supervision of activity of all categories of employee.</p> <p><b>Key Words:</b> Accident history, installation, supervision, valuable assets</p>



Younes El Khchine  
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**Maximization power coefficient of horizontal axis wind turbine blades (HAWT) using blade element momentum theory BEM**

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**Abstract**

The horizontal axis wind turbine (HAWT) blade geometry with the diameter of 10.054 m using the S809 airfoil profile has 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

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**Hybrid Public- Key Cryptosystem**

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**Abstract**

In this system a combination are made between two cryptosystems public-key . The first stage is the (RSA) System and the second is knapsack system. In this paper the analysis and explanation of hybrid system is present ,and the computer program in C++ language of this system are present

**Keyword:** cryptosystem, knapsack, RSA, secure, public key.



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**Maximum power tracking for the photovoltaic system by modified reference**

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**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

	<p>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 proposed approach, it is compared with that based on the P &amp; O with the variable reference signal. The results of the simulation show the P &amp; 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.</p> <p><b>Keywords:</b> MPPT, Sliding Mode Control (SMC), P&amp;O.</p>
 <p><b>Navid Zandi Atashbar</b> GICICRST1707071</p>	<p><b>New magnetic nanocomposite as an eco-friendly material to recycle the wastes and remove mercury contaminant</b></p> <p><b>Navid Zandi-Atashbara</b> Department of Chemistry, Isfahan University of Technology, Isfahan , Iran</p> <p><b>Amir Hooshmand Ahoorb,</b> Faculty of Science, Ferdowsi University of Mashhad, Mashhad, Iran</p> <p><b>Ali A. Ensafia</b> Department of Chemistry, Isfahan University of Technology, Isfahan, Iran</p> <p><b>Abstract</b></p> <p>Nowadays, growing of population and also related industries adversely lead to produce the wastes like discard tires (around 7 million tons per year in Europe and USA) and the metal ions contaminants in water sources like Hg<sup>2+</sup> ions. Hence, the usage of various methods to convert this waste into valuable products has been attended. In this research, magnetic spinel CuFe<sub>2</sub>O<sub>4</sub>/rGO nanocomposite was successfully prepared and analytically characterized by various instrumental methods including spectral techniques of FT-IR, EDX and XRD, microscopic images of FE-SEM and TEM, surface analysis of BET, and thermal analyses of TGA and DSC. Using experimental design methods, the magnetic CuFe<sub>2</sub>O<sub>4</sub>/rGO nanocomposite was further investigated as an efficient recyclable catalyst to pyrolyze discard tires into pyrolytic fuel as a compatible diesel fuel, gas for combustion and activated char. The composition of products was separately optimized and modeled based on process parameters including pyrolytic temperature and time, particle size of tire rubber, flow rate of inert gas, and the amount of CuFe<sub>2</sub>O<sub>4</sub>/rGO nanocomposite as the catalyst. As the result of this research, the pyrolytic fuel represented comparable physiochemical properties, including flash point of 47 oC, cetane number of 49, sulfur content of 0.09 wt%, and remaining ash of 0.01 wt%, with commercial diesel fuels. Thus, this pyrolytic fuel can be applicable in diesel engines without any concerns of settlement in and exhaust of sulfoxide gases from the diesel engine. The recyclability of this catalyst in repeated pyrolytic process showed no significant changes in its efficiency and active surface until seventeenth time of pyrolysis. Moreover, after inefficiency of catalyst, it was successfully applied as an effective mercury adsorbent. Accordingly, the conditions of including pH of waste water, temperature, catalyst amount, and exposure time were optimized and its removal efficiency was modeled based on Langmuir and Freundlich isotherms models.</p> <p><b>Keywords:</b> Eco-friendly material; Magnetic nanocomposite; Pyrolytic fuel; Activated char; Mercury adsorbent.</p>

<p>Seyed Hamidreza Tabatabaeizade GICICRST1707072</p>	<p>Effects of MEG presence in amine gas sweetening unit in Phases 2&amp;3 of South Pars Gas Complex</p> <p>Hamid Reza Tabatabaeizade South pars gas complex</p> <p>Nasibeh Hajilary Golestan University</p> <p><b>ABSTRACT</b></p> <p>South Pars is giant gas reservoir share with Qatar. In Phases 2&amp;3 of South Pars, MEG transfer to the wellhead for hydrate prevention. Very fine particles of MEG with the sour gas enter to the onshore facilities. This paper includes the significant on-site experience of the authors related to the presence of MEG in the amine loop of gas sweetening unit. The MEG concentration in amine solution increased up to 25% that it means water in MDEA solution was replaced by MEG. In this study, effects of MEG presence in gas sweetening unit were evaluated in Phases 2 &amp; 3 of South Pars Gas Complex. H<sub>2</sub>S and CO<sub>2</sub> absorptions from the sour gas were reduced. Also, reboiler temperature of regenerator, amine degradation and required steam and consequently corrosion were increased. In addition, due to increasing of BTEX and heavy hydrocarbon solubility in amine solution, foaming problems were observed. Furthermore, side effects of MEG presence in sulphur recovery unit such as more transferring of BTEX to SRU and catalyst deactivation were investigated. It is concluded energy consumption of amine gas sweetening unit and the volume of amine make-up has been rised.</p> <p><b>Keywords:</b> Gas sweetening unit, MEG, Corrosion, BTEX</p>
<p>Nasibeh Hajilary GICICRST1707074</p>	<p>EFFECTS OF MEG PRESENCE IN AMINE GAS SWEETENING UNIT IN PHASES 2&amp;3 OF SOUTH PARS GAS COMPLEX</p> <p>Hamid Reza Tabatabaeizade Process engineer, South pars gas complex, Assaluyeh, Iran</p> <p>Nasibeh Hajilary Assistant professor, Golestan University, Gorgan, Iran</p> <p><b>Abstract</b></p> <p>South Pars is giant gas reservoir share with Qatar. In Phases 2&amp;3 of South Pars, MEG transfer to the wellhead for hydrate prevention. Very fine particles of MEG with the sour gas enter to the onshore facilities. This paper includes the significant on-site experience of the authors related to the presence of MEG in the amine loop of gas sweetening unit. The MEG concentration in amine solution increased up to 25% that it means water in MDEA solution was replaced by MEG. In this study, effects of MEG presence in gas sweetening unit were evaluated in Phases 2 &amp; 3 of South Pars Gas Complex. H<sub>2</sub>S and CO<sub>2</sub> absorptions from the sour gas were reduced. Also, reboiler temperature of regenerator, amine degradation and required steam and consequently corrosion were increased. In addition, due to increasing of BTEX and heavy hydrocarbon solubility in amine solution, foaming problems were observed. Furthermore, side effects of MEG presence in sulphur recovery unit such as more transferring of BTEX to SRU and catalyst deactivation were investigated. It is concluded energy consumption of amine gas sweetening unit and the volume of amine make-up has been rise.</p> <p><b>Keywords</b></p>

	<b>Gas sweetening unit, MEG, Corrosion, BTEX</b>
<b>Ritika Chauhan GICICRST1707075</b>	<p><b>Discovery of potent small molecular inhibitors of botulinum neurotoxin type F through structure activity relationship</b></p> <p><b>Ritika Chauhan</b> Biotechnology Division, Defence Research and Development Establishment</p> <p><b>Vinita Chauhan</b> Biotechnology Division, Defence Research and Development Establishment</p> <p><b>Dilip Chaudhary</b> Biotechnology Division, Defence Research and Development Establishment</p> <p><b>Priyanka Sonkar</b> Biotechnology Division, Defence Research and Development Establishment</p> <p><b>Manorama Vimal</b> Synthetic Chemistry Division, Defence Research and Development Establishment</p> <p><b>Ram Kumar Dhaked</b> Biotechnology Division, Defence Research and Development Establishment</p> <p><b>Abstract</b></p> <p>Botulinum neurotoxins (BoNTs) are etiological agents of the life threatening neuroparalytic disease botulism. BoNTs are the most toxic substances known to humankind. Their potential use as bioweapons ensues the development of small molecule inhibitors a top priority. The lack of any approved therapeutics for BoNT intoxication necessitates advent of a small molecule inhibitor neutralizing the toxin. Recombinant BoNT/F-LC (non-toxic active constituent) and VAMP-2 have been produced and purified for in vitro evaluation of small molecule inhibitors. Molecules retrieved from open repositories were screened for BoNT inhibition using AUTODOCK-4.2. Based on docking results novel molecules were designed using structure activity relationship. Selected molecules were evaluated in mice model. High throughput screening of 834 small molecules was performed from the open repositories containing millions of compound of unknown functions to identify small molecule inhibitors against BoNTs. Among these, 40 most promising hydroxy-quinolinol derived molecules were screened in vitro. Two molecules (NSC1014 and NSC84087) were identified through in silico and in vitro assay (inhibition of BoNT endopeptidase activity on VAMP-2) with IC<sub>50</sub> of 100 μM. Structure activity relationship based virtually designed NSC84087 analogues were synthesized through Mannich type reaction. The interaction of 2 derivatives (Q12 and Q16) with BoNT/F-LC, selected after sequential study was explored through surface plasmon resonance. The in vivo study resulted in extension of survival period in prophylactic treatment by Q12. Evidently, Q12 inhibits BoNT/F-LC activity at sub-micromolar concentrations with highly efficient interaction to BoNT/F-LC at KD 1.37E-01 M. The novel compound Q12 is the most potent lead compound reported against BoNT/F and further study could lead to development of post-exposure therapeutics against BoNTs.</p> <p><b>Keywords:</b> Botulinum neurotoxin, Quinolinol, High throughput screening, Autodock, Small molecule inhibitors</p>



<p><b>Yahya Bozkurt</b> GICICRST1707076</p>	<p><b>Friction Stir Welding of Metal Matrix Composite to Aluminium Plates</b></p> <p><b>Yahya BOZKURT</b> Marmara University, Department of Materials Technology, Institute For Graduate Studies in Pure and Applied Sciences, 34722 Goztepe Campus, Istanbul, Turkey</p> <p><b>Furkan KOYUNCU</b> Marmara University Faculty of Technology, Department of Metallurgy and Materials Engineering, Goztepe Campus, 34722, Kadikoy – Istanbul / Turkey</p> <p><b>Abstract</b></p> <p>Significant research in the area of material science has been managed towards the development of novel lightweight, superior production for aluminium and metal matrix composites due to its functional mechanical features like strength, specific modulus, toughness and impact resistance. Aluminium and metal matrix composite materials have wide application areas, such as in aircrafts, space, marine, construction and automotive industries. It is important to choose appropriate welding methods to successfully assemble such materials.</p> <p>In the present study, aluminium and metal matrix composite plates were joined by friction stir welding method. The high strength plate was placed on the retreating side of the tool. The tool rotation speed of 900 and 1120 rpm, tool traverse speed of 125 and 40 mm/min were performed, respectively. Tool tilt angle was kept constant. Tensile strength, joint efficiency and microstructural investigation were conducted. The maximum tensile strength value was obtained more than aluminium base metal, which corresponds to a joint efficiency of 40.2% that of the metal matrix composite plate.</p> <p><b>Keywords:</b> Friction stir welding, metal matrix composite, dissimilar joint, mechanical properties</p>
<p><b>Bibiana Okoli</b> GICICRST1707077</p>	<p><b>THE INFLUENCE OF SELF CONCEPT AND PERSONALITY ADJUSTMENT ON ACADEMIC ACHIEVEMENT OF STUDENTS WITH VISUAL IMPAIRMENT IN TERTIARY INSTITUTIONS IN OYO STATE, NIGERIA</b></p> <p><b>OKOLI, B. I</b> Department of Special Education, University of Ibadan, Nigeria</p> <p><b>ENIOLA, M. S.</b> Department of Special Education, University of Ibadan, Nigeria</p> <p><b>Lazarus, K.</b> Department of Special Education, University of Ibadan, Nigeria</p> <p><b>ABSTRACT</b></p> <p>Self-concept and personality adjustment are crucial to the academic achievement of persons with visual impairment. Students with visual impairment have difficulties in coping with a number of situations in their daily life, family, school and social life. The study adopted cross-sectional and descriptive survey research design to investigate the influence of self-concept and personality adjustment on academic achievement of students with visual impairment in tertiary institutions in Oyo state. Seventy-three respondents were selected using purposive sampling technique on the condition of the visual impairment of participants from two randomly selected higher institutions in Oyo state. Respondents responded to the administered</p>



	<p>questionnaires. Three research questions and four hypotheses were raised and tested at 0.05 level of significance, data were analyzed using the Statistical Package for Social Sciences (SPSS), T-test and multiple regression analysis. The result reveals the composite effect of self concept and personality adjustment on academic achievement of students with visual impairment thus, the composite effect of self concept (<math>x=70.671</math>) and personality adjustment (<math>x=35.931</math>) on Achievement (<math>x=30.297</math>) at <math>p&lt;0.05</math>. This implies that self concept and personality adjustment has a significant effect on the academic achievement of students with visual impairment. The result also showed that there is a relative effect of self concept on academic achievement of students with visual impairment (<math>R=0.587</math>). This means that 58.7% of the variance accounted for academic achievement of students with visual impairment which made it to be significant (<math>FC2, 70=18.407, P&lt;0.05</math>). Personality adjustment has significant relative effect on the academic performance of students with visual impairment (<math>B=0.178, t=0.44, P&lt;0.05</math>). The result of the tested research question revealed that self concept and personality adjustment play significant role in the academic achievement of students with visual impairments. Therefore, it is more critical for students with vision impairment to develop a positive self-concept about themselves.</p>
<p>Navjot Kaur GICICRST1707078</p>	<p>Exact Secular Equation of Rayleigh Waves Propagation at Frictionally Contact Layered Media on Anisotropic Elastic Half-Space</p> <p>Navjot Kaur Department of Mathematics, Panjab University, Chandigarh - 160 014, India</p> <p>S. K. Tomar Department of Mathematics, Panjab University, Chandigarh - 160 014, India</p> <p>Abstract</p> <p>The propagation of Rayleigh surface waves in layered structure consisting of an orthotropic elastic half-space underlying an orthotropic elastic layer. The layer and the half-space are in finite sliding contact. Exact secular equation of Rayleigh waves has been derived in terms of sliding parameter. The effect of sliding parameter on the phase speed of Rayleigh surface waves has been studied for a particular model and compared with relevant results in other media also. For limiting values of sliding parameter, the frequency equations of several particular problems have been deduced. The problems studied by Vinh and his group have been reduced as special cases of the present formulation. All the computed results have been depicted graphically.</p> <p>Keywords Rayleigh waves, Orthotropic, Secular equation, Numerical simulation.</p>
 <p>Anna Gyulkhandanyan GICICRST1707080</p>	<p>Antimicrobial activity of cationic porphyrins and their nanocomposites with zeolite</p> <p>Anna G. Gyulkhandanyan Institute of Biochemistry, National Academy of Sciences, Armenia, Department of Pathological Biochemistry, Group of Bioengineering</p> <p>H. H. Sargsyan "Biomaterial" Co. Ltd., Yerevan, Armenia"</p> <p>R. K. Ghazaryan Yerevan State Medical University, Department of Chemistry of Pharmacy Faculty, Armenia</p>

	<p style="text-align: center;"><b>Aram G. Gyulkhandanyan</b> University of Evry-Val-d'Essonne (UEVE) - University Paris-Saclay, Group of Structural Bioinformatics, Laboratory "SABNP", INSERM U1204, Evry, France</p> <p style="text-align: center;"><b>Abstract</b></p> <p><b>Research Objectives.</b> Pathogenic microorganisms resistant to antibiotics aroused great interest in the development of alternative antibacterial strategies. Over the past decade, methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) has become particularly problematic, which acquired resistance also to vancomycin. One of the promising approaches to the destruction of pathogens is the photodynamic inactivation (PDI) of microorganisms through porphyrins. The aim of this study was to screen the most effective new cationic porphyrins and their nanocomposites with zeolite to fight staphylococcal infection.</p> <p><b>Methodology.</b> The new water-soluble cationic 3- and 4-pyridylporphyrins and metaloporphyrins /further (metalo) porphyrins/ with different metals and peripheral groups were synthesized according to our previously reported methods (more than 100 compounds). The toxic effect of (metalo) porphyrins on microorganisms was determined by measuring the extent of growth inhibition and reduction of cells survival after treatment with the porphyrins in the dark or upon light exposure (30 min, 30 mW/cm<sup>2</sup>). Antibacterial activity of the compounds was studied in vitro by deferred antagonism methods (diffusion in agar), as well as the method of serial dilutions described in our previous investigations.</p> <p><b>Findings.</b> Photodynamic experiments have shown, that Zn-derivatives of porphyrins are 1.5 to 5 times more effectively in activate microorganisms in comparison with metal-free porphyrins. It is shown that the photodynamic action of Zn-TBut3PyP metalloporphyrin effectively reduces (by 98-99%) the number of pathogenic and conditionally pathogenic bacteria, in particular <i>Staphylococcus aureus</i> (antibiotic-sensitive and antibiotic-resistant strains). Compared with free Zn-TBut4PyP metalloporphyrin, the zeolite-Zn-TBut4PyP nanocomposite has a 100% bactericidal prolonged action on <i>S. aureus</i>, which is apparently associated with a slow release of porphyrin from the nanocomposite.</p> <p><b>Research Outcomes.</b> Cationic (metalo)porphyrins are highly phototoxic to bacteria, including multidrug-resistant strain MRSA.</p> <p><b>Future Scope.</b> (Metalo)porphyrins can be used to treat local infections, against antibiotic resistant microorganisms in the form of solutions and ointments in dermatology, dentistry and other branches of medicine.</p> <p><b>Keywords:</b> cationic porphyrins, nanocomposites with zeolite, microorganisms resistant to antibiotics, methicillin-resistant <i>Staphylococcus aureus</i>, phototoxic for bacteria</p>
<p>Perez-Trujillo Juan Pedro GICICRST1707081</p>	<p style="text-align: center;"><b>Transient analysis of a Compressed Air Energy Storage System</b></p> <p style="text-align: center;"><b>Perez-Trujillo Juan Pedro</b> University of Guanajuato, DICIS, Mechanical Engineering Department, Carretera Salamanca-Valle de Santiago, km. 3.5+1.8, Palo Blanco, Salamanca, Guanajuato, 36885, Mexico</p> <p style="text-align: center;"><b>Kowalski Gregory J.</b> Northeastern University, 360 Huntington Avenue, Boston, Massachusetts 02115, USA</p> <p style="text-align: center;"><b>Elizalde-Blancas Francisco</b> University of Guanajuato, DICIS, Mechanical Engineering Department, Carretera</p>

	<p>Salamanca-Valle de Santiago, km. 3.5+1.8, Palo Blanco, Salamanca, Guanajuato, 36885, Mexico</p> <p><b>Abstract</b></p> <p>In this work a transient energy analysis was performed in a Compressed Air Energy Storage (CAES) system. The analysis consists on quantifying the efficiency and output energy depending on the number of tanks connected in parallel, the insulation thickness, the storage time and the outflow. The differential equations obtained from the mass and energy balances are solved numerically using the explicit Euler's method. The results indicate that for short storage time the efficiency (about 42.38%) is higher with insulated tanks, but for long storage time the efficiency (about 23.54%) of the system is higher when the tanks are not insulated. When the system with insulated tanks reaches the steady state, i.e., for long storage time, the efficiency is almost half the efficiency with tanks without insulation, 11.5% and 23.54%, respectively.</p> <p><b>Keywords:</b> Transient analysis, CAES, energy storage</p>
Hamidreza Tavakoli GICICRST1707082	<p>Investigation copper nanostructures in organic or inorganic medium (Ethanol/DI-Water) synthesized by electro discharge method</p> <p><b>P. Saracian</b> Department of Mechanical Engineering, Tehran North Branch, Islamic Azad University, Tehran, Iran</p> <p><b>H. R. Tavakoli</b> Department of Mechanical Engineering, Bonyan Higher Education Institute, Isfahan, Iran</p> <p><b>Abstract</b></p> <p>Electro discharge method was used to synthesize copper nanostructures. In this method two copper electrodes submerged in two different dielectrics (deionized water and ethanol). The effect of dielectric on synthesized powders was investigated. Results indicate that, powder production rate in deionized water was noticed to about 2 times greater than production rate in ethanol. Size and shape of particles were investigated versus different dielectrics with using FESEM test. Result indicates that, powders synthesized in ethanol, with mean particle size of 45 nanometers, are smaller than powders synthesized in deionized water. Additionally, in this research, particles in ethanol dielectric with less agglomeration were produced compared to produced powders deionized water dielectric.</p> <p><b>Keywords:</b> Electro discharge method, copper nanostructures, ethanol dielectric, deionized dielectric</p>
Oguz Bas GICICRST1707083	<p><b>VORTEX SHEDDING CONTROL BEHIND SIDE BY SIDE CIRCULAR CYLINDERS WITH VERTICAL SPLITTER PLATE IN SHALLOW WATER</b></p> <p><b>Mustafa Atakan Akar</b> Automotive Engineering Department, Cukurova University, Adana Turkey</p> <p><b>Hüseyin Akilli</b> Mechanical Engineering Department, Cukurova University, Adana, Turkey</p> <p><b>Oğuz Bas</b> Automotive Engineering Department, Cukurova University, Adana, Turkey</p>

	<p style="text-align: center;"><b>Burcu Oguz</b> Vocational School of Maritime, Mersin University, Mersin, Turkey</p> <p style="text-align: center;"><b>Engin Pinar</b> Mechanical Engineering Department, Cukurova University, Adana, Turkey</p> <p style="text-align: center;"><b>Besir Sahin</b> Mechanical Engineering Department, Cukurova University, Adana, Turkey</p> <p style="text-align: center;"><b>Abstract</b></p> <p>In this paper, flow changes were observed via Particulate Image Velocimetry (PIV) technique in shallow water flow for two side by side circular cylinders which a vertically placed splitter plate (VSP) was placed between them. The circular cylinders made of acrylic material have a diameter of <math>D=40\text{mm}</math>. Throughout the experiments water height was <math>h_w=20\text{ mm}</math> and flow images were taken at three different elevations: very close to the bottom surface (<math>h_L=2\text{ mm}</math>), mid-plane of water height (<math>h_L=10\text{ mm}</math>) and close to the free surface (<math>h_L=18\text{ mm}</math>). The free stream velocity was <math>125\text{ mm/sec}</math> and Reynolds Number was <math>Re_D=5000</math> based on diameters of circular cylinders. Five different VSPs varied from heights of <math>H=2\text{ mm}</math> to <math>10\text{ mm}</math> with an increment <math>2\text{ mm}</math> were used to control unsteady flow. The gap/diameter ratio was <math>G/D=1.25</math> for all cases. As a result, increment of splitter plate height is effective way to diminish turbulence characteristics in all elevations. However, after height of splitter plate is <math>H=6\text{mm}</math>, the effect of vertical splitter plate on vortex shedding control is not significantly changed.</p> <p>The authors would like to express their gratitude to Cukurova University Scientific Research Project Coordination (FBA-2016-5832) for financial support.</p> <p><b>Keywords:</b> Vertical splitter plate, Flow control, Side by side cylinders, Shallow water</p>
<p>Iheoma M Adekunle GICICRST1707084</p>	<p>Assessing photosynthetic pigments in a crop grown in spent oil-based drilling mud, remediated using a novel and ecosafe technology (CNB-Tech), a measure of plant safety</p> <p style="text-align: center;"><b>I.M. Adekunle</b> Department of Chemistry, Faculty of Science, Federal University Otuoke, Bayelsa, Nigeria</p> <p style="text-align: center;"><b>P.O. Iniaghe</b> Department of Chemistry, Faculty of Science, Federal University Otuoke, Bayelsa, Nigeria</p> <p style="text-align: center;"><b>E.O. Odokwo</b> Department of Chemistry, Faculty of Science, Federal University Otuoke, Bayelsa, Nigeria</p> <p style="text-align: center;"><b>I.U. Isaac.</b> Department of Chemistry, Faculty of Science, Federal University Otuoke, Bayelsa, Nigeria</p> <p style="text-align: center;"><b>R.A. Ukpe</b> Department of Chemistry, Faculty of Science, Federal University Otuoke, Bayelsa,</p>

	<p style="text-align: center;"><b>Nigeria</b></p> <p style="text-align: center;"><b>A, R. Isaac</b> Department of Chemistry, Faculty of Science, Federal University Otuoke, Bayelsa, Nigeria</p> <p style="text-align: center;"><b>L. U. Ejigini</b> Department of Chemistry, Faculty of Science, Federal University Otuoke, Bayelsa, Nigeria</p> <p style="text-align: center;"><b>Abstract</b></p> <p>In this study, an innovative eco-safe technology (CNB-Tech) was used to convert toxic, spent oil-based drilling mud (SOBM) to re-useable soil (ROBM) at ambient temperature. The safety of crops grown using the re-useable soil was investigated with a green leafy vegetable (Fluted pumpkin; <i>Telfiaria occidentalis</i>) as an indicator crop. The impact on the photosynthetic process was assessed using total chlorophyll (Chab), chlorophyll-a (Cha), chlorophyll-b (Chb) and carotenoid (Car) concentrations in the leaves. The effect of priming ROBM with a customized conditioner (SCD) was also investigated at ROBM-SCD ratios 1:1, 1:2 and 2:1. SOBM and soil sample from neighbourhood (OFS) farm served as primary and secondary controls respectively. Pigment concentrations were analysed via UV-Visible spectroscopic methods. Control and test samples were also analyzed for total petroleum hydrocarbons (TPH), electrical conductivity (EC) and pH, following standard procedures. Results showed that the pigment concentrations were comparable with values obtained in normal soils for the same crop. Total chlorophyll-carotenoid coefficient <math>\geq 1.0</math> and the absence of chlorosis confirmed absence of damage to plant photosynthetic process. In all cases, ROBM-SCD 1:1 gave the least performance while ROBM-SCD 1:2 or 2:1 excelled over OFS by 41.04 to 95.68%. Study revealed that the use of spent oil – based mud transformed to re-usable soil at ambient temperature is excellent for vegetable crop production without putting plant health at risk. This is a contribution to low-tech, eco-safe and effective techniques in the handling, treatment and safe re-use of the remediation end product of spent oil-based mud.</p> <p><b>Keywords:</b> Waste management, drilling waste, remediation, crop production and safety.</p>
<p><b>Revathy Sankaran</b> GICICRST1707085</p>	<p style="text-align: center;"><b>Aqueous Biphasic Sublation (ABS) System: Integration of Fermentation and Recovery Process of Lipase from Burkholderia Cepacia.</b></p> <p style="text-align: center;"><b>Revathy Sankaran</b> Bioseparation Research Group, Department of Chemical and Environmental Engineering, Faculty of Engineering, University of Nottingham Malaysia Campus, Jalan Broga, 43500 Semenyih, Selangor Darul Ehsan, Malaysia</p> <p style="text-align: center;"><b>Pau Loke Show</b> Bioseparation Research Group, Department of Chemical and Environmental Engineering, Faculty of Engineering, University of Nottingham Malaysia Campus, Jalan Broga, 43500 Semenyih, Selangor Darul Ehsan, Malaysia</p> <p style="text-align: center;"><b>Yee Jiun Yap</b> Department of Applied Mathematics, Faculty of Engineering, University of</p>



	<p>Nottingham Malaysia Campus, Jalan Broga, 43500 Semenyih, Selangor Darul Ehsan, Malaysia</p> <p><b>Abstract</b></p> <p>Conventional trend of biomolecules production involves the upstream fermentation process and the downstream comprising separation and purification processes. The extensive market growth of industrial biotechnology over the past decade has created the demand for the development of novel and innovative upstream and downstream techniques for proteins and enzymes. Integrating the upstream and downstream processes in a single system appears to have immense potential in enhancing the efficiency of many bioprocesses. Aqueous Biphasic Sublation (ABS) is a new recovery method that has been successfully used as alternative for liquid-liquid extraction process of biomolecules. This method is based on the incorporation of the principles of Aqueous Two Phase System (ATPS) and Solvent sublation (SS). The aim of this research is to integrate the fermentation process of lipase from <i>Burkholderia cepacia</i> and subsequently extract lipase from the fermentation broth via ABS system. From the findings, it has been demonstrated fermentation using ABS system enables the bacteria to grow faster and produce higher yield of lipase compared to the conventional shaker method. Subsequent lipase separation from the fermentation broth was successfully extracted with efficiency reaching 82.67% and with lipase yield of 80.67%. The combination of upstream and downstream processes in a single system enables the acceleration of product formation, improve the product yield, and facilitate downstream processing. In addition, high separation efficiency, simple operation and low environmental impact can be attained from this single system unit. This integration ABS system is potentially attractive application for biomolecules fermentation and separation that possibly open new opportunities for industrial production.</p> <p><b>Keywords:</b> upstream; downstream; bioprocess; aqueous biphasic sublation (ABS); lipase</p>
<p>Ali Khouider GICICRST1707088</p>	<p>Characterization of physicochemical parameters of sewage treatment plant</p> <p><b>F. Tedjani,</b> Laboratory of Electrochemistry-Corrosion, Metallurgy and Inorganic Chemistry. Faculty of Chemistry. University of Sciences and Technology.Houari Boumediene. Box N°32 El-Alia. Bab-Ezzouar. Algiers. Algeria</p> <p><b>A.Khouider</b> Laboratory of Electrochemistry-Corrosion, Metallurgy and Inorganic Chemistry. Faculty of Chemistry. University of Sciences and Technology.Houari Boumediene. Box N°32 El-Alia. Bab-Ezzouar. Algiers. Algeria</p> <p><b>H.Ghoualem</b> Laboratory of Electrochemistry-Corrosion, Metallurgy and Inorganic Chemistry. Faculty of Chemistry. University of Sciences and Technology.Houari Boumediene. Box N°32 El-Alia. Bab-Ezzouar. Algiers. Algeria</p> <p><b>Abstract</b></p> <p>This study characterizes the waters of an effluent of a treatment plant. Plant is located in Tizi-Ouzou (Algeria). For this goal, samples were collected from the treatment plant that treats urban wastewater using the activated sludge process. The physical parameters were measured in situ and chemical analysis at the laboratory. The objectives of the study were: (i) characterization of physical and chemical</p>

	<p>parameters at inlet of sewage treatment plant (ii) to follow and to examine the efficiency of the biodegradation of compounds at outlet during the treatment of wastewaters.</p> <p>In order to evaluate compounds degradation, the physical and chemical parameters such as, the pH, the conductivity, the turbidity, the chemical oxygen demand (COD), the biological oxygen demand (BOD), dissolved oxygen, total hardness, salinity, ammonia, orthophosphates), the organic matter (OM) and the biodegradability ratio (k) were studied.</p> <p>The obtained results showed elimination of the order of 94.22% in BOD, COD 92.44%, ammonia 90.84%, total suspended matter 83.46% and orthophosphates 60.06%.</p> <p>Analyses are performed by UV-Visible spectrophotometry and flame spectrophotometry.</p> <p><b>Keywords:</b> Pollution, wastewater, physical and chemical parameters, analysis.</p>
<p><b>Fenil Modi</b> GICICRST1707089</p>	<p><b>DESIGN AND SIMULATION OF DI WHEEL AUTOMOTIVE VEHICAL (D.W.A.V.)</b></p> <p><b>Fenil Modi</b> G.H.Raisoni College, Mechanical Department, Ug Student</p> <p><b>Hasnen Alam</b> G.H.Raisoni College, Mechanical Department, Ug Student</p> <p><b>Valmik Patil</b> G.H.Raisoni College, Mechanical Department, Ug Student</p> <p><b>Tushar Pardeshi</b> G.H.Raisoni College, Mechanical Department, Ug Student</p> <p>The present work is on design and simulation of di-wheel automotive vehical (D.W.A.V). 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><b>Keywords:</b> di-wheel, simulation, design, automotive</p>
<p><b>Arunkumar Arulappan</b> GICICRST1707090</p>	<p><b>Efficient VNF Service Chaining in Datacenter Networks</b></p> <p><b>ArunKumar Arulappan</b> Research Scholar, Department of Computer Technology, Anna University, Chennai, India</p> <p><b>Gunasekaran Raja</b> Associate Professor, Department of Computer Technology, Anna University,</p>

Chennai, India

**Abstract**

Network Function Virtualization (NFV) usually moves the network functions from physical hardware appliances to virtual machines. Customization of own services led by users through Network Functions Virtual Machines (NFVM) by setting ordered traffic paths. The extra load on switches has a transitional uplift in bandwidth utilization and also efficiency gets affected due to the significant placement of Virtualized Network Functions (VNF). Flow rules in switches and ping pong traffic among VNFs get increased rapidly due to the suboptimal placing of VNFs in service chains. In cloud Infrastructure, the enterprises deploy their middle box services for easy management, flexible scalability and economic savings. However, existing elastic virtual network function(VNF) placement strategy often leads to an unpredictable placing location due to the ever-changing workload, which may waste much precious bandwidth resource and bring a lot of VM operation overhead(e.g. VM launch, termination and migration). VNF instance scaling happens due to the ever-changing workload in datacenter, which brings considerable VM operation overhead [16]. In contrast to prior solutions, we propose Accurate VNF (AVNF) placement where tenants specify various multiple bandwidth requirements between VNFs in their service chains for different periods [14]. Thereby we guarantee the required bandwidth and allocation of VNF instances into datacenter based on the AVNF placement [23]. By proposing this algorithm, we can solve both the VNF instance placement and scaling problems which saves much network resource. As of the placement principle, we have used an on-line heuristic algorithm to allocate various VNF instances effectively which resulted in achieving minimum overall bandwidth occupancy, VM usage and migration overhead [22]. To achieve the optimal placement we provide an off-line programming based algorithm where scaling of resources happens in a unified way.

**Keywords**

NFV, Datacenters, VNF-SC, ping-pong traffic



Can Gönenli  
GICICRST1707052

**EFFECT OF VARIOUS PULLING SPEEDS ON THE MECHANICAL PROPERTIES OF VARIOUS FIBER MIXTURE COMBINATIONS OF POLYAMIDE 6 AND 6.6 MATERIALS**

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**ABSTRACT**

Nowadays, thermoplastic composites have increasingly wide application areas due to their high stiffness and impact strength properties, superior fracture toughness, long duration of raw material shelf life and ease of production processes. Besides, they provide safer work environment. In this study, the effect of various pulling speeds on the mechanical properties are investigated by varying the amount of fiber glass reinforcement.

Non-reinforced, 15 percent reinforced and 30 percent reinforced polyamide 6 and polyamide 6.6 samples are produced at Ege University Plastics Technology Department using plastic injection molding method and are subjected to tensile

testing at five different pulling speeds using the Tensile Testing Device at Dokuz Eylul University, Mechanical Engineering Department. The results obtained from testing and those gathered from the plastics manufacturer company are compared with data obtained from the literature. It is observed that the experimental results were highly consistent with those in literature.

According to these results, the positive effect of higher pulling speeds is observed. In this way, the different types of unreinforced and fiber glass reinforced polyamide 6 / polyamide 6.6 samples behavior under different pulling speeds have been determined. The results are in similar behaviour with all types of polyamids. In order to gain an understanding of the effect of the overall testing procedure for all speeds, stress-strain graphics are constructed.

**Keywords:**

Polyamide 6, Polyamide 6.6, Pulling speed, Fiber glass composite, Mechanical properties

**INVESTIGATION OF MECHANICAL PROPERTIES BY FINITE ELEMENTS  
METHOD OF HYDROXYPATITE COATING OF Ti6Al4V MATERIAL  
SURFACE USING CITRIC ACID - SODIUM CITRATE BUFFER SYSTEM**

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**ABSTRACT**

People are exposed to various accidents and injuries during their lifetime. Although many of these disorders are easily overcome, they sometimes cause permanent damage to the human body. Damages often cause mechanical harms in tissues or organs, also they cause to lose its functions. For this reason, damaged tissues and organs can be replaced with new tissues and organs.

The damaged tissue and organs can be repaired by implantation, therefore, the biomaterials used must be compatible with the body in order to fulfill the required functions. Hydroxyapatite, which is the ceramic class of biomaterials for implantation, is the most commonly used biomaterial. However, since it does not have sufficient mechanical properties, it is usually strengthened by the addition of hydroxyapatite to metallic biomaterials.

In this study, a hydroxyapatite coating was applied to the surface of Ti6Al4V material which is compatible with blood plasma by using citric acid - sodium citrate buffer system and also modeled by finite element method. Mechanical properties such as tensile analysis, natural frequency, etc. of the coating were investigated in order to determine the resistance against the mechanical effects that the coating applied with the modeling could be exposed to at the places of use.

**Keywords:**

Hydroxyapatite, Coating, FEM



Prof. Dr.P.Subashini  
GICICRST1707053

**A Hybrid Particle Swarm Optimization Algorithm Based on Cellular Organism Behavior for Solving Complex Non Linear Problems in Dynamic Environments**

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**Abstract**

Nature Inspired Computing (NIC) is the paradigm which imitates the behavior of survival and adaptation strategy observed from nature. One among them is the particle swarm optimization (PSO) algorithm that inspires many researchers to solve complicated non-linear optimization problems. In a few attempts, it is observed that the quick convergence of PSO algorithm cannot find multiple optimal solutions in a single search space problem. This intricacy can be controlled by extending their behavioral pattern, using various physical, biological, chemical and geographical phenomenon. The paper fits its objective to propose a novel idea in optimizing particle swarm optimization algorithm by incorporating the behavior of cellular organism. This effort ultimately improves the temperament of PSO algorithm to yield high quality results. The efficiency of the proposed novelty is systematically investigated, and their performances are tested, based on several criteria. The experimental observation is demonstrated to indicate how the new variant algorithm outperforms the Classical PSO on all evaluated environments.

**Keywords**

cellular organism; computational model; moving peak benchmark function; particle swarm optimization (PSO); optimization; population structure;

**Dr M Krishnaveni  
GICICRST1707054**

**A Novel Approach For Boundary Detection In Tamil Sign Language Hand Pose Noisy Images Using Synergistic Fibroblast Optimization Algorithm**

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	<p style="text-align: center;"><b>Coimbatore, Tamil Nadu, India</b></p> <p><b>Abstract—</b> Sign Language (SL) is a three dimensional language used for communication by deaf people. The recognition system for SL is always an apprehensive task which is handled by vision collaboration and technology. Basically, edge detection is considered to be the precursor for detection of objects, as the edges are the outline of the objects. Detecting continuous edges in real time images is a hard problem, especially in Tamil Sign Language (TSL) recognition system. This paper proposes an algorithm which finds optimal threshold values (L and H) based on Synergistic Fibroblast Optimization (SFO) for detection of continuous, smooth and thin edges of TSL hand pose images. A novel SFO algorithm is proposed with sphere objective function and two constraints for reducing the broken edges. The efficiency of the algorithm is compared experimentally with conventional Canny, Classical PSO and variant based PSO on TSL Consonants images. The results suggest that the novel algorithm detects edges more accurately, and the edges detected are smoother and thinner when compared to other analyzed algorithms.</p> <p><b>Keyword</b> Tamil Sign Language; Synergistic Fibroblast Optimization; Canny edge technique; Edge detection; Thresholding; Similarity Index;</p>
<p><b>Adebola Adebayo Adekunle GICICRST1707055</b></p>	<p style="text-align: center;"><b>SUSTAINABILITY OF DRINKING WATER SUPPLY PROJECTS IN SOUTH WEST NIGERIA: A CASE STUDY OF ODEDA LOCAL GOVERNMENT AREA OGUN STATE NIGERIA</b></p> <p style="text-align: center;"><b>Adebola A. Adekunle</b> 1Department of Civil Engineering, Federal University of Agriculture, Abeokuta</p> <p style="text-align: center;"><b>Adekoya O. Olusola</b> Department of Civil Engineering, Federal University of Agriculture, Abeokuta</p> <p style="text-align: center;"><b>Ogundare T. Ibilola</b> Department of Civil Engineering, Federal University of Agriculture, Abeokuta</p> <p style="text-align: center;"><b>ABSTRACT</b></p> <p>This study reviews the sustainability of drinking water supply projects in rural south west Nigeria. Since several inhabitants of these communities rely on water projects for source of drinking water supply, the functionality of these projects must be ensured. Data were collected from three locations in Odeda Local Government Area, Ogun State, namely, Odeda, Osiele/Obantoko and Bode-Olude through one-on-one interview, focus group discussions and field observation. This study revealed that the government is the sole body responsible for water supply projects in these areas; the community members, majorly, were not consulted as regards the planning, implementation and management of the water supply projects and there were no collaboration(s) with external agencies, NGOs and Private sectors in these areas. Some of the factors affecting the functionality of these projects were also uncovered and recommendations were provided to guarantee sustainability.</p>

 <p>Mona Asfia GICICRST1707056</p>	<p><b>A quantum approach to Faraday effect and circular dichroism of nanostructures</b></p> <p><b>Mona Asfia</b> Dept. of Physics, University of Tehran, Tehran, Iran</p> <p><b>Roshanak Daie Ghazvini</b> Dept. of Medical Parasitology &amp; Mycology, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran</p> <p><b>Shima Asfia</b> Protein Research Center, Faculty of New Technologies &amp; Energy Engineering, Shahid Beheshti University, Tehran, Iran</p> <p><b>Abstract</b></p> <p><b>Background:</b> Materials that rotate the plane of polarization of a linearly polarized light are called optically active materials. The other phenomenon which is observed in these materials is circular dichroism.</p> <p><b>Methods:</b> In this study, it was reproduced the results of Barron and Atkins. The main characteristic of present study was the quantization of both the electromagnetic field and the atom. Moreover, it was reviewed the superradiance effect because so far this effect has not been studied on the optical activity.</p> <p><b>Results:</b> The present study indicated that several problems were found in the results of Barron and Atkins. Firstly, it is not suitable that the Stokes parameters were carried over into quantum theory. Secondly, it should be defined the coherent state for laser light. Thirdly, new quantum effects should appear in extent of lights with low intensity. Finally, since it was assumed that there is a thin solution of molecules, it was expected dipole-dipole interactions influence the optical activity and should be considered more important quantum effects. In addition, it was obtained that cooperative effect which N atoms radiate more than N times of an atom radiation, can be extended to the optical activity phenomena.</p> <p><b>Keywords:</b> Quantization, Electromagnetic field, Atom, Superradiance, Optical activity</p>
<p>Aysegul Gumus GICICRST1707086</p>	<p><b>Synthesis and Computational Calculations of Novel Chiral Bis-1,2,3-triazole Derivatives</b></p> <p><b>Ayşegül Gümüş</b> Yuzuncu Yıl University, Department of Chemistry, Van, 65080, Turkey</p> <p><b>Selçuk Gümüş</b> Yuzuncu Yıl University, Department of Chemistry, Van, 65080, Turkey</p> <p><b>Abstract</b></p> <p>The one-pot synthesis of novel bis-1,2,3-triazole derivatives from homopropargyl alcohol backbones is described. The key intermediates chiral 2-benzothiophenyl (-)-1 and 2-benzofuranyl (-)-2 substituted homopropargyl alcohols are synthesized starting from their corresponding carboxyaldehyde derivatives by O-propargylation and enzymatic resolution. Enantiomerically enriched homopropargyl alcohol derivatives are reacted with diiodo benzene and sodium azide via one-pot synthesis method and novel chiral bis-benzofuranyltriazole (-)-3 and bis-</p>

	<p>benzothiophenyltriazole (-)-4 are constructed without isolation of potentially unstable organic azide intermediates. <b>Keywords:</b> enzymatic resolution, 1,2,3-triazoles, one-pot reaction, benzofuran, benzothiophene.</p>
 <p>Selcuk Gumus GICICRST1707087</p>	<p><b>Investigation of Aromaticity of Tri And Tetraazanaphthaline Derivatives</b></p> <p>Selçuk GÜMÜŞ Yuzuncu Yil University, Faculty of Science, Department of Chemistry, 65080, Van, Turkey</p> <p>Aysegül GÜMÜŞ Yuzuncu Yil University, Faculty of Science, Department of Chemistry, 65080, Van, Turkey</p> <p>Mehmet AVCI Yuzuncu Yil University, Faculty of Science, Department of Chemistry, 65080, Van, Turkey</p> <p><b>Abstract</b></p> <p>Aromaticity, is a subject of chemistry and especially organic chemistry on which dozens of articles have been published every year. Aromaticity of a compound gives important information about the possible reactions and other properties of a molecule. In that point of view determination of aromaticity is very important. Although there are a few methods for the determination of aromaticity, NICS (Nucleus Independent Chemical Shift) calculations provide the easiest applicability and best approach to the result. Naphthalin is an aromatic molecule. It is obvious that centric substitution on the ring will affect the aromaticity of naphthalin. Substitution of carbon atoms of the ring with electronegative nitrogen atoms will decrease the aromaticity of the system. Aromaticity should differ by the change in the positions of the nitrogens. Therefore, the thesis is formed by taking all the derivatives of tri and tetraazanaphthalin derivatives into consideration. In order to gain the lost aromaticity due to nitrogen substitution, ring hydrogens were replaced with nitro groups. Electron population on the electronegative nitrogens was aimed to be pulled back into the ring by very strong electron withdrawing nitro groups. <b>Keywords:</b> Aromaticity, NICS, Tetraazanaphthalin, Triazanaphthalin.</p>
<p>Selami Beyhan GICICRST1707091</p>	<p><b>Synchronization of Coupled Hindmarsh-Rose Neuronal Models</b></p> <p>Selami Beyhan Electrical and Electronics Engineering, Pamukkale University, Denizli, Turkey</p> <p>This paper presents an efficient observer design for synchronization of Hindmarsh-Rose Neuronal models. The observer is based on the discretization of the nonlinear model such that its evolution is based on the second-order gradient update of error-square minimization. For a comparison purpose, sliding mode observer is also designed for synchronization. Based on the numerical applications, very fast parameter estimations are obtained using the discretization based observer. However, robust estimations under noise are obtained using sliding mode observer. Therefore, both observers provide different advantages. As a general result, according to the environmental conditions, the paper concludes which observer can be designed for neuronal synchronization.</p>

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## List of Conferences

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- » 14th International Conference on Envirotech, Cleantech and Greentech (ECG), 16-17 June 2017, Singapore
- » 14th International Conference on Researches in Science and Technology (ICRST), 16-17 June 2017, Singapore
- » 15th International Conference on Envirotech, Cleantech and Greentech (ECG), 23-24 June 2017, Kuala Lumpur
- » 15th International Conference on Researches in Science and Technology (ICRST), 23-24 June 2017, Kuala Lumpur
- » 16th International Conference on Envirotech, Cleantech & Greentech (ECG), 14-15 July 2017, Bali, Indonesia
- » 16th International Conference on Researches in Science & Technology (ICRST), 14-15 July 2017, Bali, Indonesia
- » 17th International Conference on Envirotech, Cleantech & Greentech (ECG), 21-22 July 2017, Bangkok, Thailand
- » 17th International Conference on Researches in Science & Technology (ICRST), 21-22 July 2017, Bangkok, Thailand
- » 19th International Conference on Researches in Science & Technology (ICRST), 27-28 July 2017, Barcelona, Spain
- » 21st International Conference on Researches in Science & Technology (ICRST),



08-09 September 2017, Bali, Indonesia

» 22nd International Conference on Researches in Science & Technology (ICRST),

13-14 Sept 2017, London, UK

» 23rd International Conference on Researches in Science and Technology

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» 24th International Conference on Researches in Science and Technology

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» 26th International Conference on Researches in Science and Technology

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» 27th International Conference on Researches in Science & Technology (ICRST),

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» ICRST (2017) XIIth International Conference on Researches in Science &

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» ICRST (2018) IIIrd International Conference on Researches in Science &

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