2014 5th International Conference on Material and Manufacturing Technology (ICMMT 2014)

2014 International Conference on Mechanics and Mechatronics Research (ICMMR 2014)

2014 1st Journal Conference on Applied Physics and Mathematics (JCAPM 2014 1st)

CONFERENCE SCHEDULE

May 8-9, 2014

Kuala Lumpur, Malaysia

Flamingo hotel (By the lake, kuala lumpur)
http://www.flamingo.com.my/indexkl.html
Address: 5, Tasik Ampang, Jalan Hulu Kelang,68000 Ampang, Selangor Darul Ehsan,Malaysia.
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Welcome to 2014 IACSIT Kuala Lumpur Conferences

May 8-9, 2014

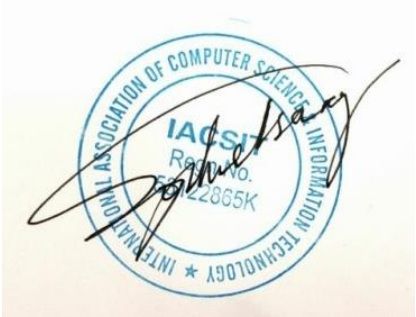
Dear Distinguished Delegates,

Welcome to the 2014 IACSIT Conferences in Kuala Lumpur, Malaysia. We're confident that over the two days you'll get the theoretical grounding, practical knowledge, and personal contacts that will help you build long-term, profitable and sustainable communication among researchers and practitioners working in a wide variety of scientific areas with a common interest in Material and Manufacturing Technology; Mechanics and Mechatronics Research, and Applied Physics and Mathematics.

For all the 3 Conferences, we had received over 150 submissions, 50 excellent papers were accepted and published finally. Congratulations for those papers.

On behalf of IACSIT and all the conference committee, I would like to thank all the authors as well as the Program Committee members and reviewers. Their high competence, their enthusiasm, their time and expertise knowledge, enabled us to prepare the high-quality final program and helped to make the conference became a successful event.

Once again, thanks for coming to IACSIT Kuala Lumpur conferences, we are delegate to higher and better international conference experiences. We will sincerely listen to any suggestion and comment; we are looking forward to meeting you next time.



Yours Sincerely
Ms. Sophie Tsang
Director of Conference Department II, IACSIT

ANNOUNCEMENT

*ICMMT 2014

***ICMMT 2014 conference papers were selected and published by Advanced Materials Research Journal, which will be indexed by EI Compendex and Thomson ISI. The paper will be online firstly; journal will be posted after the conference.**

*ICMMR 2014

All papers of ICMMR 2014 will be published in the Volume of International Journal of Materials, Mechanics and Manufacturing (IJMMM) (ISSN: 1793-8198), and will be indexed by Engineering & Technology Digital Library, EBSCO, ProQuest, Crossref, Ulrich's Periodicals Directory and DOAJ. The paper will be online firstly; journal will be posted after the conference.

* JCAPM 2014 1st

All the registered papers will be published into International Journal of Applied Physics and Mathematics (IJAPM ISSN: 2010-362X available at: http://www.ijapm.org/list-6-1.html) by IACSIT Press, and distributed at the conference. The journal will be included in Index Copernicus, EI (INSPEC, IET), Chemical Abstracts Services (CAS), DOAJ, Electronic Journals Library, Engineering & Technology Digital Library, Nanowerk Database, Crossref, Google Scholar and ProQuest. The paper will be online firstly; journal will be posted after the conference.

IACSIT Publication committee

<Instructions for Oral Workshop>

***One best presentation will be selected from each session, the best one will be announced and award the certificate at the end of each session.**
***The Session Chair will have a signature on the certificate**

Devices Provided by the Conference Organizer:

- ✧ **Laptops (with MS-Office & Adobe Reader)**
- ✧ **Projectors & Screen**
- ✧ **Laser Sticks**

Materials Provided by the Presenters:

- ✧ **PowerPoint or PDF files**

Duration of Each Presentation:

- ✧ **Regular Oral Session: about 15 Minutes of Presentation including Q&A.**
- ✧ **Keynote Speech: 40 Minutes of Presentation including Q&A.**

About Dress Code

- ✧ **All participants are required to dress formally, casual wear is unacceptable.**
- ✧ **National formal dress is acceptable.**

Simple Timing Map	
Day 1, Thursday, May 8, 2014 (Venue: Indah Ballroom Foyer)	
10:00am-12:00am 13:00pm-17:00pm	Onsite Registration
Day 2, Friday, May 9, 2014 (Venue: Indah Ballroom)	
08:30 am-08:40 am	Opening Remark
08:40 am-09:20 am	Keynote Speech- Prof. Syed Masood
09:20 am-10:00 am	Keynote Speech- Prof. Ghenadii Korotcenkov
10:00 am -10:15 am	Coffer Break & Taking Group Photo
10:15 am-12:10 pm	ICMMR 2014-& JCAPM Session (Venue: Indah Ballroom)
12:10 pm-13:30 pm Buffet Lunch (Venue: Oasis)	
13:30 pm-16:00 pm	ICMMT Session 1 (Venue: Indah Ballroom)

13:30 pm-16:00 pm	ICMMT Session 2	(Venue: Permata Room)
16:00 pm-18:30 pm	ICMMT Session 3	(Venue: Indah Ballroom)
16:00 pm-18:30 pm	ICMMT Session 4	(Venue: Permata Room)
Start from 18:30 pm	Dinner (Venue: Oasis)	

Day 1, Thursday, May 8, 2014

<Whole-day Registration>

Time:	Onsite Registration (Venue: Indah Ballroom Foyer)
10:00am-12:00am 13:00pm-17:00pm	

Arrival, Registration and Conference materials collection

Note:

(1) If you miss the morning registration, you can also collect the conference material at the counter any time during May 8-9, 2014

(2) The organizer won't provide accommodation, and we suggest you make an early reservation.

(3) Please bring the printed registration form or notification letter of your paper to register.

Day 2, Friday, May 9, 2014

<Morning Keynote Speech Schedule>

08:30 am-08:40 am	Opening Remarks
08:40am-09:20am	Keynote Speech 1 *Prof. Syed Masood* *Swinburne University of Technology, Australia* 
09:20 am-10:00 am	Keynote Speech 2 *Prof. Ghenadii Korotcenkov, Gwangju Institute of Science and Technology, Korea* 

Speech Title: Material and Structural Engineering of Metal Oxides Aimed for Gas Sensor Applications

Prof. Syed Masood

Prof Masood is a Professor of Mechanical and Manufacturing Engineering at Swinburne University of Technology in Melbourne, Australia. He obtained his Bachelor of Engineering Honours degree from India, Master of Engineering degree from Canada, and PhD from University of Queensland, Australia. He has over 24 years of experience in teaching and research in Advanced Manufacturing areas at Swinburne. He is also the Program Coordinator of Masters program in Advanced Manufacturing Technology at Swinburne. His current research interests are in polymer and metal based additive manufacturing including Direct Metal Deposition and Fused Deposition Modelling additive technologies. He has published over 275 research articles in international journals and conferences in various areas of additive manufacturing and advanced manufacturing.

Prof. Ghenadii Korotcenkov

Ghenadii Korotcenkov received his PhD in Physics and Technology of Semiconductor Materials and Devices from Technical University of Moldova in 1976 and his Dr. Sci. degree in Physics of Semiconductors and Dielectrics from Academy of Science of Moldova in 1990 (Highest Qualification Committee of the USSR, Moscow). He has more than 40-year experience as a teacher and scientific researcher. Long time he was a leader of gas sensor group and manager of various national and international scientific and engineering projects carried out in the Laboratory of Micro- and Optoelectronics, Technical University of Moldova. In particular, his scientific team was involved in eight international projects financed by EC (INCO-Copernicus and INTAS Programs), USA (CRDF, CRDF-MRDA Programs) and NATO (LG Program). 2007-2008 years he was an invited scientist in Korea Institute of Energy Research (Daejeon) in the frame of Brain Pool Program. Currently starting from 2008 year Dr. G. Korotcenkov is a research professor of Department of Materials Science and Engineering at Gwangju Institute of Science and Technology (GIST) in Korea.
Specialists from Former Soviet Union know G. Korotcenkov's research results in the field of study of Schottky barriers, MOS structures, native oxides, and photoreceivers on the base of III-Vs compounds very well. His present scientific interests starting from 1995 year include material sciences, focusing on metal oxide film deposition and characterization, surface science, and thin film gas sensor design. G. Korotcenkov is the author or editor of nineteen books and special issues, including 11 volume "Chemical Sensors" series published by Momentum Press (USA) and "Handbook of Gas Sensor Materials" published by Springer (USA), fifteen review papers, nineteen book chapters, and more than 200 peer-reviewed articles (h-factor=30 (Scopus) and h=36 (Google scholar citation)). He is a holder of 18 patents. He presented more than 200 reports on the National and International conferences. His research activities are honored by Award of the Supreme Council of Science and Advanced Technology of the Republic of Moldova (2004), The Prize of the Presidents of Ukrainian, Belarus and Moldovan Academies of Sciences (2003), Senior Research Excellence Award of Technical University of Moldova (2001; 2003; 2005), Fellowship from International Research Exchange Board (1998), National Youth Prize of the Republic of Moldova (1980), among others.

10:00 am -10:15 am	**Coffer Break & Taking Group Photo**
10:15 am-12:10pm	**ICMMR 2014-& JCAPM Session**

Below Sessions will start after lunch:

Indah Ballroom
13:30 pm-16:00 pm **ICMMT Session 1**
16:00 pm-18:30 pm **ICMMT Session 3**

Permata Room
13:30 pm-16:00 pm **ICMMT Session 2**
16:00 pm-18:30 pm **ICMMT Session 4**

May 9, 2014 Morning – ICMMR 2014-& JCAPM Session

Venue: Indah Ballroom

10:15 am-12:10 pm

Session Chair: ***TBA***

CR2007	Assistive Pen to Improve Quality Writing of Hand Tremor with Proportional-Control **Z. M. Yusop,** M. Z. Md. Zain, M. Hussein, A. R. Musa, I. Ishak *Universiti Teknologi Malaysia, Skudai，Malaysia*

	Abstract*—**Patient who is suffering hand tremor may find difficulty in performing handwriting task. Responding to this problem, the assistive pen is developed by examining the effect of proposing the Proportional-control in counter the hand tremor affect to the quality of handwriting. Experiments were conducted on an assistive pen placed on the experimental rig that will resemble actual hand tremor writing. The Linear Voice Actuator (LVCA) is used as an anti-tremor device. Based on real-time experiments result, proposed proportional controller shows an enormous potential on an assistive pen in counter tremor movement. ***Index Terms—Assistive Pen, Proportional controller, Linear voice coil actuator
CR2002	An auto-tuning method for the scaling factors of fuzzy logic controllers with application to SISO mechanical system **Gamal Abdel Nasser,** Abdel Badie Sharkawy, M-Emad S. Soliman *Assiut University , Egypt*
	***Abstract*—**in this paper, a PD-like self-tuning fuzzy controller based on tuning of scaling factors (STFC) by gradient descent method is presented. The tuning scheme allows the tuning of the scaling factors to be on-line. Tuning scaling factors is more effective and simpler than tuning all the parameters of standard fuzzy logic controller (FLC). The aim is to obtain good performance parameters, such as the rise time, the overshoot, the steady-state error. Experimental results of an inverted pendulum system with STFC controller show a better performance in the transient and steady state phases than other classical controllers like PD, PID, auto-tuned PID controller (PID-AT), and linear quadratic regulator (LQR). ***Index Terms*—**Fuzzy logic controller (FLC), Scaling factors, Gradient decent method, Performance indices.
CR004	The Effect of Cyclo- Alkane Additives in Waste Cooking Oil B20 fuel on a Single Cylinder DI Diesel Engine **George Varghese,** P. Mohanan, Nithesh Naik *Manipal Institute of Technology, India*
	***Abstract*—**Diesel engine combustion generates large amounts of oxides of nitrogen due to the presence of oxygen and nitrogen in the combustion chambers at high flame-temperatures. The main component of total cost of producing bio-diesel comprises the cost of raw materials. The use of a low cost feedstock such as Waste Cooking Oil (WCO) will help make biodiesel much cheaper than diesel derived from petroleum sources. Waste cooking oil, which is otherwise wasted, is one of the most economical choices to extract biodiesel. In this investigation, Cyclo- Pentane and Cyclo- Hexane were used as additives. The scope of this work also includes studies on various fuel-blends of B20 with varying percentages of additives and comparisons to fossil-based diesel. The studies performed also include investigations on the emission characteristics of B20 with additives at different loading conditions. The tests performed indicate that the use of B20 with 1.5% cyclo-hexane as an additive, resulted in a significant reduction in NOx emissions by 4% when compared to fossil diesel, at a normal injection timing of 27.5 ºbefore-top dead-center (BTDC), at full-load conditions. It was also observed that the B20 blend with 1% cyclo-pentane possessed the lowest smoke opacity of/by 36% at full-load conditions.

	***Index Terms*—**Biodiesel, cyclo- alkane, emission, performance, additives.
CR005	Design Of Kinematically Redundant Linkage Following A Desired Trajectory Varalakshmi Kothuru and **Srinivas Jonnalagadda** *NIT-Rourkela,india* ***Abstract*—**This paper proposes the kinematic design approach for selection of redundant joint location in minimizing the actuation toques of kinematically redundant parallel linkages. Redundant parallel mechanisms have several advantages including reduced singularity loci, higher dexterity and relatively more stiffness. During task planning stage, kinematic redundancy can be used to change the geometrical parameters of the linkage rather than its basic structure. To achieve maximum potential of kinematic redundancy, an appropriate optimization of the position of additional actuators is required. While achieving a desired task such as planar contour machining operations, the overall power consumption depends on the relative amplitudes of actuation joint torques at each location along the trajectory. The input local torques can be minimized by properly selecting the locations of redundant joints (links) in the kinematic structure. The proposed approach is illustrated by simulating with a 3-degree of freedom (DOF) planar manipulator, when the external forces are imposed on its end-effector. The results are presented using straight line trajectory. ***Index Terms*—**Joint torque minimization, planar parallel manipulator, kinematic redundancy, static force analysis.
CR013	A Control Scheme For Industrial Robots Using Artificial Neural Networks **M. Dinary** ,Abou-Hashima M. El-sayed ,Abdel Badie Sharkawy ,G. Abouelmagd. *Minia university, Egypt* ***Abstract*—**This paper develops a new model-free control scheme based on Artificial Neural Networks (ANN) for trajectory tracking applied on industrial manipulators. This scheme is developed to control arm robot manipulator without calculate the model parameters or dynamics, and use the online identification instead. The scheme consists of three parts. These parts are inverse identification part, ANN controller and linear controller. Inverse dynamics of the manipulator is identified by recurrent ANN that gives the identified torque. The ANN controller works on controlling the arm robot depends on the identifying torque. The linear controller designed for trajectory tracking error regulation. The identification and control ANN work together to improve the response of the linear controller. A simulated two-link arm robot is used to apply the control scheme on it. The scheme verified by mass variation. A comparison between the response of the manipulator with linear controller only and with the fully scheme has been carried out. The results show that adding the identification and control ANN improve the results of the linear controller. ***Index Terms*—**industrial robots, ANN, online identification, neural control, Parametric and payload uncertainty.
CR2002	An auto-tuning method for the scaling factors of fuzzy logic controllers with application to SISO mechanical system **Gamal Abdel Nasser,** Abdel Badie Sharkawy, M-Emad S. Soliman *Assiut University , Egypt*

***Abstract*—**in this paper, a PD-like self-tuning fuzzy controller based on tuning of scaling factors (STFC) by gradient descent method is presented. The tuning scheme allows the tuning of the scaling factors to be on-line. Tuning scaling factors is more effective and simpler than tuning all the parameters of standard fuzzy logic controller (FLC). The aim is to obtain good performance parameters, such as the rise time, the overshoot, the steady-state error. Experimental results of an inverted pendulum system with STFC controller show a better performance in the transient and steady state phases than other classical controllers like PD, PID, auto-tuned PID controller (PID-AT), and linear quadratic regulator (LQR).

***Index Terms*—**Fuzzy logic controller (FLC), Scaling factors, Gradient decent method, Performance indices.

CP028

Determination of the Axial-Vector Coupling Constant from the Extended Linear Sigma Model

Tarek Sayed Taha Ali

Faculty of Science, UAE University, P.O.Box.15551 AL-AIN U.A.E.

Abstract—We reexamine the work of Rashdan et al., who considered a chiral model for the nucleon based on the linear sigma model with scalar-isoscalar scalar-isovector mesons coupled to quarks. The dependence of the axial-vector coupling constant g_A and the pion nucleon coupling constant $g_{\pi NN}$ on the quark masses and sigma masses have been investigated in the frame work of the extended linear sigma model. In this work we calculate both of g_A and $g_{\pi NN}$ to investigate the effect of the quark masses on the g_A in the framework of the extended linear sigma model, which is proposed by Rashdan et al. and compare it with the free Skyrmion model, extended Skyrmion model and finally with Birse and Banerjee model. The field equations have been solved in the mean-field approximation by Goldflam and Wilets. Our study shows a better fitting to the experimental data compared with the existing models.

Index Terms—Extended linear sigma model, axial vector coupling constant, quark mass and mean field approximation.

CP029

Dilemma of Mathematics

M. Azram

Department of Science, Faculty of Engineering, IIUM, Kuala Lumpur 50728, Malaysia

Abstract—The pursuit of knowledge and the use of reason, based on sense and observation is a key ingredient for research. Mathematics is a creation of human mind concerned chiefly with ideas, processes and reasoning. In this paper, we will try to give a new comprehensive definition of mathematics to understand "what is mathematics". We will discuss the controversial nature and position of mathematics and its scientific status. We will highlight the position of mathematics in different civilizations. We will highlight the mythical issues about Mathematics. We will also discuss the current state of mathematics i.e. mathematics in crises, especially pure mathematics and will put forward the remedial suggestions. We have gathered together some of these impressions; these are all tentative, nothing final about them, but these are here nonetheless.

	Index Terms—Mathematics, mythical issues, scientific status, LOGS, crises of mathematics.
CP032	Semi-Analytic Integration Method for Direct United Boundary-domain Integro-Differential Equation Related to Dirichlet Problem **N. A. Mohamed** *Mathematical Department, Faculty of Science and Mathematics, Sultan Idris Education University (UPSI), Malaysia*
	Abstract—A semi-analytic integration method to handle the singularity of a parametrix concerning of direct united Boundary-Domain Integro-Differential Equation (BDIDE) related to the Dirichlet boundary value problem for an elliptic Partial Differential Equation (PDE) with variable coefficient is presented in this paper. This approach can be an alternative to the Gauss-Laguerre quadrature formula to evaluate the integration with a kernel that deals with logarithmic singularity. The development of this method is inspired by the fact that the exact solution of an integral moves faster than its numerical solution. By using this approach, a result with high accuracy can still be obtained even with minimize numbers of the Gaussian quadrature points and thus reduce the numerical effort in the numerical integration. ***Index Terms***—Direct united boundary-domain integro-differential equation, Dirichlet problem, partial differential equation, semi-analytic integration method.
P0073	Dark Matter and Quantum Entanglement Decoded **Bhushan Poojary** *NIMS University*
	Abstract—Quantum entanglement is a physical phenomenon that occurs when pairs (or groups) of particles are generated or interact in ways such that the quantum state of each member must subsequently be described relative to the other, Repeated experiments have verified that this works even when the measurements are performed more quickly than light could travel between the sites of measurement. In this paper,how the communication between entanglements particles occurs does is explained with help of quantization of space and holographic principle of our universe. What is dark matter too is explained with the help of quantization of space and holographic principle. ***Index Terms***—holographic principle, quantization of space, quantum entanglement.

Start from 12:10 pm 	**Lunch** **-------Venue: Oasis-------** （**Please Do Bring Your Lunch Coupon To The Restaurant**）

Afternoon Presentation Schedule

May 9, 2014 Afternoon – ICMMT 2014- Session 1

Venue: Indah Ballroom

13:30 pm-16:00 pm

Session Chair: ***Prof. Syed Masood***
Swinburne University of Technology, Australia

T006	Improvement of mechanical properties of Al_2O_3-SiC composite with ZrO_2(3Y) particles **S. Watcharamaisakul** *Suranaree University of Technology, THAILAND*
	Keywords: ZrO_2(3Y) particles, Al_2O_3-SiC composites, mechanical properties ***Abstract.*** The mechanical properties of Al_2O_3-SiC based composites were improved by the addition of ZrO_2(3Y) particles in the range of 10 to 25 vol.%. Al_2O_3-SiC/ZrO_2(3Y) composites were manufactured by pressureless sintering at 1550, 1600, and 1650^oC. Sintered composites were characterized for density, XRD, microstructure and mechanical properties such as flexural strength, fracture toughness and hardness. The results showed that the highest flexural strength of 250 MPa was obtained with 25 vol.% ZrO_2(3Y) composite sintered at 1600^oC due to higher density and smaller Al_2O_3 grains in comparison with samples sintered at 1550^oC and 1650^oC, respectively. The maximum fracture toughness of 5.66 MPa.m$^{1/2}$ was obtained with 20 vol.% ZrO_2(3Y) sintered at 1600^oC. The highest hardness of 9.16 GPa was obtained with composite of 10 vol.% ZrO_2(3Y) sintered at 1600^oC as it contains the largest amount of hard SiC.
T018	Surface Modified Nano Calcium Oxide For Base Heterogeneous Transesterification Of Kappaphycus Alvarezii Seaweed To Biofuel Abdul Rahim Yacob, **Nur Fatin Sulaiman** and Maimoonah Khaliq Qasim *UNIVERSITI TEKNOLOGI MALAYSIA*
	Keywords*:** Hydration-dehydration, Nano structured CaO, Transesterification ***Abstract. The study of physicochemical properties of solid catalyst such as particle size, surface area and basicity are significant today since their reactivity depend on these properties. The number of defect sites in CaO, an alkaline metal oxide is important in heterogeneous catalysis. In this research work, nano structured CaO was synthesized from commercial CaO via hydration-dehydration method. The surface modified CaO was calcined at various temperatures from 300 ℃ to 800 ℃ respectively under vacuum atmosphere of 10^{-3}mbar. The prepared nano structured CaO was then characterized using Thermogravimetric Analysis (TGA) and Fourier Transform Infrared (FTIR). The basicity then determined by back titration method. This research found that when activation temperature increased, the basicity also increases. For optimization, the prepared nanostructured CaO-600 was selected and applied for base transesterification reaction using algae species, *Kappaphycus alvarezii* to produce biodiesel. The latter reaction was then confirmed by Nuclear Magnetic Resonance (NMR) spectroscopy.

T052	Effect of Alkaline Phosphate-permanganate Conversion Coating on the Corrosion Resistance of AZ91D Magnesium Alloy **Young-Min Byoun**, Jin-Hwan Jeong, Jong-kyu Park, Sun-kyo Seo, and Chi-Hwan Lee *INHA University, Korea*
	Keywords: AZ91D magnesium alloy, alkaline phosphate-permanganate, conversion coating, chrome-free conversion coating treatment, corrosion resistance. ***Abstract.*** Alkaline phosphate-permanganate conversion coating, chrome-free conversion coating was studied for corrosion resistance of AZ91D magnesium alloy. Also, conventional acid phosphate -permanganate conversion coating was studied for comparison. Analysis and morphology observation for conversion coating layers was investigated in details by using SEM-EDS, XRD. SEM observation showed that a lot of cracks in surface and interface between conversion coating layer and AZ91D magnesium alloy substrate was observed in acid conversion coating, whereas cracks was not almost observed in alkaline conversion coating layer. SEM-EDS and XRD analysis showed that the main elements of both alkaline and acid conversion coating were Mg, O, K, P and Mn. It was found that both conversion coating layers was consisted of MgO, $Mg(OH)_2$ and MnO_2. Salt spray test showed that the alkaline conversion coating have a good corrosion resistance compared with acid conversion coating.
T058	Formation of Cobalt Nanoparticles from $Co(OH)_2$ Suspension **MARY DONNABELLE L. BALELA**, SHUNSUKE YAGI, and EIICHIRO MATSUBARA *University of the Philippines, Philippines*
	Keywords: Cobalt Nanoparticles, Electroless Deposition, Mixed Potential ***Abstract.*** Metallic cobalt (Co) nanoparticles with mean diameters in the range of 50-500 nm are formed by electroless deposition at room temperature in the presence of increasing concentration of NaOH. Co deposition was investigated by in situ mixed potential measurement. Increasing concentration of NaOH shifts the mixed potential negatively, leading to faster Co deposition and smaller apparent particle diameter. The decrease in mixed potential with increasing NaOH concentration is attributed to the decrease in the activity of Co^{2+} aquo ions in equilibrium with $Co(OH)_2$. Consenquently, the oxidation-reduction potential of Co(II)/Co redox pair is reduced. This leads to more negative mixed potential.
T2022	Electroless Deposition of Nickel Nanoparticles at Room Temperature **MARY DONNABELLE L. BALELA**, SHUNSUKE YAGI , and EIICHIRO MATSUBARA *University of the Philippines, Philippines*
	Keywords: Nickel Nanoparticless, Electroless Deposition, Mixed Potential ***Abstract.*** Metallic nickel (Ni) nanoparticles with a mean diameter of about 70 nm are successfully formed by electroless deposition in an aqueous solution at 273 K. The formation of Ni nanoparticles is investigated by in situ mixed potential measurement in combination with thermodynamic calculation. The deposition rate of Ni is measured using an electrochemical quartz crystal microbalance (EQCM). The mixed potential of reaction solution drastically decreases below the oxidation-

	reduction potential of Ni(II)/Ni redox pair at about 0.60 v vs SHE after 30 min reaction. This coincides with a sharp increase in the deposited mass, suggesting Ni deposition.
T063	The Characterization of Chitosan-hyaluronan-metal Nanocomposites Yang-Chia Shih, **Hui-Hsuan Hsieh**, Tzong-Ming Wu, and Chih-Wei Chou *National Chung Hsing University, Taiwan*
	Keywords: chitosan, hyaluronan, nanocomposites ***Abstract.*** Chitosan and hyaluronan were used as biocompatible materials for biomedical application. In here, we prepared the Hyaluronan (HA) coated metal nanostructures. The chitosan (CS) films containing various concentrations of HA-coated Au or HA-coated Ag@Au nanostructures. We demonstrated that HA-coated spherical-like gold (HA-AuS), HA-coated wire-like gold (HA-AuW) or HA-coated Ag@Au could be dispersed in chitosan matrix by mixing and in aqueous solution casting. The introduction of HA-AuS, HA AuW and HA-Ag@Au nanostructures could not only improve the physical properties of CS, but also enhance the biocompatibility. The results revealed that the HA-AuS, HA AuW and HA-Ag@Au nanostructures enhanced the crystallinity of CS films. Besides, the hydrophilicity of CS films were improved by the HA-AuS, HA AuW and HA-Ag@Au nanostructures.
T1008	Investigation of Er^{3+} Doped in Na_2O-Al_2O_3-BaO-CaO-Sb_2O_3-B_2O_3 -SiO_2 Glasses: Physical, Optical and Visible Luminescence Properties **S. Tuscharoen**, N. Chanthima, and J. Kaewkhao *Nakhon Pathom Rajabhat University, Thailand*
	Keywords: Glasses, Er^{3+}, Visible Luminescence, Optical ***Abstract.*** In this work, Na_2O-Al_2O_3-BaO-CaO-Sb_2O_3-B_2O_3-SiO_2 glasses doped with Er^{3+} was prepared and investigated for their physical, optical and visible luminescence properties. The increases in density, refractive index and molar volume of the glasses with additional doping content of Er_2O_3 into the network were due to a higher molecular weight and polarizability of Er_2O_3 in comparison with the glass former (SiO_2 and B_2O_3). Ten absorption peaks were observed as a nature of Er^{3+} absorption in glass matrices. The glass exhibited four emission transitions which were assigned to $^4F_{5/2}\rightarrow{}^4I_{15/2}$ (460 nm), $^4F_{7/2}\rightarrow{}^4I_{15/2}$ (487 nm), $^2H_{11/2}\rightarrow{}^4I_{15/2}$ (522 nm) and $^4S_{3/2}\rightarrow{}^4I_{15/2}$ (545 nm) transitions. The strongest intensity was the green emission at 522 nm. The luminescence intensity was found to increase with Er_2O_3 content up to 4 mol% and it was decreased for higher Er_2O_3 contents due to concentration quenching effect.
T1016	Composite copolymer acrylamide/bacterial cellulose hydrogel Synthesis and characterization by the application of gamma irradiation **Sri Mulijani**, Erizal, Tun Tedja Irawadi, and Tyas Cipta Katresna *BOGOR AGRICULTURE UNIVERSITY, Indonesia*
	Keywords : acrylamide, bacterial cellulose, copolymer, irradiation, swelling behavior ***Abstract :*** Realizing the growing extraordinary interest in the development of polymer hydrogels, successful attempt has been made for synthesis of copolymer hydrogels from aqueous solution of acrylamide/bacterial cellulose (AAm/BC) with irradiation processing technology using Co-60 gamma source. The study envisaged to:

	(i) develop a novel high strength polymer nanocomposite hydrogels containing natural BC, and (ii) investigate chemical structure, morphology, and mechanical strength properties of the formed gels. The effectiveness of AAm/BC hydrogel for wound dressing application was also tested. Structure and properties of composite were investigated using Fourier Transform Infrared spectrophotometer (FTIR), Differential Scanning Calorimetry (DSC), and Atomic force microscopy (AFM). While investigating the influence of irradiation dose and concentration of acrylamide on gel content, swelling properties and thermal stability of copolymer hydrogel,maximum gel content of prepared hydrogel was obtained at the radiation dose of 40 kGy. Swelling ratio and equilibrium water content increased with increasing irradiation dose and concentration of acrylamide in feed solution. The water absorption of hydrogel increased with increased standing time in swelling medium. It was rapid up to 24 h and got slowed down thereafter. The water absorption also increased with increasing concentration of irradiation dose in the feed solution. The water absorption of copolymer hydrogel obtained at 40 kGy irradiation dose decreased from 1800 to 1400%. This type of diffusion of prepared hydrogel was found to be a non Fickian diffusion. The thermal stability of copolymer hydrogel prepared at the irradiation dose of 40 kGy increased with increasing amount of AAm in the feed solution. The mechanical behavior of composite hydrogels at optimum irradiation dose performed value of tensile and strain at 46.3MPa and 36.6%, respectively.
T2015	Uncured Properties of Silica Filled ENR Compounds at High Temperature Curing **Mazlina Mustafa Kamal** and Muhammad Zahid Zakaria *Malaysian Rubber Board, Malaysia* ***Keywords:*** silica, reversion, crosslink density ***Abstract.*** Rubber reinforcement in general depends on the type of filler used in the rubber mixture. Instead of carbon black, Silica filler has been widely accepted in tyre making due to its low rolling resistance property. In recent years, there is a trend in using higher curing temperature in order to improve productivity of vulcanisation line without drawbacks in the performance of tyres. In this work, effect of vulcanisation temperature based on the silica filled ENR curing behaviour was studied. Results indicate that time-dependant reversion behaviour of ENR was similar to that of unmodified Natural Rubber. The physical properties slowly deteriorated as the curing temperature approached 180 ℃ which related to low crosslink density. Carbon Black filled ENR compound was used as a comparison.
T2026	Cysteine Conjugated Gold Nanoparticles and Their Scavenging Free Radicals Properties **Chih-Wei Chou**, Jen-Ming Yang, Tsung-Shi Yang, Yang-Chia Shih, Hui-Hsuan Hsieh, Ko-Hsin Chang, Ko-Shao Chen, Wu Lii Tzu, You-Cheng Hseu, and Yi-Syuan Wei *China Medical University, Taiwan* ***Keywords:*** cysteine, conjugated, gold, free radical scavenging ***Abstract.*** This study deals with cysteine on gold (Au) nanoparticles which prepared by sodium citrate reduction. The effects of cysteine conjugated Au nanoparticles (Cys-*c*-Au NPs) on the microstructure and properties of the were investigated by Ultraviolet-visible spectroscopy (UV-Vis), Fourier-transform infrared spectroscopy (FTIR), field emission scanning electron microscopy (FESEM), and free radical scavenging ability. The results of UV-Vis and FTIR show that the cysteine was conjugated on

	Au NPs surface and the conjugates were found to be stable in water. The Energy-dispersive spectrometer (EDS) result shows the typical pick of the element sulfur (S) on surface of Cys-*c*-Au NPs. Finally, conjugates exhibited free radical scavenging ability in presence of cysteine.
T2033	Improving the Structural, Optical and Electrical Properties of ITO Nano- Layered Thin Films by Gas Flow Argon **Mehdi Q.Z**, Gurumurthy Hegde, Mohamad Ashry Bin Juusoh, Jinan B. Al-Dabbagh, and Naser Mahmoud Ahmed *UNIVERSITI MALAYSIA PAHANG, MALAYSIA*
	Keywords: ITO Argon gas flow, transparent films, resistance. ***Abstract.*** Indium tin oxide (ITO) thin films of 150 nm thickness were deposited on quartz glass substrates by RF sputtering technique, followed by thermal annealing treatment. In this technique, the samples have been annealed at different temperature, 300^{O}C, 400^{O}C, 500^{O}C respectively in Argon gas flow. Structural and surface morphological properties were analyzed by X-ray diffraction (XRD) and Atomic Force Microscopy (AFM) after annealing. The XRD showed a polycrystalline structure of ITO film with maximum peak intensity at 2θ= 30.54, <222> orientation without any change in the cubic structure. Continuous and homogeneous films obtained by the AFM after annealing treatment. The visible spectrum from the spectrophotometer showed high transparency between 81% and 95% in the. Increasing the annealing temperature yields evenly distributed pyramidal peaks shaped particles with low roughness. Resistance of ITO thin film was significantly improved from 8.75 kΩ to 1.96 kΩ after 10 minute from 300^{O}C to 500^{O}C annealing temperatures respectively under Argon gas flow. ITO films physical properties would be well improved by this method which is highly suitable for cost effective photonic devices.

May 9, 2014 Afternoon – ICMMT 2014- Session 2

Venue: Permata Room

13:30pm-16:00pm

Session Chair: ***Asso. Prof. Dr.Anika Zafiah Mohd Rus,***
Universiti Tun Hussein Onn Malaysia, Malaysia

	Opening Presentation

Characteristics of UV irradiated Waste Biopolymer from renewable resources (Part 1)

Shaiqah Mohd Rus, Najibah Abd Latif, Mohd Imran Ghazali and **Anika Zafiah Mohd Rus**

Universiti Tun Hussein Onn Malaysia,Malaysia

Keywords: Waste Biopolymer (WB); UV- irradiation; Waste cooking oil; Vibration.

Abstract. Waste cooking oil has proven to be a problematic material in the developed countries since people usually pour waste cooking oil into the kitchen drainage because they unaware that this waste can be recycled. Thus, in this study, the converted waste cooking oil into polymer was fabricated by using hot compression machine and named as waste biopolymer (WB). Vibration

transmissibility test was conducted to determine the WB characteristics before and after UV-irradiated. It is revealed the similar vibration transmissibility responses curves were obtained at 1mm, 0.1g and 0.15g base excitation levels for the entire testing frequency except for the displacement transmissibility from base to moveable top plate at 1.5 mm. There was only one resonance peak occurred over the testing frequency which was 15 - 23 Hz for the displacement transmissibility and 15 – 25 Hz for the acceleration transmissibility test on shaking table. No other variation used on the displacement and acceleration amplitude to control the transmissibility test of UV-irradiated WB system based on shaking table. Evidently, small changes on the frequency of the vibration transmissibility were shifted to higher value of UV-irradiated WB with overall percentages of changes are below 5% except for displacement transmissibility at 1.5 mm. This shows the photo-stability of WB after UV-irradiation is high and could be used for further study.

T007	Prediction of Long – Term Creep Properties of Kenaf Fiber Unsaturated Polyester Composites **Saad A. Mutasher** and Ekhlas A. Osman *College of Applied Sciences, Sultanate of Oman* ***Keywords:*** kenaf fiber, creep test, frindely's law, natural fiber composite ***Abstract.*** This research focuses on predicting long-term behavior of unsaturated polyester resin (UP) and kenaf unsaturated polyester composite. The objectives of these tests are to establish a relationship between stress, strain and time at constant loading and temperature. The results obtained from these tests are used in predicting the life and strength of the polymer material. Based on the 1,000 hours experimental data, curve fitting and Findley Power Law models are employed to predict long-term behavior of the material. The results showed that curve fitting model accurately predicted the non-linear time dependent creep deformation of these materials with acceptable accuracy.
T015	Influence of Shear Rate on Proteins Separation, Molecular Weight Cut-Off and Average Pore Size of Polysulfone Blend Membranes **Asmadi Ali**, R.M. Yunus, M. Awang, and S. Hamzah *Universiti Malaysia Terengganu, Malaysia* ***Keywords:*** Shear Rate, PSf/CAP/PVP Blend Membrane, Proteins, MWCO, Average Pore Size ***Abstract.*** Rheological factor such as shear rate during membrane fabrication process has an effect on structural properties and performance of membranes. Flat sheet asymmetric polysulfone/cellulose acetate phthalate/polyvinylpyrrolidone (PSf/CAP/PVP) blend membranes were prepared by using an automatic casting machine at different shear rates in the range of 42.0 to 210.0 s^{-1}. The blend membranes prepared at different shear rate were characterized in terms of its structural properties (molecular weight cut-off (MWCO) and average pore size) and performance (proteins separation). The results showed that increasing the shear rate from 42.0 to105 s^{-1} has decreased MWCO and average pore size of the blend membranes which then reduced protein solution permeate fluxes and increased proteins rejection of PSf/CAP/PVP blend membranes. However, further increasing the shear rate to 210.0 s^{-1} has resulted in an increase in MWCO and average pore size and consequently increased protein solution

	permeate flux but decreased proteins rejection.
T036	Experimental Study of Micro-Milling Microchannels on Polycarbonate Substrates **Pin-Chuan Chen** and Chang-Wei Pan *National Taiwan University of Science and Technology, Taiwan* ***Keywords:*** Polymer microfluidic device, Micromilling, Rapid prototyping ***Abstract.*** How to fabricate a disposable microfluidic device is a growing interest in many application fields and micromilling is one of the efficient approaches. The benefits of using micromilling for polymer microfluidic devices include shorter fabrication process, lower cost, easier user interface, and being capable of fabricating complicated structures. The aim of this study is to use factor analysis to determine the optimal cutting conditions in micromilling microchannels on polycarbonate substrates. The parameters included spindle speed, feed rate, and the depth of cut, and the micromilled roughness was measured by a stylus profilemeter. The smallest roughness achieved was 0.127μm with the spindle speed of 20,000rpm, feed rate of 300mm/min, and the depth of cut of 10μm. From factor analysis results, the spindle speed has the largest influence while the depth of cut has the minimized impact to the surface quality of a micromilled polycarbonate substrate.
T045	A Simple GA Based Approach for Multi-objective Optimization of Machining Parameters **Waseem Akhtar**, Jianfei Sun, Wuyi Chen, and Pengfei Sun *Beihang University, China* ***Keywords:*** Machining optimization, multi-objective optimization, genetic algorithms (GA), regression analysis. ***Abstract.*** A simple approach to multi-objective optimization of machining parameters is presented. Regression analysis of experimental data is carried out to obtain the correlation between cutting parameters and response variables. Finally, Genetic Algorithm (GA) toolbox of *MATLAB* is used to carry out multi-objective optimization of two objective functions (surface roughness "Ra" & material removal rate "MRR"). Genetic algorithm is found to be a powerful tool for multi-objective optimization of machining parameters in this study.
T055	Effect of Sintering Temperature on Dielectric Properties of $CaCu_3Ti_4O_{12}$ Ceramics Prepared by Mechanochemical Process MASTURAH MOHAMED, **MAHESH KUMAR TALARI**, Mohd Salleh Mohd Deni, Azlan Zakaria *UNIVERSITI TEKNOLOGI MARA， MALAYSIA* ***Keywords:*** CCTO, variation sintering temperatures, dielectric properties ***Abstract.*** $CaCu_3Ti_4O_{12}$ (CCTO) is well known to have colossal dielectric constant in the range of 10^5.It is widely accepted that this phenomenon may be attributed to internal layer barrier capacitance (IBLC) model. The dielectric properties of CCTO were reported to be strongly dependent on the processing conditions and grain size. In this work, CCTO samples with different grain sizes were produced by varying sintering temperature in order to investigate IBLC effect on dielectric properties of CCTO. The samples were sintered at four different temperatures, (T=1100^{o}C, 1050^{o}C, 1000^{o}C and 950^{o}C). Dielectric measurements were carried out for the samples in the frequency

	range of $10^2 – 10^6$Hz using impedance spectrometer. Electron micrographs showed that increasing temperature promoted the grain growth of CCTO while sintering. The internal crystalline defects are seen to play major role by increasing the grain conductivity in dipole formation and increased the dielectric constant of the samples.
T056	Optimization of Friction Stir Welding Parameters with Simultaneous Multiple Response Consideration Using Multi-Objective Taguchi Method **Mohamed Ackiel Mohamed**, Yupiter HP Manurung, Mohammad Ridzwan Abdul Rahim, Norasiah Muhammad, and Farizah Adliza Ghazali *Universiti Teknologi MARA (UiTM), Malaysia*
	Keywords: Multi objective Taguchi Method; Multi signal to noise ratio; Friction stir welding; Optimization ***Abstract.*** This paper presents an unconventional method to optimize the governing process parameters of Friction Stir Welding (FSW) towards the mechanical properties and weld quality. The optimization approach attempts to consider simultaneously the multiple quality characteristics namely tensile strength, nugget zone hardness and weld quality class using Multi-objective Taguchi Method (MTM). The experimental study was conducted for plate thickness of 6.0 mm under different rotational and traverse speed. The optimum welding parameters were investigated using Taguchi method with L9 orthogonal array. The significant level of the welding parameters is to be investigated by using analysis of variance (ANOVA). Furthermore, the optimum value was analyzed by means of MTM which involved the calculation of total normalized quality loss (TNQL) and multi signal to noise ratio (MSNR).
T059	Effect of Calcination Temperature on the Morphology of Carbon Nanosphere Synthesized from Polymethylmethacrylate **Abdullah F. Al-Ahmadi**, Mohammed A. Al-Daous, and Tawfik A. Saleh *King Fahd University of Petroleum and Minerals, Saudi Arabia*
	Keywords: Carbon nanosphere, Polymethylmethacrylate, temperature, morphology ***Abstract.*** In this work, hollow carbon nanospheres (HCNs) were synthesized by carbonizing core/shell particles of polymethylmethacrylate (PMMA)/ resorcinol formaldehyde. The core/shell particles were prepared using emulsion polymerization; polymethylmethacrylate as a template and resorcinol-formaldehyde polymer as the carbon source. Spheres were first synthesized by batch mode polymerization and then the shell was polymerized on the surface of the spheres. The composite was stabilized, and then carbonized. The effect of calcination temperature was investigated in the range between 200-500 ^oC. Scanning electron microscopy (SEM), energy-dispersive X-ray spectrometer (EDX), Raman and Fourier transform infrared (FTIR) were used for characterization of the resulting carbon.
T2012	Ultimate Elastic Wall Stress (UEWS) Test under Biaxial Loading for Glass-Fibre Reinforced Epoxy (GRE) Pipes **Tarak A. Assaleh** and Lutfeya A. Almagguz *Zawia University, Libya*
	Keywords: Ultimate Elastic Wall Stress (UEWS), biaxial loading, weepage, failure envelopes ***Abstract.*** This paper presents the results of an experimental investigation into the Ultimate Elastic Wall Stress (UEWS) of $\pm 55^\circ$ filament wound composite pipes. The

	UEWS test appears to provide an attractive alternative to the current method, and has proved to be one of the most effective in term of accuracy and speed. Moreover, it has been found to be sensitive to changes in key manufacturing and raw material parameters. The pipes were subjected to biaxial loading, which was achieved by combinations of hoop and axial stress. Loads were applied as groups of cycles which, were gradually increased until the UEWS had been determined. Various ratios of hoop to axial stress were applied to the pipes, ranging from pure axial to pure hoop loading at room temperature and at 65 ℃. These ratios were investigated by applying different pressures in both the main and small chambers built inside the pipe, and therefore it was unnecessary to add any external loads to the pipe wall. Tests were also conducted to observe leakage through the pipe wall. The main failure mode observed was weepage through the pipe wall, which was due to intensive matrix microcracking. The results from the UEWS tests are presented in the form of failure envelopes showing the effects of testing at an elevated temperature. Finally, degradation in the elastic properties of the pipe wall is also discussed and plotted against wall stress.
T2016	PROCESSABILITY BEHAVIOUR OF DUAL FILLER SYSTEMS REINFORCED EPOXISED NATURAL RUBBER **Teku Zakwan Zaeimoedin** and Mazlina Mustafa Kamal *Malaysian Rubber Board, Malaysia*
	Keywords: epoxidised natural rubber, capillary rheometer, flow behaviour, processability ***Abstract.*** Rheological studies of polymers are of great importance in optimizing the processing conditions and in designing processing equipments like injection molding machines, extruders, and dies required for various products. Melt rheological studies give us valuable viscosity data that will be helpful in optimizing the processing conditions. Parameters like melt viscosity as a function of shear rate or shear stress and temperature have become more and more important. Previous study indicated that the flow behaviour of the compound depends on the filler loading. Lesser elastic torque was found with compound containing lower filler content as compared to higher filler content. In this work, effect of dual filler, based on Carbon Black / Silica filled Epoxidised Natural Rubber (ENR) compound was investigated. A total of 80phr of filler content based on passenger tyre tread formulation was used in the experiment. The compounds were prepared by melt mixing in tangential type of an internal mixer. The rheological and the processability properties of the compounds were determined using three different testing instruments namely Capillary Rheometer, Mooney viscometer and Rubber Process Analyzer (RPA). A variation of shear rates (ranging from low to high) was performed, in order to better reflect the actual processing condition in rubber manufacturing. It was found that ENR mix with ratio silica to carbon black 70:10 exhibited the best flow behaviour and processability properties as compared to control and other mixes.
T2031	The Effect of Oxidized White Liquor on Pulp Brightness in Peroxide Bleaching in Pulp Mills Nopdanai Khajornpaisan and **Napassavong Rojanarowan** *Chulalongkorn University, Thailand*
	Keywords: Oxidized white liquor, Pulp brightness, Peroxide bleaching, Central composite design, Design of experiment

	Abstract. This paper aims to study the effect of using Oxidized White Liquor (OWL) on pulp brightness in peroxide bleaching. The proper setting of the concentration of hydrogen peroxide, the bleaching temperature, and the bleaching time was also studied. The Central Composite Design (CCD) was proposed to generate necessary experimental runs. Regression analysis was used to determine the relationship equation. Optimization helped determine that to obtain the targeted brightness of 83%, the ratio between the volume of OWL and sodium hydroxide should be 50:50. This ratio should be used with a concentration of hydrogen peroxide at 6.9 g/kg, a bleaching temperature of 90 ^{o}C and a bleaching time of 75 minutes.

May 9, 2014 Afternoon – ICMMT 2014- Session 3

Venue: Indah Ballroom

16:00 pm-18:30 pm

Session Chair:

T041	Investigation of Engineering Properties of Quarry Waste in the East of Thailand for Used as Fine Aggregate in Concrete **Suppachai Sinthaworn**, T. Koseekageepat, and O. Saengmanee *Srinakharinwirot University, Thailand*
	Keywords: Quarry Waste, Fine Aggregate, Crushed Sand, Concrete ***Abstract.*** At the East of Thailand, a shortage of river sand for producing concrete has frequently occurred while the large amounts of quarry dusts are being produced as by-products of stone crushers in many stone quarries. Then, the quarry waste from 12 stone quarries (in Rayong and Chonburi province) was taken to investigate the engineering properties as fine aggregate for concrete. The properties - namely type of parent rock, specific gravity, water absorption, gradation, fineness modulus (F.M.), organic impurities level, powder content, plastic index and sand equivalent value - were examined. The results show that the parent rocks of the samples are limestone, granite and rhyolite. The specific gravity of samples were in the range of 2.61 - 2.77. The gap gradations are found in all samples and the F.M. values slightly exceed the limit of ASTM standard. Absorption of quarry dust is high (around 2 %). Although the high powder contents are found in all samples, the powder in quarry waste is non-plastic and non-organic material. Therefore, gradation and absorption of quarry waste could be carefully considered or improved before using quarry waste as fine aggregate in concrete.
T042	Computational Analysis of Single and Multiple Impacts of Low Pressure and High Pressure Cold Sprayed Aluminum Particles Using SPH **Siti Nurul Akmal Yusof**, Abreeza Manap, Halina Misran, and Siti Zubaidah Othman *Universiti Tenaga Nasional, Malaysia*
	Keywords: Low pressure cold spray; high pressure cold spray; SPH; impact behavior;

	particle deposition ***Abstract.*** Cold spray (CS) is a unique spraying process where the spray materials are not melted in a spray gun. Instead, the particles are kinetically deposited on the substrate at low temperature using compressed gas. This study investigates the bonding mechanism of low pressure CS (LPCS) and high pressure CS (HPCS) techniques through smoothed particle hydrodynamics (SPH) simulations, which are achieved by modeling the single and multiple particle impacts of aluminum (Al) particles on Al substrate. The impact of Al particles on the Al substrate is analyzed by evaluating the velocity, shape, temperature of the powder particles and substrate, porosity between particles, and effect of stress on the substrate. In the case of single particle impact, HPCS results in increased particle deformation. In multiple particle impact, LPCS results in low porosity. The shape of deformation, formation of pores, and residual stress of Al can be affected by the deposition process. Results indicate that LPCS is suitable for the deposition of light materials such as Al.
T044	Characteristics of UV Irradiated Waste Biopolymer from Renewable Resources (Part 2) **Shaiqah Mohd Rus**, Mohd Imran Ghazali and Anika Zafiah Mohd Rus *Universiti Tun Hussein Onn Malaysia,Malaysia* ***Keywords:*** Waste Biopolymer (WB); UV- irradiation; Waste cooking oil; Vibration; Damping ***Abstract.*** In the developed countries, waste cooking oil has proven to be a problematic material since people usually pour waste cooking oil into the kitchen drainage because they unaware that this waste can be recycled. In this study, the waste cooking oil was converted into polymer, fabricated by using hot compression machine and named as waste biopolymer (WB). WB characteristics before and after UV-irradiated such as vibration damping, density and surface morphology were analysed in this study. Total damping ratio of WB changes more than 5% after 1000 hour UV-irradiation. UV-irradiation does not give major influence to the WB morphology since there is no big change for overall structure of UV-irradiated WB after 1000 hours of UV. Even though the density of UV-irradiated WB is decreasing with increasing exposure time to UV, but it gives good influence to the damping ratio. WB is expected to have a good service life even in a harsh UV environment thus it can be applied in many applications especially in automotive field and manufacturing packaging.
T054	Characterization of Thermal Sprayed Titanium/hydroxyapatite Composite Coating on Stainless Steel **NURUL HUMAIRA AZHAR**, MAHESH KUMAR TALARI, Rosmamuhammadani Ramli, and Chue Keen Koong *Universiti Teknologi MARA, Malaysia* ***Keywords:*** Biomaterials, Thermal spray, Titanium/hydroxyapatite coating, stainless steel. ***Abstract.*** Titanium (Ti) and its alloys are widely used in medical applications due to its superior mechanical properties and biocompatibility. Hydroxyapatite (HA), due to its similarity with teeth and bone material, is also widely used in clinical applications and orthopaedic implant manufacture. In this study, composite powers containing titanium with different wt % of HA were coated on stainless steel substrate using high velocity oxy-fuel (HVOF) spray technique. These Ti+HA coatings were characterized using XRD technique to indentify phases present in the coating. Small amount of oxide

	phases were identified apart from the original Ti and HA in the coatings during XRD analysis. The microstructure analysis of the coating surface using FESEM and EDX revealed dense and homogeneous coatings along with few well distributed pores
T074	Characterization and Comparison of Thermally Sprayed Hard Coatings as Alternative to Hard Chrome Plating **Kiattisak Meekhanthong** and S. Wirojanupatump *Chiang Mai University, Thailand*
	Keywords: thermal spray coatings, HVOF, arc spray, spray & fuse, cored wire, hard chrome ***Abstract.*** Thermal spray coatings have become one of the most potential for hard chrome replacement, particularly for wear and corrosion applications. In this study four types of hard coating materials were selected and thermally sprayed by suitable processes as the following designated codes (material/spray technique): Cr-Fe/HVOF, Cr-Ni/HVOF, WC-Ni/SF and Cr-Fe/AS. All of starting materials were characterized in order to create a correlation between spray materials and coating characteristics. SEM was employed for morphology and microstructure investigation. Particle size analysis was investigated by SEM and laser particle size analyzer. Coating characterization included surface roughness measurment by profilometer, porosity evaluation by image analysis and hardness test by Vicker microhardness tester. Microstructure of coatings was also revealed by SEM. Wear performance was evaluated by pin on disc test and dry sand rubber wheel abrasion test. Corrosion resistance was tested by potentiodynamic method. The results showed that particle size and morphology of starting powders were various depending on manufacturing method. Chemical compositions of starting materials showed great effect on coating properties and performance. Coatings deposited by HVOF and spray & fuse (SF) method showed typically dense and homogeneous structure than arc sprayed coating. WC-Ni/SF coating showed lowest abrasive wear rate compared to other thermally sprayed coatings. All Ni base coatings had significantly lower corrosion rates while Cr-Ni/HVOF coating had lowest corrosion rate. Although Cr-Ni/HVOF and WC-Ni/SF could be applicable for both wear and corrosion applications, for heat sensitive parts, Cr-Ni/HVOF coating could be a better alternative to spray and fuse.
T1012	Surface Alloying of Copper Substrate Coated by Fe-Si by Using CO_2 Laser **Abulmaali M. Y. Taher** *The Higher Institute of Industrial Technology, Libya*
	Keywords: laser alloying, copper, ferrosilicon, carbon dioxide beam, oblique section, microhardness, thermal evaporation coating technique, circular arcs. ***Abstract.*** Advanced industrial applications require materials with special surface properties such as high hardness and high wear resistance. In this study, copper substrate samples where coated by Fe-Si by using thermal evaporation technique under high vacuum, then subjected to surface laser treatment by using 720 watt CO_2 laser beam. The purpose was to perform local alloying in the form of surface network of four tracks (each two are parallel and perpendicular to the other two) to produce a good thermal and electrical properties bulk material with reasonable surface hardness properties. The morphological features of the subsurface laser treated layers and their mechanical properties (microhardness) have been studied on oblique sections through the laser fused tracks. The results show that there were an intensive re-evaporation of the coating material, probably because of the high laser power density applied and the

	use of deep vacuum during the laser surface alloying process. Generally hardness recorded to be increased in the laser-fused tracks locations, but the bottom of the laser fused tracks showed a number of spherical voids causing a drastic decrease in the hardness values. The middle parts of the tracks showed columnar structure and elevated hardness values.
T1017	Analysis of Roughness and Heat Affected Zone of Steel Plates Obtained by Laser Cutting **Imed Miraoui**, Mohamed Boujelbene, and Emin Bayraktar *Aljouf University, Saudi Arabia*
	Keywords: Laser cutting, laser power, laser beam diameter, roughness, heat affected zone. ***Abstract.*** In the present study, high-power CO_2 laser cutting of steel plates has been investigated and the effect of the input laser cutting parameters on the cut surface quality is analyzed. The average roughness of the cut surface of the specimens, produced by different laser beam diameter and laser power, were measured by using roughness tester. The scanning electron microscopy SEM is used to record possible metallurgical alterations on the cut edge. The aim of this work is to investigate the effect of laser beam diameter and laser power on the cut surface roughness and on the heat affected zone width HAZ of steel plates obtained by CO2 laser cutting. An overall optimization was applied to find out the optimal cutting setting that would improve the cut surface quality. It was found that laser beam diameter has a negligible effect on surface roughness but laser power had major effect on roughness. The cut surface roughness decreases as laser power increases. Improved surface roughness can be obtained at higher laser power. Also, laser beam diameter and laser power had major effect on HAZ width. It increases as laser power increases.
T2002	STUDY ON USING EDXRF FOR THE DETERMINATION OF GOLD COATING THICKNESS Meor Yusoff Meor Sulaiman and Masliana Muslimin
	Keywords: EDXRF, gold, coating thickness, electroplated, gold wash ***Abstract.*** The paper presents a study on the development of an analysis procedure for determining of gold coating thickness using the EDXRF technique. Gold coating thickness was measured by relating the counts under the Au Lα peak to its thickness value. In order to get a reasonably accurate result, a calibration graph was plotted using five gold-coated reference standards of different thicknesses. The calibration graph shows a straight line for thin coating measurement until 0.9μm. Beyond this point, the relationship was exponential and this may be resulted from the self-absorption effect. Quantitative analysis was then performed on three different samples namely two gold-coated jewelry samples and a phone connector sample. Result from the phone connector analysis seems to agree with the manufacturer's gold coating value. Results from the analysis of gold-coated jewelry enable to differentiate the two articles as coated by using the gold wash and gold electroplated coating methods.
T2005	The Influence of SS316L Foam Fabrication Parameter Using Powder Metallurgy Route N. I. Mad rosip, **S. Ahmad**, K. R. Jamaluddin, and F. Mat nor *Universiti Tun Hussein Onn Malaysia*

Keywords: SS316L foam, slurry method, SEM analysis, EDX analysis, pore size.

Abstract. Metal foams are widely produced by using different techniques such as compaction and replication method. In this study, slurry method also known as replication method has been used to produce SS316L foams. SS316L powders (50wt% and 60wt%) were mixed with the binders and distilled water by using mechanical stirrer. Polyethylene Glycol (PEG) and Carboxyl Methyl Cellulose (CMC) were used as binders. Polyurethane (PU) foam was used as scaffold and dipped into SS316L slurry then dried in room temperature for 24 hours. Sintering process has been done in two different temperatures which were 1200^{o}C and 1300^{o}C in vacuum furnace. The morphological study was performed using Scanning Electron Microscopy (SEM) and Energy Dispersive X-Ray (EDX). The SEM micrograph showed that the cells were interconnected and the structures become denser as the sintering temperature increase. The average pores size is ranging from 252.8 μm-353.8 μm, while strut size ranging from 50.2 μm -79.9 μm based on SEM micrograph analysis. The elemental analysis from EDX showed the element presence in the SS316L foam remain from SS316L powder which are Chromium (Cr), Nickel (Ni), Molybdenum (Mo), Cooper (Cu), Nitrogen (N_2), Sulphur (S) and Silicon (Si). Higher sintering temperature contributes better grain growth between particles where the point-contact between the particles expanded and disappear the small pores.

T2006

Effect of Process Parameters in Hot Press Forming Operation to Tensile Strength of Ultra High Strength Steel

MOHD ZAIRULNIZAM Zawawi and NIK MOHD HAFIZ AIMAN Nik Haron

Universiti Malaysia Pahang, Malaysia

Keywords: Ultra High Strength Steels (UHSS), boron steel, hot press forming, tensile strength, cooling rate

Abstract. The escalating issues on sustainable environment such as the necessity to reduce CO2 emission and fuel consumption including new regulations to improve the safety of passengers car had brought up the application of new innovative materials and manufacturing process in the automotive industry called hot press forming operation. By using this new technique, the manufacturers can produce more lightweight and high strength car parts such as the B-pillars with tensile strength ranging from 1200MPa to 1600MPa. Hot press forming is done by rapidly heating up Ultra High Strength Steels (UHSS) made of boron steel material in a furnace to austenization temperature of about 950 ℃ for 5 minutes, then transferred it quickly to the hot press die where rapid quenching occurred during the die closed with the aid of cooling channel. This experiment investigates the effects of varying combination of hot press forming parameters to final tensile strength of boron steel and had been carried out without use of cooling channel. The studied parameters are the air cooling time, cooling rate, cooling time in die and stamping pressure. The type of boron steel material with trade name of Usibor® 1500 was used as the test specimens while for punch and die material, High Thermal Conductivity Tool Steel (HTCS-150) made by Rovalma was used. Both are common materials used in the automotive industry for hot press forming operation. A preliminary experiment had been conducted where ten flat tensile strength specimens of Usibor 1500 were heated to the austenization temperature of 950 ℃ and immediately quenched in a tank of water to confirm the material ability to achieve the minimum tensile strength of 1500MPa. All specimens achieved average tensile strength of 1550MPa in this most ideal cooling rate

	condition. In the experimental hot press forming operation, result shows that the flat blank specimens of Usibor 1500 able to obtain ultimate tensile strength of 1400MPa after quenching in die without use of cooling channels when suitable process parameters were used during. Overall ,faster air cooling time, higher stamping pressure applied to the blank, and longer cooling time in die improve the cooling rate. Highest tensile strength of 1400MPa was achieved in the experiment when cooling rate was 95℃/s, air cooling time of 3.83s, stamping pressure of 50bar and cooling time in die of 30s.
T2036	Microstructure and Hardness of Diffusion Bonded Sialon-AISI 420 Martensitic Stainless Steel **Nor Nurulhuda Md. Ibrahim**, Patthi Hussain, and Mokhtar Awang *Universiti Teknologi PETRONAS, Malaysia*
	Keywords: Interdiffusion; Hardness; Martensitic; Microstructure; Sialon ***Abstract.*** The objective of this work was to examine the microstructure, interdiffusion of elements, and hardness of joining sialon to AISI 420 martensitic stainless steel using diffusion bonding process. These materials were diffusion bonded at 1200^{o}C for one hour under 20 MPa in a vacuum of 2.1x10^{-6} Torr. The microstructural analyses showed that joining sialon to nitrided steel produced thinner reaction layers and no gap or crack were formed on the sample. Gaps were produced in joining sialon to as-received steel. From the elemental analyses, alumina and iron silicides were formed at the interface layer of sialon/as-received steel joint. Alumina and smaller amount of silicides were detected at the interface layer of sialon/nitrided steel joint. Diffusion layer and parent steel of the sialon/nitrided steel joining contained nitrides. The hardness test across the joints indicated that reaction layers possessed intermediate hardness between sialon and steel. The layers contributed to ductility of the joint that help to attain the joint.

May 9, 2014 Afternoon – ICMMT 2014- Session 4

Venue: Permata Room

16:00pm-18:30pm

Session Chair: ***Prof. Ghenadii Korotcenkov, Gwangju Institute of Science and Technology, Korea***

T017	Simulation of Dirac Tunneling Current of an Armchair Graphene Nanoribbon-Based p-n Junction Using a Transfer Matrix Method **Endi Suhendi**, Rifky Syariati, Fatimah A. Noor, Neny Kurniasih and Khairurrijal *Institut Teknologi Bandung, Indonesia*
	Keywords: Dirac tunneling current, p-n junction, graphene nanoribbon, transfer matrix method. ***Abstract.*** We have studied tunneling current in a p-n junction based on armchair graphene nanoribbon (AGNR) by using the relativistic Dirac equation and a transfer

	matrix method (TMM). The electron wave function was derived by solving the relativistic Dirac equation. The TMM, which is a numerical approach, was used to calculate electron transmittance and the tunneling current. The results showed that the tunneling current increases with the bias voltage. On the other hand, the tunneling current increases with the decreases in the electron incidence angle and temperature. Moreover, the increases in the AGNR width and electric field in the p-n junction result in the increase in the tunneling current.
T021	Electronic Coupling of Organic Inorganic Semiconductor Interfaces: A Comparative Study **Mansi Dhingra**, Sadhna Shrivastava, and S. Annapoorni *University of Delhi, India*
	Keywords*:** ZnO, PANI, PPy, photoconduction, Raman ***Abstract. The present work attempts to investigate the interfacial phenomenon occurring between two dissimilar materials and in particular organic and inorganic hybrid materials. Layer by layer hybrid heterostructures are fabricated by electro-deposition technique. Here, ZnO thin films are deposited using potentiostatic mode using regulated DC voltage supply fixed at -1.0 V (with respect to the reference electrode) with platinum sheet (99.99% purity) used as the counter electrode and ITO-coated glass used as a working electrode. The as obtained ZnO films are then used as substrates for deposition of organic layer. Two conducting polymers namely polyaniline (PANI) and polypyrrole (PPy) are deposited by electro-deposition method on ZnO to form ZnO/PANI and ZnO/PPy interfaces. The two interfaces are compared for their photoconducting response. These studies are further correlated with the properties that the two interfaces share.
T035	Extended Supply Chain DEA for considering replaceable DMUs **Woramol Chaowarat**, Hidetsugu Suto, and Pairach Piboonrungroj *Muroran Institute of Technology, Japan*
	Keywords: Data Envelopment Analysis, Supply Chain Management, Replaceable DMUs ***Abstract.*** Efficiency evaluation is a critical step for effective supply chain management. The evaluation system should be constructed based on realistic structure of supply chain. In practical supply chain, the members can be divided into two types, replaceable and irreplaceable. However, the current studies do not consider such situations. In order to consider such situation, a two-stage DEA model is going to be extended and proposed. Frozen seafood supply chains of Thailand are presented as an application to show an efficacy and applicability of the proposed model. As a result, eleven inefficient chains have been found by using the proposed model while only six and seven inefficient chains have been found by using traditional models. We can ague that the proposed model can identify an efficiency of the realistic supply chain more sensitively than traditional models.
T037	Performance analysis of a LTE band Microstrip antenna on FR-4 Material **Afaz Uddin Ahmed**, Rezaul Azim, Mohammad Tariqul Islam, Mahamod Ismail, and Md. Shabiul Islam *Universiti Kebangsaan Malaysia, Malaysia*
	Keywords: FR-4 substrate material, epoxy resin, microstrip antenna, LTE Band 7.

	Abstract. This paper presents the performance analysis of a LTE (Long Term Evaluation) band microstrip antenna printed on FR-4 substrate material. FR-4 substrate is a composite material of fiberglass cloth with flame resistive epoxy resin binder. It is a popular candidate for material selection in antenna design at higher bands. The proposed antenna contains a rectangular slot on the patch and covers the LTE band 7 (2.5 - 2.7 GHz). It is a cost effective approach to fabricate microstrip antenna for the LTE band 7 which is used in LTE technology throughout the world. The result shows a coverage bandwidth (<-6 dB) from 2.47 GHz – to 2.75 GHz and at 2.6 GHz the maximum achieved gain is 5.2 dB. The S-parameter is used as a comparison matrix for the simulated and fabricated antennas.
T057	Measurement of Liquid Film Thickness around Horizontal Tube Bundle by Optical Technique for Optimizing Evaporator Design and Manufacturing **Karim BOUROUNI** and Ali l Taee *Al Hosn University, UAE*
	Keywords: Falling Film Horizontal tubes Evaporator, evaporator manufacturing, film thickness, film temperature, optical technique, laser reflection, water desalination ***Abstract.*** This paper proposes the improvement of design and manufacturing of Falling Film Horizontal Tube Evaporators (FFHTE) through optimizing different parameters such as tubes pitch, tubes diameter and material and liquid film flow rate. These design and operational parameters have a significant influence on the hydrodynamic of the liquid film (eg: wetability of the tubes, scale deposition, heat transfer coefficient, etc.). Due to the complexity of the liquid film flow around the horizontal tube bundle, the experimental approach is preferred than modeling because it gives a better understanding of the phenomena occurring in the heat exchanger. In this paper one experiment was carried out to investigate liquid film flow around a single horizontal tube. A particular attention was taken for the measurement of liquid film thickness around the tube using a novel optical technique based on light reflection. The influence of the tubes pitch, tube diameter, height of the liquid distribution system and the liquid mass flow on the transitions between falling-film modes and film thickness is investigated and the results are compared to other data obtained from the literature. It was found that tubes wetability and heat transfer increased with increasing the vertical tube pitch. To account for fouling and heat transfer performance, a tube spacing value of 1.3 was recommended.
T064	Sound Absorption Properties of Dwi Matrix Renewable And Synthetic Polymer **Noor Quratul Aine Adnan** and Anika Zafiah M. Rus *Universiti Tun Hussein Onn Malaysia, Malaysia*
	Keywords: Biomonomer, Synthetic polymer Foam, Sound Absorption ***Abstract.*** This research is to study the acoustic property of biopolymer foam and commercial consumer petroleum based epoxy foam. This is to evaluate the influence of proportion ratio of polymers matrix and filler namely as Titanium Dioxide (TiO2) towards the sound absorption coefficient (α) at different frequencies level (Hz). Biopolymer foam was prepared based on in-house synthesized monomer from vegetable oil with commercial polymethane diphenyl diisocyanate (Modified Polymeric-MDI) with the different proportion ratio of TiO2. The acoustic property of samples was examined by using an impedance tube test according to ASTM E-1050 of sound absorption coefficient (α). It was observed that epoxy gives higher value of α that is 0.9995 but shifted to higher absorption frequencies level as the TiO2 loading

	increased. Meanwhile the lowest composition ratio of TiO2 loading in biopolymer foam gives the best value of α at the lowest absorption frequency level as compared to epoxy composition ratios. Evidently, different percentage ratio of TiO2 varied α value which influence the absorption frequency level (Hz). Hence, the minimal alteration on the filler loading of epoxy or biopolymer greatly influences the acoustic performance of both polymers. Meanwhile, the commercial foam of noise reduction coefficient, NRC values of commercial foam were decreasing with the increasing proportion ratio of TiO2 while, the NRC values of biopolymer foam were increased as the TiO2 ratio was increased. This is due to the sound coefficient in polymeric foam is related to the effect of the interaction between different characteristic for both material (biopolymer foam and commercial foam) and morphology of foam.
T066	Application of Auxiliary Antenna Elements for SAR Reduction in the Human Head **M. I. Hossain**, M. R. I. Faruque, M. T. Islam, and N. H. M. Hanafi *Universiti Kebangsaan Malaysia, Malaysia*
	Keywords: antenna, EBG, ferrite shielding, metamaterials, SAR. ***Abstract.*** The aim of this paper is to review various techniques smeared in the last decade for the elevation of low Specific Absorption Rate (SAR) of cellular phone using auxiliary antenna elements. Considering health hazards of EM radiation from mobile phone, it is discernible that a mobile phone antenna must have low SAR characteristics which can be achieved by imposing SAR reduction methods. There are some abridgments for every reduction technique which restrain the extensive use of available mobile phone considering bandwidth, efficiency, size, cost and easy implementation. Among all of SAR reduction methods metamaterial technique may be more satisfying considering all aspects. Along with, we can consider SAR affecting parameters and make optimization for better response.
T073	Thermal Properties of NiCrSiB Coating on Piston Engine Nor Bahiyah Baba, Megat Muhamad Amrun Omar, and **Norul Azlin Mohd Zin** *TATI University College, Malaysia*
	Keywords: NiCrSiB, protective coating, HVOF, piston engine ***Abstract.*** This paper discussed on the application of NiCrSiB coating on 3-straight cylinder piston of Perodua Kancil 660cc using a high velocity oxygen fuel (HVOF) spraying technique**.** NiCrSiB coating was known as protective coating that was investigated for its thermal properties. The coating showed a good surface finish as well as the bonding interface. The applied NiCrSiB coating on the piston was tested up to the engine temperature during the operation compared to the uncoated piston. It was found that the uncoated piston had a higher heat transfer than the coated piston. Another test was conducted at several temperatures along the radial of the piston to its centre. The results indicated that the uncoated piston had a higher temperature compared to the coated piston
T2019	Determination of Bore Grinding Machine Parameters to Reduce Cycle Time **Salakjitt Buddhachakara** and Wipawee Tharmmaphornphilas *Chulalongkorn University, Thailand*
	Keywords: Design Of Experiment, Central Composite Design, Cycle Time Reduction ***Abstract.*** This paper applies a central composite design (CCD) to determine proper

	machine parameters to reduce the cycle time of a bore grinding process. There are 6 machine parameters, which are rough grinding 2 starting position, fine grinding starting position, speed of rough grinding 1, speed of rough grinding 2, speed of rough grinding 3 and speed of fine grinding and 2 types of responses, which are cycle time and surface roughness considered in this study. A half CCD is used to find the optimal machine setup parameters. The experiment shows that new machine conditions can reduce cycle time from 2.98 second per piece to 2.76 second per piece and control surface roughness within specification of 1.0 um. After implementing the new machine conditions in the real setting, we found that the average actual cycle time is 2.76 second per piece with roughness of 0.841 um.
T2029	The Use of the Six Sigma Approach to Minimize the Defective Rate from Bending Defects in Hard Disk Drive Media Disks Suthongchai Suriyasuphapong and **Napassavong Rojanarowan** *Chulalongkorn University, Thailand*
	Keywords: Bending defect, Clamping distortion, Hard disk drive media, Six Sigma, Defect reduction, Design of Experiment ***Abstract****. The objective of this research is* to reduce the defective rate from bending defects in media disks of hard disk drives by finding an optimal machine setting in the assembly process. The Six Sigma method was applied to find out the factors which statistically affected the bending value and to obtain the optimal setting of those factors. It was found that a minimal bending value was achieved with the setting of the clamp screw torque at 3.25 in-lb, the screw bit height at 3.00 mm., and the vertical force on the disk clamp and the motor at 2.50 lbs. With this optimal setting, the process capability index C_{pk} increased from 0.69 to 1.39, the mean bending value decreased from 5.12% to 3.43%, and the defective rate reduced from 32,219 ppm to 39 ppm.

Start from 18:30 PM 	**Buffet Dinner (Venue: Oasis)** （**Please Do Bring Your Dinner Coupon To The Restaurant**）

If there's any inconvenience, please forgive us and we are always learning from the mistakes and getting better from each step.

So appreciate your participation and your understanding! 
For any suggestion or complaint, you are welcome to contact us.

Venue: Flamingo hotel (By the lake, kuala lumpur)

http://www.flamingo.com.my/indexkl.html

Address: 5, Tasik Ampang, Jalan Hulu Kelang,68000 Ampang, Selangor Darul Ehsan,Malaysia.

Phone: +603-4256 3288 Fax: +603-4256 3188

Upcoming Conference Information

DATE	NAME		PAPER WILL BE PUBLISHED BY
July 28-29, 2014 Hong Kong	**ICAME 2014**	2014 the 3rd International Conference on Advances in Mechanics Engineering http://www.icame.org/	All accepted papers of ICAME 2014 will be published in the Applied Mechanics and Materials Journal (ISSN: 1660-9336)
	ICCCD 2014	2014 the 4th International Conference on Computer and Communication Devices http://www.icccd.org/	All accepted papers will be published in the volume of International Journal of Computer Theory and Engineering (IJCTE)
	ICIAE 2014	International Conference on Industrial and Applied Electronics http://www.iciae.org/	All accepted papers will be published in the volume of International Journal of Computer and Electrical Engineering (IJCEE) (ISSN: 1793-8163)
September 17-18, 2014 Paris, France	**ICITM 2014**	2014 the 4th International Conference on Industrial Technology and Management http://www.icitm.org/	All accepted papers will also be published in the Journals with ISBN, and the selected papers will be published in the indexed Journals. They are JIII (Journal of Industrial and Intelligent Information, ISSN: 2301-3745) and JOAMS-journal of Advanced Management Science, ISSN: 2168-0787
	ICIVC 2014	2014 3rd International Conference on Image, Vision and Computing http://www.icivc.org/	The accepted papers of this conference will be published into the ICGIP proceedings, and will be included in the SPIE Digital Library, and indexed by Ei Compendex and Thomson ISI.
	ICSTE 2014	2014 6th International Conference on Software Technology and Engineering http://www.icste.org/	All accepted papers will be published in the volume of Lecture Notes on Software Engineering (LNSE) (ISSN: 2301-3559)
October 24-26, 2014 Beijing, China	**ICGIP 2014**	The 2014 6th International Conference on Graphic and Image Processing http://www.icgip.org/	The Proceedings of this conference are published in the SPIE, which will be included in the SPIE Digital Library, and indexed by Ei Compendex and Thomson ISI.
	ICNIS 2014	2014 International conference on Networks and Information Security http://www.icnis.org/	The papers accepted by ICNIS 2014 will be published in Journal of Advances in Computer Networks (JACN; ISSN: 1793-8244)

	ICRVC 2014	2014 International Conference on Robotics and Computer Vision http://www.icrcv.org/	Accepted papers will be published in the one of the following Journals with ISSN. International Journal of Computer Theory and Engineering (IJCTE) ISSN: 1793-8201 Journal of Automation and Control Engineering, ISSN: 2301-3702
November 21-23, 2014 Singapore	**ICPES 2014**	2014 the 4th International Conference on Power and Energy Systems http://www.icpes.org/	All accepted papers of ICPES 2014 will be published in the Applied Mechanics and Materials Journal (ISSN: 1660-9336).
	ICMMC 2014	International Conference on Mechanical Manufcturing and Control http://www.icmmc.org/	All accepted papers of ICMMC 2014 will be published in the Applied Mechanics and Materials Journal (ISSN: 1660-9336).
	ICNIT 2014	2014 5th International Conference on Networking and Information Technology http://www.icnit.org/	Accepted papers will be published in the one of the following Journals with ISSN. International Journal of Computer and Communication Engineering (IJCCE)-ISSN: 2010-3743; Journal of Advances in Computer Networks (JACN)-ISSN: 1793-8244; Journal of Communications-ISSN: 1796-2021
Dec 18-20, 2014 Barcelona, Spain	**ICPSE 2014**	**2014 3rd International Conference on Power Science and Engineering** **http://www.icpse.org/**	**Applied Mechanics and Materials Journal (ISSN: 1660-9336)** *Indexed by Elsevier: SCOPUS www.scopus.com and Ei Compendex (CPX) www.ei.org. Cambridge Scientific Abstracts (CSA) www.csa.com, Chemical Abstracts (CA) www.cas.org, Google and Google Scholar google.com, ISI (ISTP, CPCI, Web of Science) www.isinet.com, Institution of Electrical Engineers (IEE) www.iee.org, etc.*
	ICNB 2014	**2014 5th International Conference on Nanotechnology and Biosensors** **http://www.icnb.org/**	**Applied Mechanics and Materials Journal (ISSN: 1660-9336)** *Indexed by Elsevier: SCOPUS www.scopus.com and Ei Compendex (CPX) www.ei.org. Cambridge Scientific Abstracts (CSA) www.csa.com, Chemical Abstracts (CA) www.cas.org, Google and Google Scholar google.com, ISI (ISTP, CPCI, Web of Science) www.isinet.com, Institution of Electrical Engineers (IEE) www.iee.org, etc.*

	ICMPM 2014	2014 International Conference on Mechanical Properties of Materials(ICMPM 2014) http://www.icmpm.org/	**Applied Mechanics and Materials Journal (ISSN: 1660-9336)** *Indexed by Elsevier: SCOPUS www.scopus.com and Ei Compendex (CPX) www.ei.org. Cambridge Scientific Abstracts (CSA) www.csa.com, Chemical Abstracts (CA) www.cas.org, Google and Google Scholar google.com, ISI (ISTP, CPCI, Web of Science) www.isinet.com, Institution of Electrical Engineers (IEE) www.iee.org, etc.*
Dec 22-24, 2014 Barcelona, Spain	ICCNE 2014	2014 International Conference on Communications and Network Engineering(ICCNE 2014) http://www.iccne.org/	**All accepted papers will be published in one of the indexed Journals after being selected.** **Journal of Computers (JCP, ISSN: 1796-203X, 20 Papers)** **Journal of Software (JSW, ISSN: 1796-217X, 20 Papers)** **International Journal of Future Computer and Communication (IJFCC, ISSN: 2010-3751, 30 Papers)** **International Journal of Computer and Communication Engineering (IJCCE, ISSN: 2010-3743, 30 Papers)** **Journal of Advances in Computer Networks (JACN, ISSN: 1793-8244, 20 Papers)**
	ICOAI2014	2014 International Conference on Artificial Intelligence http://www.icoai.org/	**International Journal of Machine Learning and Computing (IJMLC ISSN: 2010-3700)** *Abstracting/ Indexing: Engineering & Technology Digital Library, Google Scholar, Crossref, ProQuest, Electronic Journals Library, DOAJ and EI (INSPEC, IET).*

Dec 22-24, 2014 Barcelona, Spain	ICCSIT 2014	2014 7th International Conference on Computer Science and Information Technology http://www.iccsit.org/	**All accepted papers will be published in one of the indexed Journals after being selected.** **Journal of Computers (JCP, ISSN: 1796-203X, 20 Papers)** **Journal of Software (JSW, ISSN: 1796-217X, 20 Papers)** **Journal of Communications (JCM, ISSN: ISSN: 1796-2021, 20 papers)** **International Journal of Future Computer and Communication (IJFCC, ISSN: 2010-3751, 30 Papers)** **International Journal of Computer Theory and Engineering (IJCTE, ISSN: 1793-8201, 30 Papers)** **International Journal of Computer and Electrical Engineering (IJCEE, ISSN: 1793-8163, 30 Papers)** **International Journal of Information and Electronics Engineering (IJIEE, ISSN: 2010-3719, 20 Papers)** **International Journal of Information and Education Technology (IJIET, ISSN: 2010-3689, 20 Papers)** **Journal of Advances in Computer Networks (JACN, ISSN: 1793-8244, 20 Papers)** **Lecture Notes on Software Engineering (LNSE, ISSN: 2301-3559, Papers)**

Note