2016 IPN – IWNEST LANGKAWI CONFERENCES

LANGKAWI, MALAYSIA
16 – 17 February 2016

Welcome to IPN-IWNEST 2016

Dear Professor, Dr and distinguished delegates,

Welcome to the IPN - IWNEST 2016 Conferences in Langkawi, Malaysia. On behalf of ***International Postgraduate Network (IPN.org) and IWNEST***, I would like to thank all the Conference Chair, Program Chairs and the Technical Committees. Their high competence and professional advice enable us to prepare the high-quality program. For the participants, we hope all of you have a wonderful time at the conference and also in Langkawi, Malaysia.

We believe that by this excellent conference, you can get more opportunity for further communication with researchers and practitioners. For the conferences of **IPCPMS, IPCIT, IPCBM, ICNFM, ICTFM, IUCSE and ICSE** more than 50 submitted papers have been received and 35 papers have been accepted and published finally.

In order to hold more professional and significant international conferences, your suggestions are warmly welcomed. And we are looking forward to meet you again next time.

Best Regards,
Thank you.

Yours Sincerely,

Datin MZ Zainab
Director – Conference Management IPN.org
Chairman, IPN – IWNEST 2016 Langkawi

Message from IWNEST President

On behalf the IWNEST publications team, it is my privilege to welcome you to the IPN - IWNEST 2016 Conferences Langkawi. IWNEST is an independent, non-political, non-governmental organization of distinguished scientists dedicated to advancing science around the world. We aim to help scientists and researchers to publish their findings in our scientific journals and to promote and help to organize worldwide conferences. We believe that has no boundaries, regardless of the great distances between countries and continents. Thus IWNEST welcomes contributions from researchers from all concern irrespective to the race, colour, religion and nationality.

Best Regards

Prof. Dr. Abdel Rahman Mohammad Said Al Tawaha
Founder President
Honorary Advisor
IPN – IWNEST 2016 Langkawi

ABOUT INTERNATIONAL POSTGRADUATE NETWORK (IPN.ORG)

The International Postgraduate Network (IPN.org) is a non-profit international association dedicated to the promotion of international education and university cooperation in the field of Business, Art, Social Science, Management, Education, Science, Technology, Engineering and any other related field.

Through the organization of different international events, it brings together institutions, bodies and organizations from different countries of the world for discussion and cooperation IPN.org Mission is to promote and enhance the dialogue in education among the institutions devoted to field mentioned above through:

- Promotion of best practice standards in the service of international education.
- The facilitation of relevant forums, training and information exchange.
- Creation and dissemination of knowledge; exert an influence in public policy.
- Production of publications used as a database document for research works, projects and innovation activities held on the international education field.

IPN.org believes that this is best achieved through international cooperation and promotes the development of closer links among relevant institutions and individuals around the world.IPN.org supports that such international cooperation can help countries learn from each other and promotes the dissemination of scientific and engineering activities. IPN.org intends to achieve the mentioned objectives and get an international visibility by the organization of international conferences and by interacting with public and private organisms from all parts of the world.

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www.internationalpostgraduatenetwork.org
www.ipnconference.org

ANNOUNCEMENT

All accepted papers will be published in:

- Australian Journal of Basic and Applied Science (ISI/THOMSON REUTERS/ERA) (online issue ISSN 1991-8178) (Indexed by ISI/Thomson Reuters, Ulrich periodicals, Ebscohost, Cabi International and DOAJ).
- MIDDLE-EAST JOURNAL OF SCIENTIFIC RESEARCH (MEJSR) ISSN 1990-9233 special issue (online). (Indexed in ISI/Thomson Reuters, Eur-asia Database, Intl Agric Database).
- International Journal of Applied Engineering Research (IJAER) ISSN no 0973-4562.
- Journal of Industrial Engineering Research (JIER) (online issue ISSN: 2077-4559) (Indexed by Google Scholar, Electronic Journals Library (EZB), Directory of Research Journal Indexing (DRJI), Directory of Open Access Journals, Open Academic Journals Index (OAJI), Directory of Science, Directory of Journal Quality Factor.
- Journal of Scientific Research and Development (ISSN: 1115-7569) (Indexed by ISI/Thomson Reuters, Ulrich periodicals, Ebscohost, Cabi International and DOAJ).
- Journal of Applied Sciences Research (JASR) (online issue ISSN 1819-544X) (Indexed by ISI/Thomson Reuters, Islamic World Science Citation Center (ISC), Ulrich periodicals, Thomson Gale, Agricola, Open J-Gate, Index Copernicus, Ebscohost, Cabi International and DOAJ).

One Best Presenter Award will be selected from each oral session. The Certificate for Best Paper award will be awarded in the Dinner Banquet on 20 February 2016.

KEYNOTE SPEAKER:

Dr. Mohammad Shahar bin Hj. Jusoh
Universiti Malaysia Perlis

Biography:

Muhammad Shahar Jusoh is senior lecturer at School of Business Innovations and Technopreneurship, Universiti Malaysia Perlis (UniMAP). His duties include teaching, supervising, conducting research and administration. He is also an instructor for Performance Measurement and Management using Rasch Measurement Model courses. Prior to joining UniMAP, Muhammad Shahar was responsible for teaching and supervising such related subjects; such as Quality Management, Strategic Management, Supply Chain Management and Operational Management. His previous experience includes lecturer at KUTPM, among the biggest private higher education in Malaysia, and two years in junior consultant positions at Total Quality Management based organization, among the clients served are the multinational company in Malaysia. Muhammad Shahar holds a Bachelor (Honors) in Business Administration, MSc in Information Management and PhD in Quality Management and is a member of The Rasch Measurement Model Malaysian Chapter and assessment panel for Malaysian Qualifications Agency (MQA) in the area of Management and Administration. His research areas and grants focus on enterpreneurship, performance measurement and operational management worth more than RM2.5 million in total. In addition, he produced quite a few copyrighted and won several medal at national and international exhibition.

Measurement: A Rasch Analysis of Malaysian Automotive Quality Management-Cost of Quality Scale (MAQM-CoQ Scale)

Author: Dr. Mohammad Shahar bin Hj. Jusoh
Universiti Malaysia Perlis

Abstract:

Instrument construct is an important issue in every research. Without proper consideration in tackling the issues, it is impossible for the instrument to be considered as reliable and valid. When the construct validity is accurate, then it will produce a clearer and precise descriptive analysis on the concept understudies. The most important criteria need to consider in answering the construct validity are reliability and validity. In tradition measurement model, the understanding of measurement and reliability is totally different as compared to Rasch analysis. Regardless the difference, an internal consistency is still widely used as a primary method to measure the item sampling. Local dependence and item fit are most considered in getting valid, reliable, and consistency hence contributed to the significance of the measurement used. This study attempts to discuss the empirical evidence occurs between the quality management principles, cost of quality and organizational performance using the Rasch's principal component analysis measurement model approach.

LIST OF THE CONFERENCE COMMITTEE

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INSTRUCTION FOR ORAL PRESENTATION

Devices Provided by the Conference Organizer:

- Laptop (with MS-Office & Adobe Reader)
- Projector & Screen
- Laser Sticks

Materials Provided by the Presenters:

- PowerPoint or PDF files

Duration of each Presentation (Tentatively):

- Regular oral presentation: about 15 minutes (including Q&A)
- Keynote speech: about 40 minute (including Q&A)

Notice: Please keep your belongings (laptop and camera etc) with you!

During registration:

Original Receipt
Representative / Pass Card with lanyard
Printed Program
Lunch Coupon
Dinner Coupon
Participation Certificate (collected from Session Chair after the session)
Conference Bag

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IPN – IWNEST 2016 Conferences Langkawi
Conference Program

February 16, 2016	Venue: **Adya 5 (Level 1)**	1100 – 1300	Registration	
February 17, 2016	Venue: **Adya 5 (Level 1)**	0845 – 1000	Opening Remarks & Plenary Speech 1	**Dr. Mohammad Shahar bin Hj. Jusoh** Universiti Malaysia Perlis
		1000 – 1030	Group Photo and Coffee Break	
	Venue: Adya 5 **(Level 1)**	1030 – 1230	Session 1	
	Venue: **Jelapang Restaurant**	1230 – 1400	Lunch	
	Venue: **Adya 5 (Level 1)**	1400 – 1600	Session 2	
	Venue: **Outsite Adya 5 (Level 1)**	1600 – 1630	Coffee Break	
	Venue: **Jelapang Restaurant**	1900 – 2100	Best Presenter Awards And Dinner	

Session 1
Time: 1030 – 1230
Venue: **Adya 5**
Session Chair: **Dr. Muhammad Shahar bi Hj Jusoh**

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No	Paper ID	Presenter
1	**001-ipcbm**	**Bibliometric Analysis On Green Supply Chain Management: Year 2000-2014** Nor Ratna binti Masrom, **Raja Zuraidah RM Rasi** *Universiti Tun Hussein Onn Malaysia, Malaysia*
2	**002-ipcbm**	**The Relationship of Price, Service Quality and Agent (Wakalah) Towards the Customer Satisfaction among Takaful Participant in Malaysia** **Nur Hafifa Iswati**, Ummi Naiemah Saraih, Md. Aminul Islam *Universiti Malaysia Perlis, Malaysia*
3	**001-iucse**	**Design and Control of an Anthropomorphic Robotic Arm** **Simon A/L Luthsamy**, Haidar F. AL-Qrimli, Sharifah Shazzana Wan Taha *Curtin University, Malaysia*
4	**004-ipcbm**	**The Effects of Stakeholder Pressure on Eco- Innovation Practices in Malaysian Chemical Industry** **Salmah Omar**, Dr. Norfaridatul Akmaliah Othman *Universiti Utara Malaysia , Malaysia*
5	**003-ipcbm**	**Factors Influencing Employee Turnover in Private Sector in Malaysia: A Concept Paper** **Fatin Delaila Abdul Latif*** & Ummi Naiemah Saraih *University Malaysia Perlis, Malaysia*
6	**007-ipcbm**	**Management Control System under the Pressure of Strategic Uncertainty: The Case of the Arab World** **Rabee Shurafa**, Rapiah Bt Mohamed *Universiti Utara Malaysia, Malaysia*
7	**009-ipcbm**	**Recycling Practices among Halal Food Producers** Nurazariah Abidin, **Afdzal Aizat Ramli**, Nor Adibah Ahmad *Universiti Tenaga Nasional, Malaysia*
8	**002-ipcit**	**Assessment of Solid Waste Generated in UNITEN, Putrajaya Campus.** Mohd Hafiz Zawawi, **Nazirul Mubin Zahari**, Nor Azalina Rosli and Ahmad Najmudin A. Hamid *Universiti Tenaga Nasional, Malaysia*
9	**002-iucse**	**Design and Development of ROV for Underwater Surveillance** **Luqman Al Hakim**, Azli Yahya, Muhammad Arif Abdul Rahim, Sophan Wahyudi Nawawi *Universiti Teknologi Malaysia, Malaysia*

Session 2
Time: 1400 - 1600
Venue: **Adya 5**
Session Chair: **Prof. Dr. Supian Bin Samat**

No	Paper ID	Presenter
1	**001-icnfm**	**CHARACTERIZATION AND PRODUCTION OF CONDUCTIVE FILLER FROM OIL PALM ASH AND ITS PERFORMANCE IN EPOXY MATRIX** OTHMAN MAMAT, **RAPHAEL JOSHUA MAILABARI** *Universiti Teknologi, PETRONAS, Malaysia*
2	**001-ipcpms**	**DIELECTRIC PROPERTIES OF BISMUTH TELLURITE OXIDE GLASS** **Siti Wahidah Nazari**, Ahmad Kamal Yahya, Halimah Mohamed Kamari *UiTM Shah Alam, Malaysia*
3	**002-icnfm**	**PREPARATION AND MICROSTRUCTURE OF Ag-DOPED TiO_2 NANOTUBES BY ANODIZATION METHOD** **Somkuan Photharin**, and Udom Tipparach *Ubonratchathani University, Thailand*
4	**002-ipcpms**	**PARTIAL SUPRESSION OF BORATE ANOMALY AND INDUCEMENT OF Bi_2O_3-BaO OXIDE PAIR ELASTIC MODULIIN $5Bi_2O_3$-xBaO-$(85-x)B_2O_3$-$10SiO_2$ BORATE GLASS** **Aizzuddeen Mustafa,** Mahesh Kumar Talari, A.K. Yahya *UiTM Shah Alam, Malaysia*
5	**004-ipcpms**	**Performance Evaluation onThree OSLD Readers in the Dose Range of 1-10 mSv** **W. N. S. W.Ikmal**, N. F.Muhamad, S. B. Samat *Universiti Kebangsaan Malaysia, Malaysia*
6	**003-icnfm**	**Facile one-step electrochemical deposition of polypyrrole-copper nanoparticles for detection of hydrogen peroxide** **Pooria Moozarm Nia,** Woi Pei Meng, Y. Alias *University of Malaya, Malaysia*
7	**005-ipcpms**	**MATHEMATICAL MODELING FOR DRUG RELEASE FROM A SWELLING HYDROGEL** **Muhamad Hakimi Saudi**, Shalela Mohd Mahali *Universiti Malaysia Terengganu*

Conference Venue

Adya Hotel Langkawi

No. 1 PT, 4001, Persiaran Mutiara 2,
Mukim Kuah, 07000 Langkawi
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Note

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List of Abstract

No	Paper	Abstract
1	001-ipcbm	**Bibliometric Analysis On Green Supply Chain Management: Year 2000-2014** Nor Ratna binti Masrom *[1], **Raja Zuraidah RM Rasi** *[2] *[1] PhD Student, Graduate School of International Social Science, Yokohama National University, Yokohama 240-8501, Japan* *[2] Senior Lecturer, Department of Production and Operations Management, Universiti Tun Hussein Onn Malaysia, Malaysia* **Abstract :** Background: Bibliometric is a mathematical and statistical method to study and identify patterns in the usage of materials and services within a library or to analyze the historical development of a specific body of literature, especially its authorship, journal, and citations. A quantitative survey of the literature pertaining to the study of Green Supply Chain Management from Web of Science, covering the period of 2000-2014, based on the scope of 530 literatures of GSCM. The study was pursued and applied bibliometric methods. Objective: The aim of the paper is to give a comprehensive information about the features and development of the green supply chain management field base literature. Results: It was found that the research related to green supply chain is growing tremendously over the time. Conclusion: On different levels of citation aggregations, and frequency distributions indicated a fragmented base literature.
2	002-ipcbm	**The Relationship of Price, Service Quality and Agent (Wakalah) Towards the Customer Satisfaction among Takaful Participant in Malaysia** **Nur Hafifa Iswati***[1], Ummi Naiemah Saraih[2], Md. Aminul Islam [3] *[1] PhD Candidate, Universiti Malaysia Perlis, School of Business Innovation and Technopreneurship, 01000 Kangar, Malaysia* *[2] Senior Lecturer, Universiti Malaysia Perlis, School of Business Innovation and Technopreneurship, 01000 Kangar, Malaysia* *[3] Assoc. Prof, Universiti Malaysia Perlis, School of Business Innovation and Technopreneurship, 01000 Kangar, Malaysia* **Abstract :** The existence of Takaful industry in Malaysia in 80's which started as a compliment to the Islamic bank now has become an industry that is able to stand alone. It had receive a continuous support from the Bank Negara Malaysia and also other organization in Malaysia which had helped to made Malaysia as the biggest Takaful industry

		outside the Arab region. However, Takaful industry in Malaysia as compared to the conventional insurance is still lag behind and the growth is considered slower but steady. The important of a good marketing strategy is needed to make sure the competitive advantage and the survival of the Takaful industry in Malaysia. Competition is the first business risk in Takaful industry (Ernst and Young, 2014). The purpose of this study is to examine the relationship between the quality services, agent, price and customer satisfaction in the Malaysia Takaful industry. Theory of cognitive dissonance is used in this study and it is expected that findings in this study will contribute to the existing literature in this field. The findings is also expected to contribute in not just theoretical but also in managerial approach by those who involved in this industry to better understand what is customer seek in the post purchase stage that will lead to customer satisfaction.
3	**003-ipcbm**	**Factors Influencing Employee Turnover in Private Sector in Malaysia: A Concept Paper** **FatinDelaila Abdul Latif**[*1] & UmmiNaiemahSaraih[2] *[1]School of Business Innovation and Technopreneurship, University Malaysia Perlis, Malaysia. E-mail: ellemonish@yahoo.com* *[2]School of Business Innovation and Technopreneurship, Universiti Malaysia Perlis, Malaysia* **Abstract :** Background: As turnover trend increases from a year to another in Malaysian private sector until it becomes a crucial issue nowadays. Objective: The overall objective of this study will be to identify the relationship between factors that contribute in the employee turnover in Malaysian private sector. Results: This study provides the concept of how will these three factors (overtime, overworked and office politics) will affect employee turnover and more data, findings and comparisons will be presented in future journal on selecting the best factors that have impact on employee turnover the most. Conclusion: In conclusion, this research will examine the interrelation of internal affairs and conflicts which are based on those three independent variables happened in the working environment and their cultures practiced by employees in the organization and how do them relate to employee turnover.
4	**004-ipcbm**	**The Effects of Stakeholder Pressure on Eco- Innovation Practices in Malaysian Chemical Industry** **Salmah Omar**[1], Dr. Norfaridatul Akmaliah Othman[2] *[1] School of Technology Management and Logigistic, Universiti Utara Malaysia , 06010 Sintok, Kedah, Malaysia* *[2] Faculty of Technology Management and Technopreneurship, Universiti Teknikal Malaysia Melaka, Durian Tunggal, 76100 Melaka, Malaysia* **Abstract :** Background: Environmental activities are increasingly seen as a potential source of competitive advantage. Malaysia also realized investing in environmental protection becomes increasingly important.

		The term environmental innovation or eco-innovation relates to innovations aiming at a decreased negative influence of innovations on the natural environment. Thus, it is important to identify the processes and agenda governing the development of the sustainability of an organization. . It is therefore vital to understand what motivates companies to implement eco-innovation practices as environmentally friendly solutions.. Objective: In this study, the conceptual framework is proposed and tested between stakeholder pressure (SHP) and eco-innovation practices (EIP). Results: EIP is influenced directly by SHP (β=0.390, t=3.686, p<0.000). Conclusion: The findings of this study reveal that stakeholder pressure (SHP) is an important antecedence in affecting eco-innovation practices. This variable concerns receiving pressure from government, especially local government, environmental and enforcement agencies, and national legislator will influence the extent of eco-innovation practices implementation.
5	**007-ipcbm**	**Management Control System under the Pressure of Strategic Uncertainty: The Case of the Arab World** **Rabee Shurafa**, Rapiah Bt Mohamed *Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia, Sintok, 06010 Malaysia* **Abstract :** The purpose of this paper is to provide conceptual framework to understand the possible influence of the strategic uncertainty on management control system (MCS). In particular, the impact of the political uncertainty, that dominate the Arab world, as well as the competitive uncertainty on levers of control (LOC) framework. Four proposed hypotheses have been illustrated in this paper, for the benefit of future research to provide proper solutions in order to face the increasing level of strategic uncertainty by design efficient MCS.
6	**009-ipcbm**	**Recycling Practices among Halal Food Producers** Nurazariah Abidin [*1], **Afdzal Aizat Ramli** [2], Nor Adibah Ahmad [3] *[1] Universiti Tenaga Nasional, Campus of Sultan Haji Ahmad Shah, College of Business and Accounting, Department of Management and Human Resource, 26700 Bandar Muadzam Shah, Pahang Darul Makmur, Malaysia* *[2] Universiti Tenaga Nasional, Campus of Sultan Haji Ahmad Shah, College of Business and Accounting, Department of Management and Human Resource, 26700 Bandar Muadzam Shah, Pahang Darul Makmur, Malaysia* *[3] Universiti Tenaga Nasional, Campus of Sultan Haji Ahmad Shah, College of Business and Accounting, Department of Management and Human Resource, 26700 Bandar Muadzam Shah, Pahang Darul Makmur, Malaysia* **Abstract :** Nowadays, the increasing issues of environmental problem which caused by industrial is getting serious. The seriousness of this issue has triggered the action towards implementing sustainable working practices. Among all those practices that can be implemented in the industrial is through recycling practices. However, lack of awareness in industrial landscaped towards recycling practices which

		led to ignorance. It is a concerned to predict the reason behind ignorance towards recycling practices and spotted the factors that can be highlighted to implemented successful recycling practices at the workplace especially among halal food producer. High demand on halal food supplies all over the world has led Malaysia to become one of the most prominent halal food supplies. The increasing number of food producer become concerns when the issue of waste management is raised. The call for sustainable working practices requires the commitment not only from manager, but also other staff member to ensure the effectiveness of recycling practices. This study is inspired to examine the relationship between motivator, barrier and sustainable attitude towards recycling behavior among Halal Food Producer. Towards the end of this study, the research model is aim to assist from managerial perspective towards implementing recycling practices.

No	Paper	Abstract
1	**001-ipcpms**	**DIELECTRIC PROPERTIES OF BISMUTH TELLURITE OXIDE GLASS** **Siti Wahidah Nazari***[1], Ahmad Kamal Yahya[2], Halimah Mohamed Kamari[3] *[1,2] Universiti Teknologi Mara, Department of Physics , Faculty of Applied Sciences, 40450 Shah Alam, Selangor, Malaysia* *[3] Universiti Putra Malaysia, Department of physics, Faculty of Science, 43400 Serdang, Selangor, Malaysia* **Abstract :** Glasses of $20Li_2O.xBi_2O_3.(80 - x)TeO_2$; (x= 3, 5, 7, 10, 13, 15 mol%) have been prepared by melt-quenching method to investigate polarization environment at ionic electronic transition region using impedance spectroscopy measurement. Structural properties of the glasses was investigated using Fourier Transform Infrared (FTIR) spectroscopy. IR spectra of the present glass system shows Bi_2O_3 plays the role of network forming with BiO_3 unit structure at x=3,5 and 7 mol% but act as network modifier with BiO_6 unit structure for x= 10, 13 and 15 mol%. The dielectric constant ε' generally observed to increase with addition of Bi_2O_3 except for an anomalous drop at x=7 mol%. The increase of ε' at low frequency region indicates heavy dipoles are the main source of polarization and it is suggested Bi_2O_3 may indirectly contribute to polarization. The drop of ε' at x=7 mol% is suggested to be due to former role of Bi_2O_3 that incorporate into the glass network and enhance the formation of bridging oxygen (BO) as evidence in FTIR result. The increase in formation of BO reduces the opening of the glass network thus impedes the orientation of heavy dipoles. The dielectric loss also shows lowest value in x=7 mol%.
2	**002-ipcpms**	**PARTIAL SUPRESSION OF BORATE ANOMALY AND INDUCEMENT OF Bi_2O_3-BaO OXIDE PAIR ELASTIC MODULIIN $5Bi_2O_3$-*x*BaO-(85-*x*)B_2O_3-$10SiO_2$ BORATE GLASS** **Aizzuddeen Mustafa** [a], Mahesh Kumar Talari [a], A.K. Yahya [a] *[a] Physics Department, Faculty of Applied Sciences, UiTM Shah Alam, 40450, Shah*

		Alam, Malaysia **Abstract :** Studies on $5Bi_2O_3$-xBaO-(85-x)B_2O_3-$10SiO_2$borate glasses have been carried out to investigate the effect of Bi_2O_3 and BaO pair on optical, elastic properties and the borate anomaly. Density (ρ) and structural data with increasing BaO showed initial drop in density at x =25 mol % accompanied by formation of non-bridging oxygens [BO_3] before a large increase in density and formation of diborate groups that act as bridging oxygens [BO_4]. The results indicate partial suppression of the borate anomaly with the partial replacement of B_2O_3 by BaO at x ≤ 25 mol %. Longitudinal modulus (C_L), Shear modulus (μ), Young's modulus (Y), Bulk modulus (K_e) and Debye temperature (θ_D), showed weak changes for x< 25 mol % followed by large increase for x> 25 mol % indicating non-linear changes in stiffness and rigidity. Presence of Bi_2O_3 seems to trigger BaO to behave like a glass network former which might be due to the effect of Bi_2O_3-BaO oxide pair. Bulk compression model revealed that K_{bc}/K_e ratio generally decreaseduntil x = 27 mol % before increased steeply at further substitution of BaO.The dropin K_{bc}/K_e ratio reflects increasing stability of the glass towards compressional stress.
3	**004-ipcpms**	**Performance Evaluation onThree OSLD Readers in the Dose Range of 1- 10 mSv** **W. N. S. W.Ikmal**, N. F.Muhamad, S. B. Samat* *Universiti Kebangsaan Malaysia, School of Applied Physics, Faculty ofScience and Technology, 43600 UKM Bangi, Selangor. Malaysia* **Abstract :** Background: In the past six years, the SSDL laboratory of Nuclear Malaysia Agency has been using the microStar reader (labelled here as R1) to get the OSLD readings. Recently, the laboratory acquired two new readers, Auto 200 (R2) and Auto 500 (R3). Objective: The purpose is to evaluate the performance on the two new readers in comparison with the existing one. Two tests were utilised for five delivered doses namely 1, 3, 5, 7 and 10 mSv: (a) for the linearity test, i.e. the graph of$y$=D_{meas}(measured dose) versus$x$=D_{del} (delivered dose)was plotted for each reader. The experimental straight-line gradients m_{R1}, m_{R2} and m_{R3} (respectively for reader R1, R2 and R3) were compared with the theoretical gradient $m_t$of which m_t=1 and c=0 in the equation of y=$m_t$$x$+c; (b) for the accuracy test using the trumpet graph as suggested by the ICRP 1991, the experimental value for the five dosesi.e. R_{1mSv}, R_{3mSv}, R_{5mSv}, R_{7mSv}, and R_{10mSv}should respectively lie in the range of $0.55 \le R_{1mSv} \le 1.63$, $0.62 \le R_{3mSv} \le 1.55$, $0.64 \le R_{5mSv} \le 1.53$, $0.65 \le R_{7mSv} \le 1.52$, and $0.65 \le R_{10mSv} \le 1.51$.$R$ is the ratio of the D_{meas} to D_{del}. Results:For the first test,m_{R1}, m_{R2} and m_{R2}were found to be 0.989, 0.939 and 1.035. In percentange deviation of the gradient Δ_m(%) (compared to the theory) this is equal to −1.1%, −6.1% and 3.5%. If the evaluation is solely based on this test, it looks as if only R1 is suitable for use as it yielded Δ_m(%) less than ±1.5%. However when the second test were taken into account, it was found that all the three readers are suitable for use as they fulfilled the test requirement. Conclusion: Since the two new readers passed the accuracy test, the laboratory decided to use

		these readers in addition to the existing microStar reader.

No	Paper	Abstract
1	**002-ipcit**	**Assessment of Solid Waste Generated in UNITEN, Putrajaya Campus.** Mohd Hafiz Zawawi [1], **Nazirul Mubin Zahari** [2], Nor Azalina Rosli [3] and Ahmad Najmudin A. Hamid[1] *[1]Department of Civil Engineering, College of Engineering, Universiti Tenaga Nasional, Jalan IKRAM-UNITEN, 43000 Kajang, Selangor Malaysia* *[2]Department of Civil Engineering, Faculty of Engineering, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, Malaysia* **Abstract :** Background: The purpose of this study is to identify the solid waste generation and compositions that are generated from UNITEN Putrajaya Campus area and also to calculate potential energy and profit that can be harvested from the solid waste. This study was conducted at UNITEN Putrajaya Campus where the samples of solid waste were collected from different types of source of generation namely residential colleges, faculty building, admin building and cafeteria. The solid wastes collected are weighed, mixed, quartered and the compositions of the samples are determined. From the analysis, the solid waste generation rate is 2173.8 kg per day during on-going semester and 987.9 kg/day during semester break which give 68.8% differences. The major composition of solid waste produced from this study area is food waste with the value of 56% followed by mixed plastic with 9%, mixed paper with 7%, mixed plastic bottle with 6%, box and polystyrene are with 4% and the less percentage of solid waste composition is aluminum with 3%. From observation, the amount of solid waste generated in UNITEN Putrajaya Campus is depending on the size of the area whereas the larger area has resulted in higher of solid waste generation. In terms of energy that could be recovered by incineration, the total estimation potential energy that generated by UNITEN is about 7750.6kJ/kg per day. Finally, the profit that can be achieved when the solid wastes are recycles is about RM259.94 per day (during on-going semester) and RM116.96 (during semester break). The analysis shows that solid waste generated in UNITEN has a good potential in recycling and give more benefit to UNITEN. With the data of the solid waste generated in this study area, proper management strategies can be planned by top management of UNITEN and put it into action in the future. In long term, it will make UNITEN a green campus which eventually reduces the amount of solid waste generation.

No	Paper	Abstract
1	001-icnfm	**CHARACTERIZATION AND PRODUCTION OF CONDUCTIVE FILLER FROM OIL PALM ASH AND ITS PERFORMANCE IN EPOXY MATRIX** [1]OTHMAN MAMAT, [2]**RAPHAEL JOSHUA MAILABARI** *[1,2] Mechanical Engineering Department Universiti Teknologi, PETRONAS, Bandar Seri Iskandar, Perak Malaysia. E-Mail : [1]drothman_mamat@petronas.com.my, [2]raphbari@yahoo.ca* **Abstract :** Oil Palm Ash (OPA) was investigated and the FESEM studies showed medium sized particle with a crushed structure. An XRD diffractogram of OPA showed that the obtained OPA contain aluminum, silicon and they exist in their oxide form as indicated by the high percentage of oxygen (36%) with little traces of potassium oxide, calcium oxide, magnesium oxide. while FTIR analysis indicated the occurrence of functional groups such as OH groups, silanol hydroxyl groups of silica or the N-H stretching vibration free imines, aromatic C-H and C-Br alkyl functional group and the presence of methyl CH_3. OPA was carbonized in a furnace with control flow of nitrogen and ball milled at 100 rpm for 3 hours to obtain a carbonized particle with diameter of 77.9-140.9 nm. The synthesized carbon black (CB) Particle was dispersed in epoxy resin (DGEBA) at different loading to produce an electrically conductive polymer with a well-dispersed network of electrical conducting particles.
2	002-icnfm	**PREPARATION AND MICROSTRUCTURE OF Ag-DOPED TiO_2 NANOTUBES BY ANODIZATION METHOD** **Somkuan Photharin**[1,a], and Udom Tipparach[1,b*] *[1]Department of Physics, Faculty of Science, Ubonratchathani University, Warinchamrab, Ubon Ratchathani, 34190, Thailand. E-Mail: [a]sky_ubu@hotmail.com and [b*]udomt@hotmail.com* **Abstract :** In this paper, we present the effect of silver (Ag) dopants in titanium dioxide (TiO2) nanotubes by the electrochemical anodic oxidation of pure titanium in the mixtures of ethylene glycol (EG), ammonium fluoride (NH4F) and deionized water electrolyte solution containing with different concentrations of silver ions. X-ray diffraction (XRD) was used to study microstructure and scanning electron microscopy (SEM) and atomic force microscopy (AFM) were used to investigate surface morphology of TiO2. The results showed that the diameters of nanotube arrays were about 92 nm for undoped TiO2 and about 103 nm for all Ag-doped TiO2 nanotubes. The peaks for undoped and doped TiO2 are similar. When the concentration of silver nitrate (AgNO3) dopants increases, the TiO2 nanotube arrays cracked and are not well arranged.
3	003-icnfm	**Facile one-step electrochemical deposition of polypyrrole-copper nanoparticles for detection of hydrogen peroxide**

		Pooria Moozarm Nia[1,*], Woi Pei Meng[1], Y. Alias[1] *Department of Chemistry, University of Malaya, Kuala Lumpur 50603, Malaysia* **Abstract:** A straightforward and novel one-step technique for electrochemical synthesis of polypyrrole micro trunk-like shape decorated with copper nanoparticle is presented. The technique is based on electropolymerization and copper electrodeposition in the one-pot aqueous solution. The electrodeposited copper nanoparticles with 30 nm in diameter have embedded on the polypyrrole micro trunk-like. The synthesized electrode was characterized by field emission scanning electron microscopy, X-ray photoelectron spectroscopy and electrochemical methods. The chemical structures, morphology, catalytic and electrochemical properties of the synthesized sensor towards hydrogen peroxide were examined. The prepared sensor increased electrocatalytic activity toward reduction of hydrogen peroxide and can be employed as an inexpensive and novel sensor for determination of hydrogen peroxide.

No	Paper	Abstract
1	**001-iucse**	**Design and Control of an Anthropomorphic Robotic Arm** **Simon A/L Luthsamy** *[1], Haidar F. AL-Qrimli[1], Sharifah Shazzana Wan Taha[1] *[1] Department of Mechanical Engineering, Curtin University, Malaysia* **Abstract :** Background: In the 21st century, the design and development of robotic arms are being massively researched at the global level. One of the objectives of robotics engineering is to design a dexterous robotic arm whilst reducing the weight-to-payload ratio. Therefore, this paper highlights the mechanical design and electrical system concept and development of a 5 DOF robotic arm which is capable of 'human-like' behaviors. Hence, these anthropomorphic characteristics are achieved via an ability to control the (i) shoulder (ii) elbow and (iii) wrist joints of the robot. Consequently, the robotic arm is infused with industrial knowledge thus possessing the ability to execute tasks such as the 'pick-and-place operation'. The development of this robot is based on the Arduino UNO platform which is connected to the PS3-controller to operate the robotic arm wirelessly. The goal of the research is to deliver a robotic arm with minimum weight-to-payload ratio. Therefore, the current research proves that a light weight robotic arm is a viable option to sustain higher amount of payload and determine the robotic arm's capacity in serving its purpose.
2	**002-iucse**	**Design and Development of ROV for Underwater Surveillance** **Luqman Al Hakim** [1], Azli Yahya [2], Muhammad Arif Abdul Rahim [3], Sophan Wahyudi Nawawi [4] *[1] Department of Communication Engineering, Faculty of Electrical Engineering, Universiti Teknologi Malaysia, 81310, Johor Bahru, Johor, Malaysia.* *[2] Department of Biotechnology and Medical Engineering, Faculty of Biosciences*

		and Medical Engineering, Universiti Teknologi Malaysia, 81310, Johor Bahru, Johor, Malaysia. *[3] Department of Electronic and Computer Engineering, Faculty of Electrical Engineering, Universiti Teknologi Malaysia, 81310, Johor Bahru, Johor, Malaysia.* *[4] Department of Control and Mechatronic Engineering, Faculty of Electrical Engineering, Universiti Teknologi Malaysia, 81310, Johor Bahru, Johor, Malaysia* **Abstract :** Background: In this paper, an ROV is designed and developed for the purpose of underwater surveillance. The development begins by stipulating the design specification and consideration to narrow down the operating scope of the particular ROV. Four aspects have been considered when designing this ROV; mechanical, frame, actuator and power. The primary task of this ROV is to explore and inspects the underwater structure so, it will be equipped with colour video camera with tilting capability and wide aperture lighting. Additional kits such as sensors are used to detect the position and know the exact location of the ROV. The designed ROV is a class 1 ROV which is pure observation vehicle that has at least 4 DOF for easing the navigation through the rough underwater environment. The design concept of this ROV is split into many parts; structural frame, propulsion system, control system, power system, tether and video. The developed ROV is suitable for inspection of underwater building and bridge platform as well as underwater cabling and piping for oil and gas companies.