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KEYNOTE SPEAKER

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Rachid Benchouieb **GICICRST1717051**	**Approximate Model For Predicting Static Recrystallization Of Ferritic Stainless Steel Type 430** **Rachid Benchouieb** **Research Center in Industrial Technologies (CRTI), P. O. Box 64 Chéraga 16014 Algiers, Algeria** **Abstract** **An approximate model for predicting static recrystallization of ferritic stainless steel type 430, in hot rolling is proposed. In this model, the effect of variables such as strain, strain rate, temperature and initial grain size were considered during hot rolling operations [1-5].** **A set of integrated mathematical models for predicting static recrystallization evolution during hot rolling has been developed through laboratory research work experiments. It consists of many sub-models such as percentage of recovery, recrystallization kinetics, time for 50 percent of recrystallization, recrystallized grain size and grain growth (Figure 1 and 2). Some of the most important theoretic basic approaches to describe the kinetics of primary recrystallization were first independently developed and comprehensive portrayed by Johnson and Mehl, Avrami as by Kolmogorov (Often named the JMAK-theory).The quantitative determination of the effects of these variables obtained, analyzed and compared in the context of the recrystallization kinetics of this material.The predicted results agreed well with measured of laboratory tests (Table 1). Constitutive models based on semi empirical equations are compared to more sophisticated models based on cellular automata, vertex and Monte-Carlo-Potts methods [6-10].** **Keywords: Ferritic stainless steel, Static recrystallization, Mathematical model, Hot rolling**
Nidhi Rai **GICICRST1717052**	**Impact of the tourism on the hydro climatic resources of Udaipur city (Rajasthan)** **Dr. Nidhi Rai** **Department of Environmental Sciences, Mohanlal Sukhadia, University, Udaipur, India** **Anil Panchal** **Department of Environmental Sciences, Mohanlal Sukhadia, University, Udaipur, India** **Pankaj Ameta** **Department of Environmental Sciences, Mohanlal Sukhadia, University, Udaipur, India** **Abstract** **Tourism has gained immense popularity has developed as an industry in the recent times. Udaipur finds its place on the world map due to its beauty of lakes which is a major tourist attraction and due to this panoramic view. Udaipur is better known as the Venice of the east. The tourist influx in the city is very intense throughout the year. The tourist load is so high in the city of lakes that it is adversely affecting the water quality of these lakes. The present study clearly depicts the effect of tourism on the physiochemical properties of the three different lakes of Udaipur which is found to be proportional to the tourist influx. The proper water resource management is required to conserve and improve the water quality of these lakes selected for the present investigation.** **Keywords- Ecotourism, water pollution, physicochemical, monitoring.**
Fang Ling Cheng	**Technological Innovation, Environmental Policy, and Energy Efficiency**

GICICRST1717055	**Fang Ling Cheng** **School of Business,Monash University Malaysia,Malaysia** **Wai Ching Poon** **School of Business,Monash University Malaysia,Malaysia** **Abstract** **Environmental protection emerges as one of the global development agendas and gaining the highest attention from the international community. Promoting energy efficiency is paramount in minimizing the threat of climate change disruptions. The study examines the effect of technological innovation and stringency of environmental policy on energy efficiency in developed and developing countries from 1999 to 2014 using fixed effects model to dismiss the possibility of other time-invariant unobserved heterogeneity. We use two measures of energy efficiency (energy intensity and CO2 intensity in robustness test). Patent ratio and environmental related tax revenues ratio are used to estimate the effect of technological innovation and the effects of stringency of environmental policy on energy efficiency, respectively. We also discuss the interaction effect between the effect of technological innovation and the stringency of environmental policy on energy efficiency. This interaction term allows us to study the extent to which stringency of policy influences the effect of technological innovation on energy efficiency, which is absent in the literature. Results reveal that the stringency of the environmental policy curbs energy inefficiency in both developing countries and developed countries. But the role of technological innovation is more relevant to developed countries in enhancing the energy efficiency. The robustness test also supports the main finding qualitatively when CO2 intensity is used a proxy of energy intensity. The policy implication is that environmental related tax revenue and patent ratio should be raised to enhance energy intensity to reduce pollution and minimize factor cost.** **Keywords: Energy efficiency, Technological innovation, Stringency of environmental policy, Sustainable development, Fixed effects model**
Bambang Suprihatin **GICICRST1717056**	**Asymptotic Distribution Of The Bootstrap Parameter Estimator For The Ar(P) Model** **Bambang Suprihatin** **Mathematics Department, Sriwijaya University, Palembang, Indonesia** **Endro Setyo Cahyono** **Mathematics Department, Sriwijaya University, Palembang, Indonesia** **Eka Susanti** **Mathematics Department, Sriwijaya University, Palembang, Indonesia** **Abstract** **This paper is the generalization of our two previous researches about asymptotic distribution of the bootstrap parameter estimator for the AR(1) and AR(2) models. We investigate the asymptotic distribution of the bootstrap parameter estimator of pth order autoregressive or AR(p) model by applying the delta method. The asymptotic distribution is the crucial property in inference of statistics. We conclude that the bootstrap parameter estimator of the AR(p) model is asymptotically converges in distribution to the p-variate normal distribution.** **Keywords: Autocovariance Function, Limiting Distribution, Measurable Function, Residuals Bootstrap.**

 **Nadila Tsurayya** **GICICRST1717059**	**Determination of Components and Compositions Blending Product Dexlite with Sulfur Content 1200 ppm** **Nadila Tsurayya** **Faculty of Industrial Technology Universitas Islam Indonesia** **Abstract** **Dexlite is the newest oil fuel from diesel-engine vehicles to Pertamina in Indonesia with a value of 1200 ppm sulphur content. Dexlite launched Tuesday, (12/4/2016) as a new variant for consumers who want fuel quality above the usual Solar (subsidized) but with a cheaper price. Solar products of PT Pertamina RU II Dumai is a product which can be said to be the product of dexlite due to the sulphur content of 3500 ppm. The process used to create the dexlite is blending process. The main raw materials in the process of refinery used to manufacture dexlite PT Pertamina RU II Dumai is Sumatra Light Crude (SLC) and mix it with Duri Crude Oil (DCO), and Banyu Urip Crude Oil (BUCO) due to limitations of the materials. The third of these materials produce kerosene, LGO, HGO, LVGO, Heavy Kero and Diesel, which later resulted in a mixed dexlite. With this blending process, Sulphur content contained on dexlite is of 658.11 ppm.** **Key Words: Solar; Dexlite; Sulfur Content; Refinery**
 **Heni Mutmainah** **GICICRST1717060**	**The Archipelago Concept of Indonesia** **Heni Mutmainah** **Faculty of Psychology and Socio - Cultural Sciences Universitas Islam Indonesia** **Abstract** **Insight into the archipelago nation of Indonesia because of geopolitics is in it is contained the teachings derived from Pancasila and the 1945 CONSTITUTION with grounded. The founders of the country Repulik Indonesia put the basics of geopolitics Indonesia vows through youth, i.e. the one homeland, one nation and one language. The nation of Indonesia was born as a result of the deal, not because on the basis of geography and religion. This deal was born through the sumpah pemuda phase and hearings BPUPKI. The Council also agreed that the establishment of BPUPKI unitary State not federal State, while being one of the binding presence of one language bahasa Indonesia. Ideally the insight of the archipelago have a function that is able to provide guidance and direction to achieve national objectives based on Pancasila. Insight into the archipelago is the highest opeasional general instructions in the conduct of the Government of the State and the life of the nation and the integration factor in implementing the political, economic, social, cultural, security and defense so that resources and funds in all four areas of functionality that can be harnessed and simultaneously spurred integrated to give maximum results.** **Key words: archipelago concept, pancasila, BPUPKI.**
Chandrakantha Mahendranathan **GICICRST1717064**	**Heavy Metal Contamination in Agricultural crops, soil and water in Sri Lanka; A Short Review** **Mahendranathan C** **Department of Botany, Eastern University of Sri Lanka** **Thayaruban T** **Department of Botany, Eastern University of Sri Lanka** **Abstract** **The health & Environmental implications associated with accumulations &**

	contamination of Heavy metals is of great concern, particularly in agricultural production systems. However, both essential and toxic elements were absorbed by vegetables & edible fishes from the soil & water. Although there are several reasons for heavy metals contamination of soil & irrigation water Intensification of agriculture is a major reason for accumulation of heavy metals due to excess use of agrochemicals and amendments in all over the Sri Lanka. Since there are only limited data for Heavy Metal accumulation &Contamination Need further studies on their consequences of health & environmental impact in Sri Lanka. Protecting the agricultural soil is a formidable challenge in Sri Lanka, which requires modernization of Technology using in Sri Lanka on agro chemical, fertilizers, irrigation systems thereby improving the recovery of soil and recycling of wastewater. The evidence of elevated heavy metal accumulation & contamination in leafy vegetables, soils & irrigation water in Sri Lanka emphasizing the importance of extensive monitoring & investigations of heavy metal accumulation in soil, water and edible food to reduce the health risk and environmental pollution. **Key words: Heavy metals accumulation, Contamination, Agriculture, Agrochemicals**
Grienggrai Rajchakit **GICICRST1717066**	**Robust Synchronization Of Lur'e Systems** **Grienggrai Rajchakit** **Department of Mathematics, Faculty of Science, Maejo University, Chiang Mai 50290, Thailand** **Abstract.** **This paper is concerned with the robust synchronization problem for a class of chaotic Lur'e systems based on delayed feedback control. The master system is assumed to be subject to an energy bounded input noise. By employing an integral inequality, a delay-dependent condition is obtained under which the chaotic master and slave systems are robustly synchronized with a guaranteed performance. The design of a desired delayed feedback controller can be achieved by solving a linear matrix inequality, and the performance index can be optimized via a convex optimization algorithm. Chua's circuit is used as an example to demonstrate the effectiveness of the developed approach and the improvement over some existing results.** **Keywords: Chaos; synchronization; time-delay feedback; Lur'e system.**
Djay Louis Obediencia **GICICRST1717068**	**Market Acceptability of an Application-Based Basic Education Tutorial Booking System in Tacloban City** **Djay Louis Obediencia** **University of the Philippines Visayas Tacloban College, Tacloban City, Philippines** **Abstract** **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. **Keywords: Mobile application, Tutorial Booking System, tutor, tutee**
Hadi Bayati **GICICRST1717069**	**Effect of Relative Density on Liquefaction and Settlement of Saturated Sand** **Hadi Bayati** **Department of Civil Engineering, University of Kerman** **Iran** **Abstract** **Liquefaction is a phenomenon that occurs due to undrained behavior in Saturated loose sands under dynamic loads.** **This phenomenon causes significant damage to existing structures and facilities during an earthquake, so it must be countered by preventive methods with this phenomenon.** **So far, many methods have been proposed to counteract, one of which is the use of dynamic compaction to increase the density of liquefiable soils. In this research, the effect of relative density on the liquefaction potential and settlement of saturated sand has been investigated, using a shaking table. The results of the tests show that by increasing the relative density of the sand, the pore water pressure ratio is significantly reduced and the possibility of occurrence of liquefaction will be completely eliminated. In addition, the amount of surface settlement will also be significantly reduced. These results confirm the positive effects of liquefiable soils compaction using methods such as dynamic compaction as an appropriate option to eliminate this phenomenon and its effects.** **Key Words: Liquefaction, Relative density, shaking table, Dynamic compaction.**
Ahmad Al-Haji **GICICRST1717072**	**A Comparison Of Variable Frequency Drives & Soft Starters** **Ahmad Al-Haji** **Snr. Engineer Elect. Maint. Operations Support Group** **Kuwait Oil Company** **Abstract** **Despite the various applications in which electrical motors are used for, the common challenge encountered in operating such equipment is overcoming the start-up period. The activity of starting up a motor involves a demand of high torque and large amounts of energy in order to accelerate the motor's rotor to full speed. The subjected energy required by standard motors is five to six times the Full Load Amps (FLA) in what's defined as "In-Rush Current" phenomena. These excessive forces imprint undesired mechanical and electrical stress on a motor's rotors, causing reduction of operational lifetime and higher maintenance expenditures. Therefore, a necessity to control/overcome such challenges was answered by two Operational/Technical methodologies, which are Soft-Starters (SS) and Variable Frequency Drives (VFD). Both technologies provide slow torque and low current starts, however, the basic foundations and theory of operations differs.**
Henjie Carmelotes **GICICRST1717054**	**Bio-Efficacy Of Kappaphycus Drippings Against Golden Apple Snail** **Henjie Carmelotes** **Department Of Education - Major In Biological Science, Southern Philippines Agri-Business And Marine And Aquatic School Of Technology ,Digos Philippines**

	Abstract **The study was conducted to determine whether Kappaphycus Drippings have its molluscicidal property, which is used to arrest the life of golden apple snail. This was conducted under the vicinity of Southern Philippines Agri-business and Marine and Aquatic School of Technology, Matti, Digos City on February 2014. The study used the Completely Randomized Design with five treatments replicated three times. Treatment 1, treatment 2, treatment 3 and treatment 4 which vary in the amount of Kappaphycus Drippings but they all have the same volume (100ml). Treatment 5 contains the commercial molluscicide that is used to kill golden apple snails. Results of the study showed that the degree of Bioefficacy in terms of treatment 1 to 5 was extremely and very effective. The degree of Bioefficacy of KD concentration implies that pure Kappaphycus Drippings (100ml) without being diluted is best in killing the snails. The data also shows that there is a significant difference between the degrees of treatments in killing snails. Furthermore result of the test implies that the second group contains the best treatment in killing the golden apple snail. Moreover, result of the study reveals that there is a significant effect on the use of KD concentration and Niclosamide Ethanolamine Salt against golden apple snail.**
Asst. Prof. Pornpun Prachapipat **GICICRST1717057**	**New Examination Timetabling Algorithm Using the Superstar Assignment Technique** **Pornpun Prachapipat** **Department of Computer Science, Faculty of Science, Ramkhamhaeng University, Bangkok, Thailand** **Arkom Leelertpanchai** **Department of Computer Science, Faculty of Science, Ramkhamhaeng University, Bangkok, Thailand** **Chouvalit Khancome** **Department of Computer Science, Faculty of Science, Ramkhamhaeng University, Bangkok, Thailand** **Abstract** **In this paper, a new examination timetabling algorithm, SAT, is introduced. This algorithm works in three steps: pre-processing, creating superstars and getting rid of superstars. SAT mechanisms sort all related parameters and factors, then determine stars and superstars of each related parameter. Each iteration of algorithm is trying to assign all superstars of all parameters as targets for processing. As well as, the process mechanism is run for putting the output into a suitable timeslot. To prove the algorithm implementation, a dataset from semester 1/2016 of Registration Centre, Ramkhamhaeng University has been selected as test subject. This dataset consists of 20/2 days/periods, 85,000 registered students, 1,325 subjects, 813,253 seats, and 11/76/22,582 buildings/rooms/seats per day.** **Keywords—Examination timetabling principle, Examination timetabling algorithm, Registration problem, superstar assignment technique.**
Ilju Ko **GICICRST1717058**	**Design of Sportainment Interface for Smart Bike** **Green Bang** **Department of Information Communication, Materials, and Chemistry Convergence Technology, Soongsil University, South Korea** **Ilju Ko** **Department of Information Communication, Materials, and Chemistry Convergence Technology, Soongsil University, South Korea**

	Abstract **In recent years, as studies on a variety of fields that combine virtual reality and daily living have been conducted, much attention has been paid to providing content that can be interactive with users directly. This paper started from the idea of how to combine and provide sport-related content with virtual reality. Thus, this study aimed to make users experience off-line sport equipment in a virtual reality space alternatively. To do this, this study developed a smart bike that enabled riding only when the balance of riders was maintained constantly, and applied this bike to game. Accordingly, this study aimed to provide an environment where users can acquire realistic experiences interactively. The smart bike changes its riding difficulties of balancing dynamically according to the user's weight. Through the constant maintaining exercise of physical balance, users can expect exercise effects. This study provides an interface for interactive experiences through racing with others via the game or viewing the scenery through single riding. This study verified that interactive games can be achieved by adding fun to training using sport bikes via virtual reality sports. This study also expects that an interactive studio where various life and recreational sports can be accommodated can be constructed in the future.** **Keyword : Smart Bike, Sportainment, Virtual Reality Sports, Game Interface Design**
Heruna Tanty **GICICRST1717065**	**In Vitro Antidiabetic Activity of Casia siamea.Lamk Leaves Extract .** **Heruna Tanty** **School of Computer Science, Bina Nusantara University, Jakarta, Indonesia** **Nesti F Sianipar** **School of Computer Science, Bina Nusantara University, Jakarta, Indonesia** **Tati Herlina** **School of Computer Science, Bina Nusantara University, Jakarta, Indonesia** **Absract** **Juar (Cassia siamea.Lamk) has been studied have bioactivity as antimicrobial, antimalaria, antidiabetic, anticancer, hypotensive, diuretic, antioxidant, laxative, anti-inflammatory, analgesic, antipyretic, antidepressant, and sedative activities(1).** **The present study was investigated antidiabetic activity of ethanol extract fractinated n-hexane and ethylacetate of Cassia siamea.Lamk using an in vitro methods.The α-glucosidase inhibition test was done by using α – glucosidase enzyme and p-nitrophenyl α—D-glycopyranosideas (pNPG) as a substrate. The result of alpha-glucosidase inhibition test showed that n-hexane fraction extract, ethylacetate fraction extract and ethanol extract were inhibited the alpha glucosidase enzyme at 1000 ppm were 52.319%, 42.85% and 19.100% respectively.** **Key Word : Cassia siamea.Lam, Antidiabetic activity, alpha-glucosidase inhibitor**
Grienggrai Rajchakit **GICICRST1717066**	**Robust synchronization of lure systems** **Grienggrai Rajchakit** **Department of Mathematics, Faculty of Science, Maejo University,** **Chiang Mai 50290, Thailand** **Abstract.** **This paper is concerned with the robust synchronization problem for a class of chaotic Lur'e systems based on delayed feedback control. The master**

	system is assumed to be subject to an energy bounded input noise. By employing an integral inequality, a delay-dependent condition is obtained under which the chaotic master and slave systems are robustly synchronized with a guaranteed performance. The design of a desired delayed feedback controller can be achieved by solving a linear matrix inequality, and the performance index can be optimized via a convex optimization algorithm. Chua's circuit is used as an example to demonstrate the effectiveness of the developed approach and the improvement over some existing results.
Youn-Joo An **GICICRST1717067**	**Nanoplastics inhibit the reproduction of freshwater crustacean Daphnia galeata** **Youn-Joo An** **Department of Environmental Health Science, Konkuk University, Seoul, Korea.** **Rongxue Cui** **Department of Environmental Health Science, Konkuk University, Seoul, Korea.** **Shin Woong Kim** **Department of Environmental Health Science, Konkuk University, Seoul, Korea.** **Abstract** **Plastic debris are widely distributed in water ecosystems around the world. This study investigates the adverse effect of nanoplastics on the reproduction of freshwater crustacean Daphnia galeata. The polystyrene was used as model nanoplastics. Daphnia galeata exposed to 5 mg/L of polystyrene nanoparticles for 5 days, and we found that their survival and reproduction were significantly inhibited in exposed groups. We also observed lower hatching rate in Daphnia galeata exposed to nanoplastics compared to control groups. The result indicates that nanoplastics can threaten some biota in aquatic ecosystems, and further researches will be needed to elucidate the effect of nanoplastics to a range of aquatic organisms. This research was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Science, ICT and future planning (2016R1A2B3010445).** **Keywords: nanoplastics, Daphnia galeata, reproduction**
 **Mohammad Ali Honardar** **GICICRST1717070**	**Numerical Analysis of Strip Footings Under Eccentrical Loading on Geogrid-Reinforced Sandy Slope** **Mohammad Ali Honardar** **Engineering Company, University of Estahban, Shiraz, Iran** **Abstract** **A study was Undertaken to investigate the bearing capacity of strip footing under eccentrical loading on geogrid-reinforced and unreinforced sandy slope by performing Plaxis analysis. As the bearing capacity of footing decrease because of slope and eccentrical loading, it seems essential to study about the relevant parameters and suggesting methods to increase the bearing capacity of footing, Friction angle, Eccentical loading, Location of footing relative to the slope crest, Depth of footing, were studied. Finite element analysis were performed on prototype slope using two-dimensional plane-strain model. The soil was represented by non-linear hardening soil model which is an elasto-plastic hyperbolic stress-strain model while reinforcement was represented by elastic elements. Numerical analysis indicate the bearing capacity increase by using reinforcement and in loose sand Bearing Capacity Ratio (BCR) will be**

	more in compare with dense sand. Also effective distance is defined that for footing that is located far from slope crest (about 2 or 2.5 of footing width), the slope has insignificant effect on bearing capacity for footing that is close to slope crest. Eccentrical loading toward slope crest and against slope crest with same quantity will cause different bearing capacity. Eccentrical loading against slope crest to a limited quantit Will increase the bearing capacity of footing close to slope crest; so it can be used to increase the bearing capacity for footing near slope crest. Also the bearing capacity increases by inclination of geogrid layers and there is value or values for the angle of inclination that cause the maximum bearing capacity. Key Words: geogrid, bearing capacity, Footings, Slop.
Hyo Jin Kim **GICICRST1717071**	**Application Of Ultra-Fast Raman Microscope Imaging For Thin Film Polymer** **Hyo Jin Kim** **Affiliation: Pharmacy, Dongduk Wonmen's University, Seoul, Korea** **Abstract** **As to conventional semiconductor devices, both metallic contamination and trace organic contamination adsorbed on the surface of polymer films has an increasing impact on the performance and life time of organic light emitting diode (OLED) devices. Identification of those impurities is also very important to find the source of contamination and further improve the yield of the production. Attenuated Total Reflection Fourier Transformed Infrared Spectroscopy (FT-IR-ATR) is normally capable of detecting volatile organic compounds. However, this technique gives poor identification of less than 10 □m particle size as well as impurities varied inside or between multi layers. In this study, ultra-fast Raman Imaging technique was applied to measure the impurities having sizes less than 1.0 □m of organics as well as metallic contamination. The impurities buried between the multilayers can also be measured by the confocal measurement by Raman. To find the impurities inside of the film, optical microscope was first used to identification of location, then optimum condition of Raman measurement was carefully studied by changing the laser power to avoid the buried the sample, but keeping high enough power for the sensitivity. After obtaining spectrum of the impurities, the spectrum was compared with commercial data base for identification. Raman Imaging technology was found very powerful as a nondestructive analysis of impurities in OLED film, especially small and buried inside the films for both organic and some metallic compounds.** **Keywords: Raman Imaging; identification; impurities; thin film; OLED**

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