

CONFERENCE PROCEEDINGS



Scientific and Technical Research Association (STRA)

**ICRST (2018) IIIrd International Conference on Researches in
Science & Technology, 20-21 Feb 2018, Dubai, UAE**

20-21 Feb 2018

Conference Venue

Flora Grand Hotel, Near Al Rigga Metro Station, Deira, Dubai, United Arab
Emirates

Keynote Speaker



Dr Babasaheb Manik More

**Associate Professor in Engineering Physics, Coordinator First Year Engineering
Department**

Dr D Y Patil School of Engineering & Technology, Lohgaon, Pune, M.S., India

Dr. More has completed his M.Sc. in Applied Electronics (Physics) in 1992 and Ph.D. in “Thin Films and Solar Cells” in 1997 from Shivaji University, Kolhapur, India. He has teaching experience of 24 yrs. at Diploma / Engineering Colleges. His interested areas of research are thin films, optoelectronics, solar cells, ground water, gravitation and bio-geophysics. In these research areas he has published 23 research papers in national / international journals and presented 23 research papers in national / international conferences.

Dr More is Research Guide (Ph.D.) of Solapur University, Solapur in subject of Physics. He is associated with many Journals as Reviewer / Associate Editor / Editor / Executive Editor / Editorial Board Member. He has delivered Invited Talks / plenary speech / Key Note Address at various International Conferences. He worked as Convener of International Conference at BMIT, Solapur, India. He is a member of “World Association for Scientific Research and Technical Innovation (WASRTI) and Life member of Indian Society for Technical Education (ISTE).

Topic: Ground Water Sources: Identified By Variation in Gravitational Pull

PLENARY SPEAKER



Israel Dunmade


Earth and Environmental Sciences, Mount Royal University, Calgary, Canada

Israel Dunmade is a Professor of Sustainable Engineering. He received his Ph.D. from Brandenburg Technical University, Cottbus, Germany. His post-qualification experience includes working at Mount Royal University, Calgary, Canada; Covenant University, Ota, Nigeria; Federal University of Technology, Akure and Federal Institute of Industrial Research, Oshodi. Dr. Dunmade is a Professional Engineer, Project Management Professional and Environmental Professional. He is a member of the Network for Science and Technology of Sustainability; Canadian Society for BioEngineering (CSBE); and American Society for Agricultural and Biological Engineering (ASABE). His research fields cover Lifecycle/Sustainable Engineering and Industrial/Production Engineering. The current research focus is on Design for Sustainability; Sustainable Manufacturing; Sustainable Energy; Sustainable Healthcare; Sustainable Infrastructure; Rural and Campus Sustainability, Circular Economy, Eco-Industrial Development and Lifecycle Sustainability Analysis. He has authored quite a number of peer-reviewed publications; some of which are published in local and international journals. He has also made several conference presentations both locally and internationally.

Topic: - "Collaborative Researches in Science and Technology: Opportunities and Pathways to achieve Sustainable/Circular Economy"

<p>Najimuddeen Mikailu Abdulaziz GICICRST1801051</p>	<p style="text-align: center;">Work Ethics and Resources Management in Science and Technical Education: Challenges and way Forward</p> <p style="text-align: center;">Najimuddeen Mikailu Abdulaziz Electrical-Electronics Technology, Niger State College of Education, Minna Niger State, Nigeria</p> <p style="text-align: center;">Abstract Science Education deals with sharing of Science Content and Process with individuals who are not considered traditionally to be member of the Scientific Community; the individuals could be students, farmers, market men/women or a community at large. But negligence to work rule and regulations has eaten deep into Nigeria system and it is manifesting in every sectors including Education and Science and Technical Education in particular. This paper therefore, examines the Ethical issues and Resources Management in Science and Technical Education in Nigeria. To achieve this, the paper discussed the aims and objective of Science and Science Education in Nigeria. The paper however buttressed among others the Challenge's in Science and Technical work and stressed the Way Forward to improve its standard in Nigeria. Based on the findings, the study several recommended are made.</p> <p>Keywords: Education, Work Ethic, and Resources Management</p>
<p>Imrana U. GICICRST1801052</p>	<p style="text-align: center;">Spectral Depth Analysis Of Aeromagnetic Field Around Gitata Area Sheet No. 187</p> <p style="text-align: center;">Imrana, U. Department Of Science Laboratory Technology, Umaru Ali Shinkafi Polytechnic, Sokoto, Nigeria</p> <p style="text-align: center;">Nasiru B. Department Of Science Laboratory Technology, Umaru Ali Shinkafi Polytechnic, Sokoto, Nigeria</p> <p style="text-align: center;">Abstract Spectral depth analysis of aeromagnetic field around Gitata with Latitude 7.00N to 7.30N and 8.00E to 8.00E was carried out. from the analysis the first depth gives a thickness of 0.20km and a thickness of 2.68km of second depth using (Visual Interpolation) the study have shown that the study area is the uplifted blocks containing about 6.600ft (2.046km) of sedimentary cover area noted; the deep basing flanking the blocks contain thick sedimentary piled with natural source rocks and reservoir rocks. It is observed from the thickness of the region.</p>
<p>Yusuf M. Abdullahi GICICRST1801053</p>	<p style="text-align: center;">Impact Of Distributed Generation On Zamfara 11kv Radial Network</p> <p style="text-align: center;">Yusuf M. Abdullahi Umaru Ali Polytechnic Sokoto, Sokoto, Nigeria</p> <p style="text-align: center;">Aliyu S. Mindaudu Umaru Ali Polytechnic Sokoto, Sokoto, Nigeria</p> <p style="text-align: center;">Abstract This paper presents the potential impact of distributed generation (DG) on Zamfara 11kV radial network. Two DGs based on wind and fuel cell systems were used for the simulation to test the response and stability of the network. A bus with DGs and Static Var Compensator (SVC) was studied in comparison with a bus having no DG. For the system without DG,</p>

	<p>simulation results obtained revealed that the voltage decreases with increasing load. The minimum and maximum loads at which the system became unstable were 0.025MW and 2.5MW respectively. For the system with DGs but no SVC incorporated, the corresponding minimum and maximum loads at which system was unstable were 0.01MW and 1.2MW. With SVC connected the system attained stability at 0.98pu within 20s. Incorporation of DGs and SVC on the network resulted in an improved voltage response and the network stabilized faster.</p> <p>Keywords: Static Var Compensator, Distributed Generation, Voltage Response, Radial network, Stability</p>
<p style="text-align: center;">Rebiha Kemcha GICICRST1801054</p>	<p style="text-align: center;">A comparative study of performances of All-To-All Personalized Exchange on Multistage Interconnection Networks</p> <p style="text-align: center;">Rebiha Kemcha Computer Science Department, ENS Kouba, Algiers, Algeria</p> <p style="text-align: center;">Abstract.</p> <p>All-to-all personalized exchange is used in various applications pertaining to parallel computing. It is one of the most dense collective communication patterns in parallel/distributed systems where each processor sends a personalized message to every other processor. Due to their best cost/performance ratio, Multistage Interconnection Networks are attractive solution for the realization of all-to-all personalized exchange. In this paper, we study the behavior of a multistage interconnection network called MCRB network, during the routing of all-to-all personalized exchange messages. Our contribution consists of a performance study as well as a comparison of MCRB networks to the well-known Omega networks. For that purpose, we use a hybrid simulator “Simulation Monte-Carlo-Simulation to Discrete Event”, we revised. We also use a multi-criteria evaluation methodology to quantify paradoxical measurements simultaneously as latency-complexity or latency-throughput. The results of our study show that MCRB networks are better than Omega networks in a number of configurations despite their higher hardware complexity.</p> <p>Keywords: Parallel architectures, All-to-All personalized exchange, Multistage Interconnection Networks, MCRB networks, Omega networks, Performance evaluation.</p>
<p style="text-align: center;">Mohammed Zaid Shaikh GICICRST1801055</p>	<p style="text-align: center;">Sustainable Development With BIM</p> <p style="text-align: center;">Mohammed Zaid Shaikh Department Of Civil And Environmental Engineering, Veermata Jijabai Technological Institute, University Of Mumbai, Mumbai, India</p> <p style="text-align: center;">Abstract</p> <p>With the advent of technologies and standardization in the architecture, engineering, construction and operation (AECO) industries, the concept of sustainable development is gaining increased momentum than ever before. In addition, Building Information Modelling (BIM) has also started to embrace the sustainable development aspects: social, economic and environmental.</p> <p>In order to achieve a balanced sustainable performance, the impact of BIM on all the aspects of sustainable development has to be categorically considered. This paper reviews and reflects how the key sustainability aspects are achieved through BIM in the AECO industries. Using building information modelling (BIM) data generated during design and build over the whole project lifecycle enables faster, safer, less wasteful construction and more cost-effective, sustainable operation, maintenance and eventual decommissioning.</p> <p>The paper also reviews the issues surrounding the implementation of BIM</p>

	<p>alongside sustainable design practices and the inherent problems associated with attempting to evaluate benefits in a purely quantitative fashion. The development of a broader framework that incorporates both quantitative measurement and a more qualitative understanding of the process of integrating BIM and sustainable design to measure the potential of BIM for sustainability are suggested.</p> <p>In this paper, various uses of BIM supporting the sustainability aspects both in theory and practice were identified. This renders useful insights for future development of BIM uses for achieving greater sustainability benefits in all aspects of sustainable development.</p>
 <p style="text-align: center;">N. A. Okereke GICICRST1801058</p>	<p style="text-align: center;">Thickness Dependent Properties of Copper Aluminium Selenide (CuAlSe₂) Thin Films.</p> <p style="text-align: center;">N. A. Okereke Department of Industrial Physics, Faculty of Physical Sciences, Chukwuemeka Odumegwu Ojukwu University, Anambra State, Nigeria.</p> <p style="text-align: center;">Abstract</p> <p>CuAlSe₂ thin films were deposited onto glass substrate by chemical bath technique. The dependence of film thickness on the structural and optical properties of the film has been studied. The phase identification and surface morphology of the films were investigated by X-ray diffraction and optical microscope respectively while the optical characterization was done by means of UV-VIS spectroscopy. XRD study confirms the chalcopyrite cubic structure of CuAlSe₂ films. The XRD peak at $2\theta = 30^\circ$ showed the preferential orientation along (111) with bath temperature of 333K. With the increase in bath temperature up to 354K, the films gradually grew thicker along with the film increase in crystallite size. The optical band gap of CuAlSe₂ thin films were estimated and found that the band gap energies decreased from 2.4 eV to 2.2 eV as the thickness of the film increased from 1.05×10^{-7} nm to 2.10×10^{-7} nm. The optical constants were investigated and found increased with the increased in film thickness.</p> <p>Keywords: Thin Films, Chemical Bath Deposition, Chalcopyrite, Grain Size, Band Gap.</p>
<p>Nadia Hassan Sidahmed GICICRST1801059</p>	<p style="text-align: center;">Determinants of Technological Innovation in Industrial firm in Developing Countries: Assessing Relevance of Innovation Concepts</p> <p style="text-align: center;">Nadia Hassan Sidahmed Industrial Research & Consultancy Centre, Khartoum, Sudan</p> <p style="text-align: center;">Abstract</p> <p>Sudan as well as other least developed countries in Sub-Saharan Africa exhibits a low performance in technology and innovation . Global Innovation Index GII and Global Competitiveness Report GCR show the poor ranking scale of Sub-Saharan Africa including Sudan. Despite a good quality science base a weakness in technological innovation is dominating. This includes comparatively low and falling levels of R&D and patenting as well as a distinct lag in the diffusion of innovations relative to other countries. Empirical researches show that Africa is still lagging behind in the build-up of expertise to ST&I management; lower levels of capital intensity and skills; weakness in high technical areas and inability to absorb best-practice techniques and methods in the market sector. On the other hand the surge of economic growth in more advanced developing countries, particularly the emerging countries, has been made possible in large part by their growing technological capabilities for (the increase in their capital goods imports) This research is a policy oriented study that aims at stimulating policies to support effectiveness of science and technology. It seeks to investigate the elements for building firm technological capabilities</p>

	<p>and then link of these capabilities to innovation in developing countries, assuming country- and regional- specific factors that arise from the differences in collective environmental, social and economical conditions are explaining the discrepancy. The study questions the relevance of conventional technological innovation concepts that developed in the industrial regions to the circumstances of developed countries. The aim of this study is to contribute to a better understanding of the issue and to contribute to the ongoing debate on relevance of innovation studies to developing countries. In so doing the researcher aspires to conclude the study with building a model and framework for development of technological capabilities in Africa Sub-Saharan economies. A framework that grasps determining elements and explains interrelations. A comparative qualitative explorative combined with descriptive diagnostic approach of research will be applied. Relevant theory is sought from the extensive body of literature that conceptualizes contribution in the field. The conceptual framework, sampling, and measurement of the main variables are discussed. Importance of technological capabilities for innovation gave the study its significance. Because innovation is an increasingly important driver of global economic growth and plays a significant role in accelerating economic development, enhancing productivity of existing industries, cultivating new markets and industries, and achieving inclusive, sustainable growth.</p>
 <p>Tatjana Kosic GICICRST1801060</p>	<p>Optimizing Building Materials Flow through Principle of Restorative Economy</p> <p>Tatjana Kosic Innovation Centre, Faculty of Mechanical Engineering, Belgrade University, Serbia</p> <p>Lisanne Havinga Department of the Built Environment, Eindhoven University of Technology, Netherlands</p> <p>Themistoklis Tsalkatidis Faculty of Science and Technology (REALTEK), University of Life Sciences, Norway</p> <p>Emanuele Naboni Institute of Architectural Technology, School of Architecture, KADK, Denmark</p> <p>Abstract</p> <p>Restorative ‘circular’ processes has emerged as a valid building design strategy involving processes and practices, where critical part is the quantification and qualification of material flows. Furthermore, the rising cost of materials and ambitious commitment of mission of zero energy buildings for zero environmental impact by already 2020, have to inspired to look at new ways to develop and use materials more efficiently and in turn reduce our environmental impact and cost during possibly repeated life cycles of the building. This study, the first of its kind, systematically analyses the best practice of building design processes and tools in regard to materials flow, material minimization, recycling, refurbishment and adaptive re-use of material or building components (modular building components design, design for disassembly). This work aims to help decision-makers and to promote life cycle thinking in the construction industry. Especially, the study touches on important issues in regard to the education of architects and engineers. At this stage, a set of conclusions that comes from the analysis is defined including advantages and disadvantages,</p>


	<p>application limits and the possible development alternatives along the life cycle. Key words: Material flow, Restorative economy, Building life cycle, Recycling, Refurbishment, Re-use</p>
<p>Muhammad Yousaf Jamil GICICRST1801061</p>	<p style="text-align: center;">Quality Assurance Functions in a Diesel Generator Assembly Unit: A Practical Approach</p> <p style="text-align: center;">Muhammad Yousaf Jamil Director Quality Enhancement Cell, University of Management & Technology, Lahore</p> <p style="text-align: center;">Abstract</p> <p>Generator expected life, reliability and integrity in service is directly linked to design and manufacturing performance in the factory. In order to verify this performance, users develop purchase technical specifications which include quality assurance tests that are required on all main generator components during the manufacturing process, as well as on the final product. These tests are in most of the cases based on international standards and Original Equipment Manufacturer (OEM) procedures but in some cases, users specify quality assurance tests that are not included in the OEM manufacturing quality assurance standards.</p> <p>This paper will focus on the Quality Assurance testing at the following stages in order to ensure the dispatch of defect free Generators to the end users. The theme of the paper is purely based upon the practical approach and this is concerned with the practical experience of the author gained during the course of his experience in a Diesel generator assembly unit. Following are the various stages at which Quality assurance steps have been established:</p> <p>In – Coming Inspections of the Fabricated items including Canopy, Skid , Silencer etc.</p> <p>In – Process inspections including Stage wise Inspections at Coupling, Panel and Assembly stages</p> <p>Final Inspection and Testing performed which include Sound Test, Load Test and Pre – Delivery (PDI) Inspections</p> <p>This paper discusses each stage wise Quality checks which are being applied for improving plant operation, lower costs of re - works, Repetitive Supply of Delivery of Defect free Generators to the Valuable Clients, Achievement of Technical Specifications as specified by the Clients, Enhanced Client's Satisfaction and better control over the Assembly Processes. This paper will contribute towards body of knowledge for the sake of benefit to the community involved in the assembly of Generators.</p> <p>Key Words: Canopy, Skid, PDI, Load Test, Sound Test, Original Equipment Manufacturer (OEM) etc.</p>
<p>Nitesh Kumar GICICRST1801062</p>	<p style="text-align: center;">Comparative Study Of Newtonian And Non-Newtonian Blood Viscosity Models: A Rigid Body CFD Study</p> <p style="text-align: center;">Nitesh Kumar Department of Mechanical And Manufacturing Engg, Manipal Institute Of Technology, Manipal University, Manipal, India</p> <p style="text-align: center;">Abstract</p> <p>The behavior of blood during the flow in human arteries has always been a subject of keen interest. Flow parameters such as pressure, velocity and wall shear stress vary with changes mainly in the geometry of the artery. The work focusses on the variation of wall shear stress along the walls of an idealized carotid artery. As a part of initial study, 2 dimensional models of the idealized carotid artery with different stenosis(25%, 50%, 75%) were made and various parameters were analyzed. In the three-dimensional</p>

	<p>model, simulations were carried out for both Newtonian and Non-Newtonian behavior of blood. In the non-Newtonian flow, Carrera-Yasuda model was chosen for the calculations. Steady flow and Transient flow cases were also analyzed where the User Defined Function was interpreted for further calculations. It was observed that recirculation of flow occurred at a critical area in the geometry. The results obtained are compared with the numerical results available in the literature. The Wall Shear Stress plots were found to be in close correspondence to those in the literature.</p>
<p>Djay Louis Obediencia GICICRST1801063</p>	<p style="text-align: center;">Market Acceptability of an Application-Based Basic Education Tutorial Booking System in Tacloban City</p> <p style="text-align: center;">Djay Louis Obediencia University of the Philippines Visayas Tacloban College, Tacloban City, Philippines</p> <p style="text-align: center;">Abstract</p> <p>This study determined the acceptability of an Application-Based Basic Education Tutorial Booking System in Tacloban City. By utilizing mobile technology, the researcher's end goal is to create an application which acts as a medium that allows the tutees to communicate with a tutor and "book" a tutorial session. The tutors will consist of college students from the University of the Philippines Visayas Tacloban College (UPVTC). On the other hand, the tutees will be composed of elementary and senior high school students in Tacloban City. Lessons taught in the tutorial are subjects from the K to 12 Basic Education Program; mainly, English, Science, Mathematics, and Reading Comprehension. Since this application is not yet existing in the market, the researcher conducted a market study on the acceptability of this application in Tacloban City. The participants of this study are elementary, senior high school and UPVTC students. By using a structured interview schedule, the researcher interviewed its participants to determine the acceptability of the application. This paper discusses the implications of the methods used and the results of the study.</p> <p>Keywords: Mobile Application, Tutorial Booking System, Tutor, Tutee</p>
<p>Gabdo H.T GICICRST1801064</p>	<p style="text-align: center;">Radiation Hazard Indices from Absorbed Terrestrial Gamma Radiation in the Environment of Michika, North-Eastern Nigeria</p> <p style="text-align: center;">Gabdo H.T Physics Department, Federal College of Education Yola, Nigeria</p> <p style="text-align: center;">Idi B.Y Physics Department, Baze University Abuja, Nigeria</p> <p style="text-align: center;">Inuwa I.A Physics Department, Federal University Dutse, Nigeria</p> <p style="text-align: center;">Abstract</p> <p>Measurements for Terrestrial Gamma Radiation (TGR) Dose rate were made in Michika Local Government area of north-eastern Nigeria Using aeromagnetic survey in 6983 locations with a range value found to be 15 nGy h⁻¹ to 324 nGy h⁻¹ and the mean value found to be 115 ± 0.5 nGy h⁻¹. The outdoor annual effective dose is found to be 0.141 mSv y⁻¹. The computed lifetime effective dose, cancer risk and the lifetime cancer risk from outdoors exposure for each person living in Michika area is found to be 7.614 mSv, 8.21×10⁻³ and 4.43 x 10⁻¹ respectively. These values are two times the world outdoor average values of 4.9 mSv, 4.07 × 10⁻³, and 2.85 × 10⁻¹ respectively. The effective doses due to inhalation of gamma radiation on internal organs like the Gonads (testes or ovaries), Lung, liver and the skin of the body is found to be 0.023μSv, 0.014μSv, 0.006μSv and 0.001μSv</p>

	<p>respectively. Key words: Annual Effective Dose, Cancer Risk, Terrestrial Gamma Radiation (TGR) Dose Rate</p>
 <p>Auwal Abubakar Kassim GICICRST1801065</p>	<p style="text-align: center;">Assessment of Environmental Literacy and Motivation among Undergraduates Students of Sule Lamido University, Kafin Hausa</p> <p style="text-align: center;">Auwal Abubakar Kassim Department of Science Education, Sule Lamido University, Kafin Hausa, Jigawa State, Nigeria</p> <p style="text-align: center;">Abstract</p> <p>Ecological issues are some of the contemporary issues facing the world today. A number of conferences and conventions were held with a view of finding a long lasting solution to environmental problems. However, there seems to be a considerable ignorance about environment especially in developing countries where public does not have enough awareness and motivation to the environment. What the human do about the environment depends on how they think about it. This Study therefore investigated the Motivation and literacy level among undergraduate's students of sule Lamido university kafin Hausa, Jigawa State Nigeria. 80 students were randomly sampled and used for the study, using cross sectional research design. Two instruments were used for data collection, parametric statistics was used to analysed the data. The findings indicated Low motivation on environmental issues among the students; it was recommended that environmental Education should be made compulsory among all undergraduates' students in the university.</p> <p>Keywords: Environmental Education, Environmental Literacy, Motivation</p>
 <p>Folashade A. Ayinde GICICRST1801067</p>	<p style="text-align: center;">Proximate Composition of Dehulled Seeds and Pasting Characteristics of Defatted flour of Three Varieties of Sesame (Sesamum indicum L.)</p> <p style="text-align: center;">Folashade A. Ayinde Food Technology Department, Lagos State Polytechnic, Ikorodu, Nigeria</p> <p style="text-align: center;">Folake O. Henshawb Food Science and Technology Department, Federal University of Agriculture, Abeokuta, Nigeria</p> <p style="text-align: center;">Catherine O. Eromoselec Chemistry Department, Federal University of Agriculture, Abeokuta, Nigeria</p> <p style="text-align: center;">Abstract</p> <p>Research Objectives: This research was conducted to provide scientific data on the proximate composition of the dehulled seeds, defatted flour, and pasting characteristics of commercially available varieties of Sesame (Bogoro (late maturing), E8 (Early maturing and improved variety) and Ex-Sudan (exotic early maturing variety).</p> <p>Methodology: The seeds were cleaned, dehulled, dried, conditioned and defatted using Piteba oil expeller. The dehulled seeds and defatted flours were analysed for its proximate composition, and pasting characteristics; peak (PV) trough (TR) breakdown (BV), final (FV), setback (SB) viscosity, peak time (PTi) and pasting temperature (PT)) using standard procedures.</p> <p>Findings: The proximate composition and pasting characteristics were significantly different ($p < 0.05$). Protein content of dehulled seeds of Bogoro, E8 and Ex-Sudan was 22.34, 32.54 and 31.13 %. The protein content in the defatted flour of Bogoro, E8 and Ex-Sudan all increased. The PV, TV, BV, FV and SV varied between 17.21 to 73.14, 10.45 to 47.16, 7.11 to 26.78, 11.10 to 61.26 and 0.84 to 11.97 RVU respectively. The peak time and pasting</p>

	<p>temperature were not significantly different. Research outcomes: Pre-treatment process of dehulling and defatting increased the protein, reduced the crude fibre, and increased the Nitrogen Free Extractive contents in the defatted flours. Principal component (PCA) and the correlation analysis of the proximate composition and pasting characteristics showed greater correlation between E8 and Ex-Sudan than Bogoro. Future scope: Defatted flour of the sesame should be incorporated into high carbohydrate foods to determine functionality. Index Terms - Sesame, proximate composition, Pasting characteristics, Principal Component Analysis.</p>
<p>Adefunmilayo Manuwa GICICRST1801068</p>	<p style="text-align: center;">Quantitative Phytochemical Analysis And Antioxidant Activities Of The Methanolic Leaf Extract Of Rauwolfia Vomitoria And Its Hypoglycemic Effects On Alloxan- Induced Diabetic Rats</p> <p style="text-align: center;">Manuwa. A.A Department of Science Laboratory Technology (Chemistry Unit), School of Pure and Applied Sciences, Lagos State Polytechnic, Ikorodu, Lagos, Nigeria.</p> <p style="text-align: center;">Momoh. J.O.2 Department of Science Laboratory Technology (Biochemistry Unit), School of Pure and Applied Sciences, Lagos State Polytechnic, Ikorodu, Lagos, Nigeria.</p> <p style="text-align: center;">Abstract</p> <p>Research Objectives: Rauwolfia vomitoria (Apocynaceae) is a medicinal plant used in traditional medicinal practice for the treatment of hypertension. The research work determines the phytochemicals, antioxidant and antidiabetic properties of methanolic leaf extract of Rauwolfia vomitoria.</p> <p>Methodology: The phytochemical constituents of Rauwolfia vomitoria were determined using standard procedures. The antioxidant activity of the Rauwolfia vomitoria leaf extract was also evaluated in a series of in-vitro assays. The in-vivo antidiabetic property of the plant was also determined using standard procedure.</p> <p>Findings: The phytochemical constituents of methanolic leaf extract of Rauwolfia vomitoria indicates the presence of secondary metabolites like terpenoids, tannins, saponins, flavonoids, alkaloids. The extract exhibited significant DPPH scavenging activity. In addition, it exhibited significant ferric reducing power relative to ascorbic acid and BHA ($p < 0.05$). The total content of phenolic substances was 116.84 mg PE / g DW, flavonoids, alkaloids and total proanthocyanidins contents are 1.1%, 3.7% and 0.57 ± 0.04 mg quercetin/g of dry plant material respectively. The weight of diabetic untreated rats were significantly ($P < 0.05$) reduced when compared to other groups. The animals treated with glibenclamide, 250 and 500mg/Kg body weight of Rauwolfia vomitoria extract showed significant decrease ($P < 0.05$) of blood sugar level compared to the untreated rats.</p> <p>Research Outcomes: The result of the study shows that methanolic leaf extract of Rauwolfia vomitoria has antioxidant and antidiabetic properties.</p> <p>Future Scope: The active compounds that are responsible for the hypoglycemic property of Rauwolfia vomitoria should be determined.</p> <p>Keywords: Antioxidant activities, diabetic rats, Quantitative phytochemical analysis, Rauwolfia vomitoria.</p>
<p>Gowri Shankar M.C GICICRST1801070</p>	<p style="text-align: center;">Effect of Reinforcement and Artificial Aging on Stir Cast Al6061-B4C Composite</p> <p style="text-align: center;">Gowrie Shankar M.C Department of Mechanical and Manufacturing Engineering, Manipal</p>

	<p style="text-align: center;">Institute of Technology, Manipal, India</p> <p style="text-align: center;">Abstract</p> <p>The focus of present investigation is to enhance mechanical properties of two stage stir cast Al6061-B4C (2, 4 and 6 wt. %) reinforced metal matrix composites by artificial aging treatment. The Optical and Scanning Electron Microscope show homogeneous distribution of reinforcements in aluminium matrix. The composites were solution zed at 558°C for 2 h and followed by water quenching. The samples were subjected to aging treatment in the range of 100, 150 and 200°C for different time intervals. Lower aging temperature and higher aging time shows substantial enhancement in hardness and tensile strength. Around 170% improvement in hardness and 100% improvement in tensile strength values were observed when aged at 100°C with increased weight percentage of reinforced particulates as compared to unreinforced Al6061 alloy. Al6061 alloy shows mixed mode type of tensile fracture displaying complicated bigger and evenly spread voids, which indicates clear ductile fracture. Fractography of the composite shows shear/brittle fracture and void nucleation growth.</p> <p>Keywords— Aluminum Metal Matrix Composites (AMMC's), Boron carbide (B4C), Stir casting, Aging treatment.</p>
<p style="text-align: center;">Zainab Al-Bawi GICICRST1801071</p>	<p style="text-align: center;">Laser Enhanced Photoinduced Interfacial Charge Transfer Processes Based On Photocatalytic Degradation Of Refractory Pollutant Using ZnO-Cuo Nanocomposite Catalysts</p> <p style="text-align: center;">Hiba K. Wahhab Assistant Professor - Institute Of Laser For Postgraduate Studies,University Of Baghdad, Baghdad –Iraq</p> <p style="text-align: center;">Zainab F. Mahdi Al-Bawi Assistant Professor - Institute Of Laser For Postgraduate Studies,University Of Baghdad, Baghdad –Iraq</p> <p style="text-align: center;">Dawood O. Altiafy Assistant Professor - Institute Of Laser For Postgraduate Studies,University Of Baghdad, Baghdad –Iraq</p> <p style="text-align: center;">Rawaa A. Faris Assistant Professor - Institute Of Laser For Postgraduate Studies,University Of Baghdad, Baghdad –Iraq</p> <p style="text-align: center;">Abstract</p> <p>In this work, novel water putrefaction system was built using annealed ZnO -CuO nanocomposite catalyst to enhance photocatalytic degradation activity of methylene blue (MB) as a model by sun light and different wavelength lasers as stimulating light sources. X-ray diffractometer (XRD) results demonstrated a pure crystalline hexagonal wurtzite phase of ZnO and monoclinic phase of CuO with crystalline size equal to 22.6 nm. All MB samples and MB with annealed ZnO - CuO nanocomposite catalyst were exposed under sunlight and lasers with (632.8, 532 and 405) nm at 1.6 mW/mm² power density irradiation for (0, 30, 60 and 90) minutes. UV-VIS Spectrometer was used to evaluate the photodegradation of all samples where an appreciable power photocatalytic generation of hydroxyl was radicals exhibited due to increasing charge separation rate and decreasing recombination rate . This system revealed excellent ability to photocatalytic degradation activity due to low crystallite size, extended visible light adsorption and high efficiency of interfacial charge transfer processes. This study proved that 405 nm laser and sun light are highly efficient sources and ZnO-CuO nanocomposite is a good candidate for wastewater</p>

	<p>purification treatment. Keywords: ZnO-CuO nanocomposite, laser, sun light, interfacial charge transfer, Photocatalytic activity, methylene blue</p>
 <p>Jaiprakash S Dargad GICICRST1801074</p>	<p style="text-align: center;">Synthesis, Structural, And Transport Properties Of Chemically Deposited Cdms Thin Films</p> <p style="text-align: center;">Jaiprakash S Dargad Dayanand Science College, Latur-413 531, M.S, India</p> <p style="text-align: center;">Abstract</p> <p>Cd_{1-x}Mn_xS thin films with x value ranging between 0 to 0.5 were deposited onto the glass substrates using a chemical deposition process. The composition of the as- grown samples was determined by an EDS technique. The polycrystalline growth resulted over the whole range studied and both CdS and Cd_{1-x}Mn_xS films exhibited hexagonal wurtzite structure with growth orientation along (101) direction. Typically, the lattice parameter 'a' decreased from 4.131Å to 4.110Å for the change of x from 0 to 0.1 and thereafter it returned to its original value. Similar changes in c with x were also observed (6.710 Å to 6.688 Å). Average crystallite size increased with increase in x from 0 to 0.1 and then decreased for further increase in x. The electrical conductivity is found to be enhanced with x upto 0.01 and then decreased with further increase in x. The activation energies were calculated in both the conduction regions. The transport characteristics such as thermoelectric power, carrier concentration (n), mobility (μ), and barrier height (φ_b) were studied as a function of the working temperature and materials composition and attempted to correlate with the observed changes in structural characteristics.</p> <p>Keywords: DMS, Chemical growth process, Mn²⁺ magnetic ions, spin-spin exchange, lattice parameters.</p>
<p>Anupama Kharche GICICRST1801075</p>	<p style="text-align: center;">Municipal Solid Waste Management in India- Revisited</p> <p style="text-align: center;">Mrs. Anupama N. Kharche Assistant Professor, Dr. D.Y.Patil School of Engineering & Technology, Mohegan, Pune, Maharashtra, India</p> <p style="text-align: center;">Dr. Nilesh R. Kharche Assistant Professor, Dr. D.Y.Patil School of Engineering & Technology, Mohegan, Pune, Maharashtra, India</p> <p style="text-align: center;">Abstract</p> <p>Municipal Solid Waste (MSW) is a socioeconomic activity that entails with solid waste generation. Management of municipal solid waste is a national problem and is faced in all the cities of India. Urbanization contributes enhanced municipal solid waste (MSW) generation and unscientific handling and final disposal of MSW degrades the urban environment and causes health hazards. Various collection systems engaged by the municipalities collect less than half of the total waste generated. As a result, wastes are either scattered in urban centres or disposed of in an unplanned manner in low lying areas or open dumps, or fired by the residents in their backyards. Insufficient collection and inadequate have made the situation exasperating due to which various environmental and health related issues are increasing. Keeping in mind of the present situation, the current paper reviews about municipal solid waste management system in the country and initiative to be taken by education institutions.</p> <p>Keywords: MSW, SWM, ULB, solid waste</p>
<p>Dr. Nilesh R. Kharche GICICRST1801076</p>	<p style="text-align: center;">Recent trends of Friction stir welding-Revisited</p> <p style="text-align: center;">Dr. Nilesh R. Kharche</p>

	<p style="text-align: center;">Assistant Professor, Dr. D.Y.Patil School of Engineering & Technology, Mohegan, Pune, Maharashtra, India</p> <p style="text-align: center;">Mrs. Anupama N. Kharche Assistant Professor, Dr. D.Y.Patil School of Engineering & Technology, Mohegan, Pune, Maharashtra, India</p> <p style="text-align: center;">Abstract</p> <p>Friction Stir Welding (FSW) has become a major joining process in the aerospace, railway and ship building industries especially in the fabrication of aluminium alloys. The process uses a spinning non-consumable tool to generate frictional heat in the work piece. Aluminium metal is not possible with arc welding, MIG welding and TIG Welding, it is also observed that aluminium is welded by gas welding but the strength of the joint is very poor. The welded joint mostly failed at the joining point. So the other alternative is Friction Stir Welding. In FSW, the aluminium is fully fusion by own due to friction heat.</p> <p>Keywords: Friction Stir Welding, Fusion welding, Tensile Strength</p>
<p>Sanusi Moyi Salame GICICRST1801077</p>	<p style="text-align: center;">Analysis Of The Prevalence Of Gastrointestinal Nematodes Affecting Sheep And Goats In Sokoto Metropolis</p> <p style="text-align: center;">Moyi S.S College Of Agriculture, Umaru Ali Shinkafi Polytechnic</p> <p style="text-align: center;">Umar L.A Faculty Of Veterinary Sciences , Usmanu Danfodiyo University Sokoto, Nigeria</p> <p style="text-align: center;">A. Bello Faculty Of Veterinary Sciences , Usmanu Danfodiyo University Sokoto, Nigeria</p> <p style="text-align: center;">Abstract</p> <p>A research was conducted in some selected areas in Sokoto Metropolis between March to September, 2017. To find out the Prevalence of Gastro Intestinal Nematodes affecting sheep and goats in Sokoto metropolis. A random sampling techniques was employed to select the study animals. A total number of 514 small ruminants (309 Goats and 205 sheep) of all sexes and ages were used in this study. Those animals with the age of less than one year were considered as young, while those greater than or equal to one year were considered as adults. The total sample size was calculated based on the predetermination of the following parameters a 95% level of confidence, 5% desired level of precision and 50% expected prevalence. The prevalence was calculated by dividing the number of positive animals by the total number of animals examined and times 100. Percentage was used to measure prevalence and Chi Squared test was used to measure the association between the prevalence of the parasites and the age, sex and species of the animals. In all analyses, confidence level was held at 95% and P<0.05 was set for significance. A total of 914 faecal samples were collected and analyzed in the parasitology laboratory of Usmanu Danfodiyo University Sokoto by using simple test tube floatation technique, 390 or 42.7% of the samples revealed different types of nematodes eggs while 524 or 57.3% did not reveal nematodes eggs. Five hundred and sixty-nine (569) faecal samples were from goats while three hundred and forty-five (345) faecal samples were from the sheep. The result obtained indicated that the prevalence of parasitic gastro intestinal nematodes in Sokoto metropolis is higher in goats 43.2%, while sheep is 41.7%. the nematodes are higher in adult animals than in young animals. Adult sheep is 44.4% while adult goats</p>

	<p>is 47.2%. young sheep is 20.5% while young goats is 35.9%. The male sheep is 36.7% while the male goat is 43.7%. The female sheep is 44.4% while the female goat is 42.3%. From these results it was clear that the male goats and female sheep were more infected than female goats and male sheep, however; there was no statistical significance ($P > 0.05$) among male and female animals. It was recommended that sokoto government should encourage rearers on strategic routine deworming of all ruminants.</p> <p>Keywords: Samples, prevalence, nematodes and gastro intestinal.</p>
<p>Mahmood Yaghoubi GICICRST1801079</p>	<p style="text-align: center;">Assessment of different climate conditions on cleaning periods of solar power plant in Iran</p> <p style="text-align: center;">Kiana Falahatia School of Mechanical Engineering, Shiraz University, Shiraz, Iran</p> <p style="text-align: center;">Mahmood Yaghoubia The Academy of Sciences, Tehran 15376-33111, Iran</p> <p style="text-align: center;">Abstract</p> <p>In this study, effects of different climatic conditions and various cleaning protocol of photovoltaic panels on the amount of dust accumulated and power plants output is studied using Helioscope software. The plants investigated are Persian-Gulf 7 MW, Jarghouyeh 10 MW and Mokran 20 MW in Iran. Climate variation of these locations was determined by studying climate maps. The amount of dust in each area is calculated based on the "Barcelona Supercomputing Center" data. Examining these data and considering the weather conditions, five different cleaning periods were defined for each area. The modeling of power plants are carried for an entire year and monthly performance soiling loss are computed and compared for different cleaning periods.</p>
<p>Shewale Poonam Motiram GICICRST1801080</p>	<p style="text-align: center;">Stability Of TEOS Based Superhydrophobic Sio2 Coatings Against Various Acids</p> <p style="text-align: center;">Shewale Poonam Motiram Dr D Y Patil Educational Enterprises Charitable Trust, Dr. D Y Patil School of Engineering & Technology, Lohgaon, Pune-412105.</p> <p style="text-align: center;">Abstract</p> <p>In the present study attempts have been made to produce hydrophobic silica coatings by hydrolysis and polycondensation of tetraethylorthosilicate (TEOS) using a single step sol-gel process to reduce the processing time. Superhydrophobic silica coatings were synthesized by dip coating using trimethylchlorosilane (TMCS) as a surface modifying agent. Since sol-gel chemistry provides a straight forward method to control the surface roughness and surface energy of the coatings, various sol-gel parameters viz. MeOH/ TEOS molar ratio, Catalyst concentration, % of silylating agent in hexane and silylation period were varied systematically to obtain hydrophobic silica coatings with better physical and optical properties. The silica coatings have been characterized by scanning Electron Microscopy, Fourier Transform Infrared Spectroscopy (FTIR), and contact angle measurements. A water contact angle near 150° over glass surface had been achieved.</p> <p>Keywords: Superhydrophobicity, Sol-Gel, Contact Angle, Silylation</p>
<p>Kelechi Nwifior GICICRST1801082</p>	<p style="text-align: center;">Optical Analysis of Aluminum Nickel Sulfide Ternary thin Films for Device Applications</p> <p style="text-align: center;">Nwifior K. Department of physics, Ebonyi State College of Education, Ikwo, Ebonyi State, Nigeria.</p>

	<p style="text-align: center;">Ifeanyichukwu B. J. Department of physics, Ebonyi State College of Education, Ikwo, Ebonyi State, Nigeria.</p> <p style="text-align: center;">Abstract</p> <p>The solution growth technique was used to deposit ternary thin film on substrates at different bath parameters which include temperature, concentration of solution, volume of solution and water, time of deposition and pH, from bath composition of aluminum chloride (AlCl₃), Nickel Chloride (NiCl₂·6H₂O), thiourea (CS(NH₂)₂), distilled water, ethylene diamine tetracetic acid (EDTA) and ammonia (NH₃). Ethylene diamine tetra acetic acid and ammonia served as the complexing agents. A UN-VIS-NIR spectrophotometer was used to measure transmittance, while absorbance and reflectance were determined by calculation. The GBC enhanced mini material analyzer (EMMA) X-ray diffractometer was used to measure the elemental compositions of the films. The optical properties revealed that films of Aluminum Nickel sulphide (Al_{4.5}Ni₇S₃) have high absorbance and reflectance but moderate transmittance throughout the ultraviolet, visible and infrared regions. The above results show that Al_{4.5}Ni₇S₃ could be applied in solar cells, photo-thermal solar energy devices etc. It could also be used as anti-reflection coatings.</p> <p>Key words: solution growth technique, optical properties, anti-reflection coatings.</p>
<p style="text-align: center;">Abhijit Asati GICICRST1801083</p>	<p style="text-align: center;">Optimizing The Ratio Of Number Of Tubes In PCNTFET To NCNTFET For Digital Circuits</p> <p style="text-align: center;">Abhinav Bhansali Department of Electrical and Electronics Engineering, Birla Institute of Technology and Science, Pilani, Rajasthan, India</p> <p style="text-align: center;">Abhijit Asati Department of Electrical and Electronics Engineering, Birla Institute of Technology and Science, Pilani, Rajasthan, India</p> <p style="text-align: center;">Abstract</p> <p>Carbon nanotube Field Effect Transistors (CNTFET) offer various benefits as compared to other FETs. Many circuits can be constructed using PCNTFETs (P-type CNTFET) and NCNTFETs (N-type CNTFET) similar to the PMOS and NMOS of the CMOS technology. The CNTFETs employ carbon nanotubes in the channel of the device to provide a path for the ballistic conduction of electrons. The different ratios of number of tubes in channel of the PCNTFET to the number of tubes in the channel of NCNTFET lead to different properties of the device. This paper focuses on determining the ratio of number of tubes in PCNTFET to NCNTFET which gives minimum PDP (Power Delay Product) through analyzing a circuit in which an inverter is loaded with 8 inverters. Using the results a 4x4 Baugh-Wooley multiplier is constructed and its performance is compared with a multiplier constructed in a different way.</p> <p>Keywords – CNTFET, Inverter, 4x4 Baugh-Wooley Multiplier, Power Delay Product</p>
<p style="text-align: center;">Devashish Khulbe GICICRST1801087</p>	<p style="text-align: center;">A Novel Approach For Closed-Loop Smart Air Purifiers Using Real-Time Monitored Weather Data</p> <p style="text-align: center;">Ashwani Shukla Delhi Technological University New Delhi, India</p> <p style="text-align: center;">Devashish Khulbe</p>

	<p style="text-align: center;">Delhi Technological University New Delhi, India</p> <p style="text-align: center;">Ankit Chaurasia Delhi Technological University New Delhi, India</p> <p style="text-align: center;">Abhishek Kumar Delhi Technological University New Delhi, India</p> <p style="text-align: center;">Abstract</p> <p>All major air purifiers available in the market work on the principle of open loop system with heavily depending on manual control. Moreover, they do not consider the changes in ambient air quality which they are purifying. This paper presents a new approach to monitor and collect the data via various sensors which contribute in determining the quality of air and simultaneously incorporating that data to be fed into the control process of air purifier mechanism. In this way, manual control of purifiers can be obviated and they can be made “smart” by automatically determining the operating intensity by sensing the surrounding air quality.</p> <p>Keywords: Air quality, pollution sensors, air purifiers, closed-loop technique, on-line device operation.</p>
 <p style="text-align: center;">Won-Hee Park GICICRST1801088</p>	<p style="text-align: center;">Optimization of Characteristics on Specimen Surface during Fire</p> <p style="text-align: center;">Won-Hee Park Railroad Safety Research Division, Korea Railroad Research Institute, 176, Cheoldobangmulgwan-ro, Uiwang-si, Gyeonggi-do 16105</p> <p style="text-align: center;">Duck Hee Lee Railroad Safety Research Division, Korea Railroad Research Institute, 176, Cheoldobangmulgwan-ro, Uiwang-si, Gyeonggi-do 16105</p> <p style="text-align: center;">Abstract</p> <p>We predicted the fire related characteristics on the solid material surface against the heat flux from the cone heater. The surface temperature was calculated using the ignition time and mass loss rate obtained from the experiment. The emissivity, convective heat transfer coefficient, conductivity and flame heat flux of the surface, which are surface characteristics, were obtained by repulsive particle optimization. The fitness was calculated by comparing the surface temperature measured by the experiment with the surface temperature obtained by using the optimization parameters. The fire related characteristics on the solid material surface were obtained for various woods</p> <p>Keywords: Pyrolysis; optimization; swarm particle; heat transfer.</p>
<p style="text-align: center;">Bouraiou Assia GICICRST1801089</p>	<p style="text-align: center;">Deposition time effect on ZnO thin films prepared by electrodeposition technique</p> <p style="text-align: center;">O. Meglali, A. Bencherif Materials Science and Informatics Laboratory, Ziane Achour University, Djelfa, Algeria.</p> <p style="text-align: center;">A. Bouraiou Materials Science and Informatics Laboratory, Ziane Achour University, Djelfa, Algeria.</p> <p style="text-align: center;">Abstract</p> <p>In this work, we investigated the structural, optical and electrical properties of zinc oxide (ZnO) thin layers prepared with Electrodeposition technique. The ZnO films were deposited during 15, 25, 35 and 45 minutes on an ITO substrate heated at 65°C. The obtained layers were analyzed by different</p>

techniques: X-ray diffraction (XRD), UV-visible spectrophotometry and the Hall Effect.

The study shows that all the zinc oxide films have a hexagonal Würtzite-type and a preferred orientation along [002] direction. The grains size derived from XRD measurements varies between 44.64 and 153.17 Å. The measurement of UV-Vis spectroscopy showed that the ZnO layer prepared during 45 min has an optical transmittance at a maximum value of approximately 80% in the visible. The gap energy values and Urbach energy are 3.29 eV and 0.1 eV respectively. The study of electrical transport properties for the ZnO layer deposited during 45 minutes found that the resistivity of the film is $5.038 \times 10^{-2} \Omega \cdot \text{cm}$. This measure indicates n type conduction.

All measurements confirm the good quality of structural, optical and electrical elaborated layers. An optimal condition for the deposition time is obtained.

Keywords: Thin film, ZnO, Electrodeposition, Deposition time.



Tsegaye Gashaw Getnet
GICICRST1801091

Effect Of The Plasma Excitation Power On The SiO₂/TiO₂ Composite Films Deposited By Co-Sputtering TiO₂ During Hmdso And Argon Pecvd

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Abstract

Titanium Dioxide has attracted great attention in the fields of environmental purification since it is photocatalytic under ultraviolet light. The photocatalytic efficiency and energy required for inducing the process still represent drawbacks inhibiting the diffusion of the process. It is proposed here a one-step low-pressure plasma methodology for immobilization of TiO₂ particles on silicon-based thin films. This new hybrid methodology is based on the simultaneous deposition of a film by Plasma Enhanced Chemical Vapor Deposition from hexamethyldisiloxane and argon mixtures together with the sputtering of TiO₂ powder. It was evaluated the effect of plasma excitation power on the incorporation of TiO₂ particles on the silicon-based structure. Substrates were attached at the upper electrode of a capacitively coupled reactor while 0.8 g of TiO₂ power was spread in the lowermost one. The plasma atmosphere was composed of 20% HMDSO and 80% Argon at a total working pressure of 4.0 Pa. Plasma was ignited and maintained for 3600 s by application of a radiofrequency signal to the lowermost electrode where the TiO₂ precursor was placed. The effect of plasma excitation power on the molecular

	<p>structure and its chemical composition were determined using infrared spectroscopy. The wettability and surface energy were examined by a sessile drop using deionized water and diiodomethane. The morphology and elemental composition of the thin films were determined by using Scanning Electron Microscopy and Energy Dispersive Spectroscopy, respectively. Profilometry was used to measure the thicknesses and the roughness of the resulting thin films. Organosilicon to silica films was deposited from varying deposition power in both deposition processes: PECVD and PECVD associated with sputtering. However, titanium was detected in the structures prepared by the hybrid methodology. The proportion of titanium and of particles incorporated in the silicon-based matrix was observed to be dependent on the plasma excitation power. An overall decrease in film thickness was observed with increasing deposition power for PECVD and PECVD associated with sputtering deposition. The presence of Ti in the plasma atmospheres changes the plasma deposition mechanisms affecting the deposition rate, thus affecting roughness and wettability of the samples. Interpretation is proposed in terms of the plasma activation degree and sputtering yield dependencies on the excitation power.</p> <p>Key words: PECVD, HDMSO, Plasma and TiO₂ nanoparticle</p>
<p style="text-align: center;">Hyein Yoo GICICRST1801092</p>	<p style="text-align: center;">A Study on the Analysis of Consumer's Willingness to Pay of Smart Meter Service in Electric Power Industry</p> <p style="text-align: center;">Hyein Yoo Yonsei University 262 Seongsanno, Seodaemun-gu, Seoul, Korea</p> <p style="text-align: center;">Nayeon Kwak Yonsei University 262 Seongsanno, Seodaemun-gu, Seoul, Korea</p> <p style="text-align: center;">Choong C. Lee Yonsei University 262 Seongsanno, Seodaemun-gu, Seoul, Korea</p> <p style="text-align: center;">Abstract</p> <p>In the traditional electric power industry, consumers have been a role of using electricity, and they have not been recognized as stakeholders holding influences over the electric power industry. When it comes to researches also, particularly regarding Smart Grid, most researches have more focus on policies from power supplier's view. However, consumers have become one of active participants who have been not only using electricity but also producing power in electricity industry since electricity distribution system have been transformed to smart grid, which the power transmission system was changed to bidirection from one-way mode by power plant. Smart grid generally refers to digital technology that allows for two-way communication between the utility and its customers, and the sensing along the transmission lines is what makes the grid smart. A smart grid includes a variety of operational and energy measures by smart meters, smart appliances, renewable energy resources, and energy efficient resources. It offers many benefits to utilities and consumers, mostly seen in big improvement in distribution of electricity aspects. This research is to identify key factors affecting perceived values by consumers through analyzing the smart grid from consumer perspectives. To achieve the purpose of the research, 'Smart Meter Service (Power Planner)' have been analyzed because it provides consumers with understandable and measurable information about electricity in shape of mobile app and web service in the portal. In particular, CVM(Contingent Valuation Method) was adopted as research methodology, and we implemented a survey of electricity consumers.</p> <p>Key Words: Smart Grid, Contingent Valuation Method, Smart Meter Service, Willingness to Pay(WTP), Electric Power Industry</p>

<p>Manpreet Singh GICICRST1801093</p>	<p style="text-align: center;">Design And Development Of Drain Cleaner Machine</p> <p style="text-align: center;">Manpreet Singh Department of Civil Engineering, Swami Vivekanand Institute of Engineering & Technology Banur, India</p> <p style="text-align: center;">Satgur Singh Department of Civil Engineering, Swami Vivekanand Institute of Engineering & Technology Banur, India</p> <p style="text-align: center;">Navdeep Singh Randhawa Department of Electronics & Communication Engineering Swami Vivekanand Institute of Engineering & Technology Banur, India</p> <p style="text-align: center;">Abstract</p> <p>Presently a-days despite the fact that mechanical seepage assumes a fundamental part in every modern application in the best possible transfer of sewages from enterprises and plugs are still a testing assignment. Waste funnels are utilizing for the transfer and lamentably once in a while there might be loss of human life while cleaning the blockages in the waste Drain cleaner machine is the system installed in an open canal, river or drainage passage so that manual extraction of waste to be replaced through it. This helps us to stop the spreading of diseases in between humans by manual working in garbage waste. The main motive of this project is to design a drain cleaner machine to removing plastic & other waste dump from sewage water by using grids, pulleys, belt drives and motor arrangement.</p> <p>Keywords—Water waste; Drain Cleaner Machine; components of machine</p>
<p>Ahlam Eshruq Labin GICICRST1801056</p>	<p style="text-align: center;">A Study Of Jordanian Local Architecture In The Villages And Cities</p> <p style="text-align: center;">Ahlam “Mohammad Jamal” Eshruq Labin Department of Architecture Engineering, Yarouk University, Irbid, Jordan.</p> <p style="text-align: center;">Abstract</p> <p>This paper sheds light on vernacular and traditional architectural in Jordan, especially the residential traditional building. They are characterized by simplicity in the construction techniques and their relevance to the location and climate. Jordan has witnessed several civilizations during the time; as a result, there are various archaeological sites that proof the human settlement on its land. Each period of time left its impact on the building style; as a result, the vernacular and traditional architecture were found. So, the key role of the paper is to study the typical design elements, which were used in the vernacular architecture to satisfy the occupant’s needs. The other objective of the paper is to study the material and traditional building techniques that were used in the traditional buildings. Also, it classifies the traditional residential building into rural and urban building based on the time of emerging. The research methodology will base on the descriptive methods and on the secondary data of the traditional architecture. The result shows that the traditional residential building in Jordan can be classified into two main types are; fallhi house and urban house. Fallahi house contains the houses that constructed in the villages, where the urban houses contain the houses that constructed in the cities. Fallahi house contains several types are; Al-Qanater Houses and Al-Mastabeh houses. The urban houses contain the courtyard houses, three-bay houses and the gallery houses.</p> <p>Key words: contemporary architecture, elements of popular design, traditional architecture, vernacular architecture.</p>



Israel Dunmade
GICICRST1801066

Public-private partnership in recycling: An evaluation of its climate change impact reduction benefits

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Abstract

One of the global environmental concern today is the potential climate change of our economic activities. Appropriately addressing the concern require the collective effort of all the stakeholders. This study analyzed a case of public-private collaboration in the paint recycling in Alberta and the attendant climate change impact reduction benefits. The study approach involved literature search, conversation with partners, and lifecycle analysis of data collected from a corporate organization involved in the partnership. The results of the study showed that the paint recycling partnership provides a net monthly environmental benefit of reducing the potential climate change impact by 8,841.11 kg CO₂-eq. It also resulted in the diversion of about 25% of paint containers and plastics from the landfills. The public private partnership in recycling provided synergetic economic and environmental benefits for the participating municipalities and the corporate organization involved in the project.

Keywords :Alberta, Climate change, Paint, Public-private partnership, Recycling



Jaiprakash S Dargad
GICICRST1801074

Synthesis, Structural, And Transport Properties Of Chemically Deposited Cdms Thin Films

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Abstract

Cd_{1-x}Mn_xS thin films with x value ranging between 0 to 0.5 were deposited onto the glass substrates using a chemical deposition process. The composition of the as-grown samples was determined by an EDS technique. The polycrystalline growth resulted over the whole range studied and both CdS and Cd_{1-x}Mn_xS films exhibited hexagonal wurtzite structure with growth orientation along (101) direction. Typically, the lattice parameter 'a' decreased from 4.131Å to 4.110Å for the change of x from 0 to 0.1 and thereafter it returned to its original value. Similar changes in c with x were also observed (6.710 Å to 6.688 Å). Average crystallite size increased with increase in x from 0 to 0.1 and then decreased for further increase in x. The electrical conductivity is found to be enhanced with x upto 0.01 and then decreased with further increase in x. The activation energies were calculated in both the conduction regions. The transport characteristics such as thermoelectric power, carrier concentration (n), mobility (μ), and barrier height (φ_b) were studied as a function of the working temperature and materials composition and attempted to correlate with the observed changes in structural characteristics.

Keywords: DMS, Chemical growth process, Mn²⁺ magnetic ions, spin-spin exchange, lattice parameters.

Sriram Varadhan
GICICRST1801084

Letzwapp Is The Next Generation App Developed To Update Contacts Every Time You Change Your Provider.

Sriram Varadhan
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Abstract

With the rapidly advancing technology we are in the need of some unique

	<p>applications that will help us to make our lives easier. The number of mobile Apps available has grown-up massively over the past few years. With the smartphones and Internet have taken up most of our daily lives, very few Apps among millions are really serving our purposes(Robert, 2017). One of the major pain point in Telecommunication sector is, when we change our phone number, the process of updating the new number to all contacts is still outdated and needed automation. By carefully examining the pain point, we have innovated LetzwApp design. LetzwApp is a unique, innovative product for the Telecommunication IT markets because it transcends the connectivity problems that other providers have. Now, as a mobile customer, you can enjoy the full efficiency of your mobile, without the worry of losing important prospects when you change your number (Vishaka, 2017).</p>
<p>Fawzyah M. Almalki GICICRST1801094</p>	<p style="text-align: center;">Effects of Thicknesses and Annealing on Structural Properties of ZnS Thin Films</p> <p style="text-align: center;">Fawzyah M. Almalki Department of Physics, Faculty of Science, King Abdul Aziz University, Jeddah 21589, Saudi Arabia</p> <p style="text-align: center;">Fatmah S. Bahabri Department of Physics, Faculty of Science, King Abdul Aziz University, Jeddah 21589, Saudi Arabia</p> <p style="text-align: center;">Abstract</p> <p>ZnS thin films have been deposited on a glass substrates at room temperature by thermal evaporation technique with different thicknesses (58.5 nm, 75.5 nm, 100 nm and 128 nm). The films were then annealed in air at 200°C and 400°C for one hour. The effects of thicknesses and annealing on structural properties of ZnS thin films were studied. The crystallinity structural of the films investigated by XRD. It has been found that the natures of as-deposited and annealed films were polycrystalline with hexagonal phase. The lattice constants are almost close from the standard values for bulk ZnS. The XRD measurement revealed that the increased in film thickness leads to increased crystallization of the samples. Moreover, increasing the annealing temperature up to 400°C, the films exhibits a single phase for all the peaks with preferred orientation along the (002)_H direction. Thus the increased of temperature treatment leads to increasing of crystalline size of ZnS thin films. Also the surface morphology of thin films samples were investigated by scanning electron microscopy (SEM).</p>
<p>Mohamed Boubekri GICICRST1801095</p>	<p style="text-align: center;">The Impact of Daylighting on office Workers' Health</p> <p style="text-align: center;">Mohamed Boubekri, Ph.D., Professor Illinois School of Architecture University of Illinois at Urbana-Champaign</p> <p style="text-align: center;">Abstract</p> <p>Historically, the use of daylighting has been justified primarily on the basis of the energy-saving proposition. However, in practice, this argument has not had the anticipated impact. The majority of today's buildings continue not to use active daylighting solutions. Designers and building developers have the tendency to favor technological advances in lighting fixture efficiency rather than adopting real daylighting solutions. This describes the results of a pilot study in which daylight, or lack thereof, has been found been found to inform some aspects of health and wellbeing of office workers. Amon thee aspects of health and wellbeing explored are sleep quality and general health. The outcomes of this study points to the importance of daylighting, not only as a potential energy conservation</p>

	<p>measure but also as a factor that could impact the long term health outcome of office workers. Keywords: Daylighting, health, sleep quality</p>
<p>Keerthana Balaji GICICRST1801096</p>	<p style="text-align: center;">A Survey On Ddos Attacks In Cloud Based Applications: Incidences, Taxonomies And Mitigation Techniques</p> <p style="text-align: center;">Keerthana Balaji School of Information Sciences, Manipal Academy of Higher Education, Manipal. Karnataka, India.</p> <p style="text-align: center;">Mamatha Balachandra Department of Computer Science and Engineering, Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal. Karnataka. India.</p> <p style="text-align: center;">Abstract</p> <p>The recent advancements in the connectivity through the internet has contributed to the development of multiple modes of communication and storage. Among them cloud computing and cloud storage have made computing and storage of data very much accessible from anywhere in the world, leading to increased productivity in many aspects. With increased accessibility, comes increased risk of an attack. In a report by HP and Garner, it is predicted that by the year 2020 the number of IoT devices would be around 26 billion, at almost 60% of these IoT devices will be insecure and easy to exploit. DDoS (Distributed Denial of Service) attack can target Routers, Link, Firewalls and Defense system, Victim's infrastructure, Victims' OS, Victim's Application and such seriousness leads to the requirement of more investigations and research on creating protective mechanisms against such attacks. In this paper, we present a pilot work study done on the related literature available and compile the incident, architecture, classification of DDoS attacks, defense techniques and challenges have been classified in the paper. We examined the major incidences that occurred from 1999 to 2017 and their impact. There are two types of DDoS attack model Agent-Handler model and the Internet Relay Chat model. The taxonomies help us to understand the similarities and differences in DDoS attacks and tools, and the scope of the DDoS problem. The defense mechanisms are categorized in to Prevention, Detection, Intrusion Tolerance, Mitigation and response. We discuss about different types of Mitigation techniques that target the DDoS problem before, during and after an actual DDoS attack. We also discuss issues and challenges to mitigate DDoS attacks in private clouds. This work is intended to stimulate research into creative, effective and efficient defenses and detection mechanisms for DDoS attacks.</p> <p>Keywords: DDoS, cloud, incident, Classification of DDoS Attacks, Mitigation Techniques, challenges</p>

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