# 2019 IPN CONFERENCES MELBOURNE, AUSTRALIA

**MELBOURNE, AUSTRALIA**
**22-24 MARCH 2019**

# Welcome to IPN Conferences 2019

**Dear Professor, Dr and distinguished delegates,**

Welcome to the IPN Conferences 2019 in Melbourne, Australia. On behalf of ***IPN Education Group***, 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 programs. For the participants, we hope all of you have a wonderful time at the conference and also in Melbourne, Australia.

We believe that by this excellent conference, you can get more opportunities for further communication with researchers and practitioners. For the conferences of **ICASM 2019, ICET 2019, ICAESS 2019 and AICETS 2019** more than 50 submitted papers have been received and 31 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 Education Group
Chairman, IPN Conferences 2019 Melbourne, Australia

# Message from IPN Honorary Advisor

On behalf the IPN Education Group, it is my privilege to welcome you to the IPN Conferences Melbourne, Australia 2019 IPN 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 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 IPN 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**
**Honorary Advisor IPN Education Group**
***IPN Conferences 2019 Melbourne, Australia***

# About IPN Education Group

The IPN Education Group 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 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 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 supports that such international cooperation can help countries learn from each other and promotes the dissemination of scientific and engineering activities. IPN 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.

IPN.org
IPN Education Group

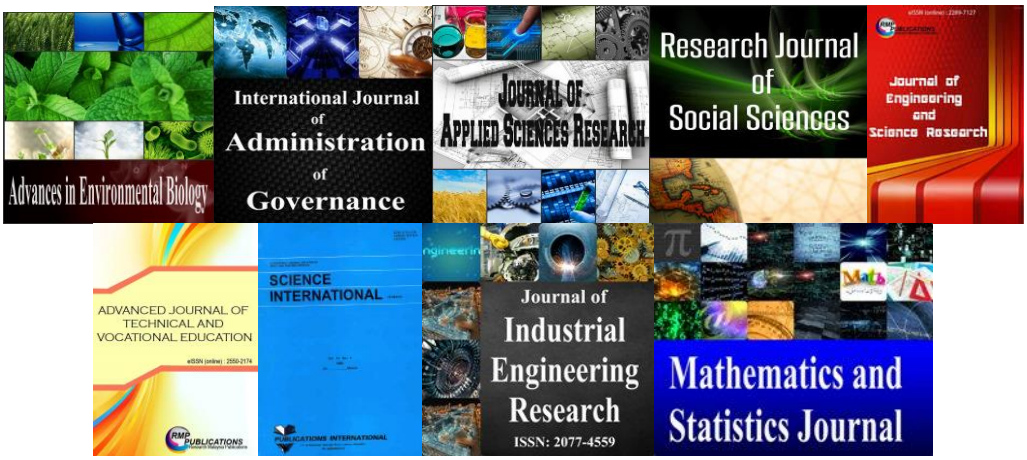
www.ipneducationgroup.org
www.ipnconference.org

# ANNOUNCEMENT

All accepted papers will be published in:

- Active Scopus Indexed Journal
- Active ERA Indexed Journal
- Management Science Letters (MSL) (EISSN: 1923-9343/ ISSN: 1923-9335) or other active Scopus Indexed Journal
- Amazonia Investiga Journal (ISSN: 2322-6307) or other active ESCI Journal
- International Journal of Recent Technology and Engineering (IJRTE) (TM) (ISSN: 2277 -3878)
- International Journal of Administration and Governance (IJAG)(ISSN 2077-4486)
- International Journal of Asian Social Science EISSN: 2224-4441 ISSN: 2226-5139
- Chemical Engineering Transactions (CET) (ISSN: 2283-9216) or other active Scopus Indexed Journal
- Journal Of Mechanics Of Continua And Mathematical Sciences EISSN: 0973-8975, ISSN: 2454-7190 or other ESCI Journal
- Science International Journal (SI) ISSN: 1013-5316 (Google Scholar)
- Advances in Environmental Biology (ISSN 1995-0756) or other Active ERA Journal
- Mathematics and Statistics Journal (MSJ) (ISSN: 2077-4591) (Google scholar)
- Journal of Engineering and Science Research (JESR) (eISSN : 2289-7127) (Google Scholar, MyJurnal)
- Advanced Journal of Technical and Vocational Education (AJTVE) (eISSN : 2550-2174)(Google Scholar, MyJurnal)
- Journal of Industrial Engineering Research (JIER) (ISSN:2077-4559)
- Research Journal of Social Sciences (RJSS) (ISSN:1815-9125) (Peer Review Journal)

One Best Presenter Award will be selected from each oral session. The Certificate for Best Presenter award will be awarded after presentation session.



## KEYNOTE SPEAKER:

**Prof. Dr. Abdel Rahman Mohammad Said Al-Tawaha, (Ph.D)**
**Honorary Advisor IPN.org**

**Dato' Syed Azuan Syed Ahmad Al-Idrus, D.I.M.P., M.Eng, B.Sc, Dip**
**Honorary Advisory MDSG**
**Fellow, Institute of Materials, Malaysia**
**Fellow, IPN.org**
**Senior Member, Society of Manufacturing Engineers USA**

# LIST OF THE CONFERENCE COMMITTEE

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**IPN Conferences 2019 Melbourne, Australia, Chairman**

Datin MZ Zainab

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Prof. Dr. Abdel Rahman Mohammad Said Al-Tawaha (Ph.D McGill University)

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**IPN Conferences 2019 Melbourne, Australia, Organising Committee**
Nurul Faezah Mohd Talib
Nor Nabihah Mohd Sharani
Noraswana Abd Aziz

# 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 minutes (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
Participation Certificate (collected from Session Chair after the session)
Conference Bag

**IPN Conferences 2019 Melbourne, Australia**
**Conference Program**

| | | | | |
|---|---|---|---|---|
| **March 22, 2019** | Venue: **Lobby** | 1000 - 1200 | Registration | |
| **March 23, 2019** | Venue: **Elizabeth Room** | 0830 – 0845 | Opening Remarks | **Opening Remarks** |
| | | 0845 – 1000 | Plenary Speech 1 | **Keynote Speaker** |
| | | 1000 – 1030 | Group Photo and Coffee Break | |
| | Venue: **Elizabeth Room** | 1030 – 1230 | Session 1 | |
| | Venue: | 1230 – 1400 | Lunch | |
| | Venue: **Elizabeth Room** | 1400 – 1600 | Session 2 | |
| | Venue: | 1600 – 1630 | Coffee Break | |
| | Venue: **Elizabeth Room** | 1600 – 1800 | Session 3 | |
| **March 24, 2019** | Lobby hotel | 0800 - 1200 | Networking | |

Session 1
Time: 1030 – 1300
Venue: **Elizabeth Room**
Session Chair: **Dr. Norasibah Abdul Jalil**

| No | Paper ID | Presenter |
|---|---|---|
| 1 | 003-mel | **Economics Entrepreneurship of the Female Business Operators: A Study on Motives, Motivations and Performance**<br><br>**Norasibah Abdul Jalil,** Zainizam Zakariya, Norimah Rambeli @ Ramli, Hamidah Yusof, Noor Al-Huda Abdul Karim<br><br>*Universiti Pendidikan Sultan Idris, Perak, Malaysia* |
| 2 | 026-mel | **From Creation of The World to Cosmic Dance: on Coordinates of Artistic Thinking**<br><br>**Tatiana V. Portnova**<br><br>*Peoples' Friendship University of Russia, Moscow, Russia* |
| 3 | 013-mel | **Revert Muslim and Mental Health**<br><br>**Norazlina Zakaria**<br><br>*Universiti Islam Antarabangsa Sultan Abdul Halim Muadzam Shah (UniSHAMS) Kuala Ketil, Malaysia* |
| 4 | 015-mel | **Antecedents of Interethnic Bridging Social Capital Score among Gen Y in Malaysia**<br><br>**Maheran Katan,** Rachel Samuel, Nasreen Miza Hilmy Nasrijal, Tan Gek Siang, Nasharudin Mat Isa<br><br>*Universiti Teknologi MARA (UiTM), Malaysia* |
| 5 | 022-mel | **Enhancing Interethnic Bridging of Gen Y Workforce**<br><br>**Nasreen Miza Hilmy Nasrijal**, Maheran Katan, Rachel Samuel, Tan Gek Siang, Nasharudin Mat Isa<br><br>*Universiti Teknologi MARA, Malaysia* |
| 6 | 029-mel | **The Russian Animalistic Art of the 20th Century as a Cultural Phenomenon of that Time**<br><br>**Portnova I.V.***<br><br>*Peoples' Friendship University of Russia (RUDN), Moscow, Russia* |
| 7 | 011-mel | **Seeing Body Through Sociological Lens**<br><br>**Miss. Komal Sharma**<br><br>*Punjabi University, Patiala, Punjab, India* |

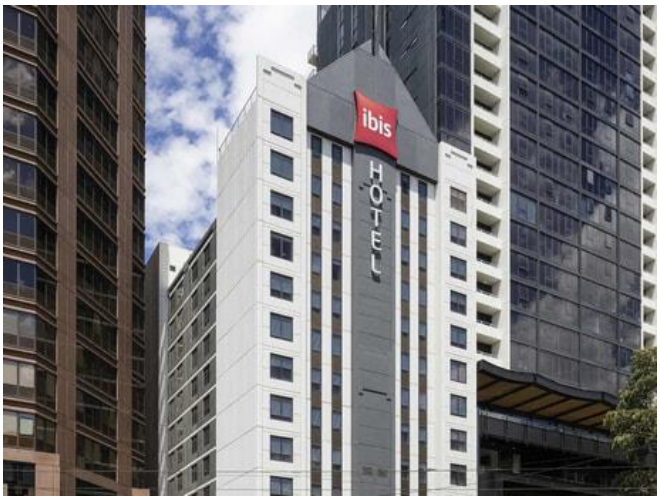
Session 2
Time: 1400-1600
Venue: **Elizabeth Room**
Session Chair: **Dr. Harisun Yaakob**

| No | Paper ID | Presenter |
|---|---|---|
| 1 | 010-mel | **Evaluation of *Carica Papaya* Linn. Fractions against Denv-2 Activity**<br><br>Fitrien, H., Shahar, S., Soib, H.H., Hashim, N.A., **Yaakob, H.***<br><br>*Universiti Teknologi Malaysia, Malaysia* |
| 2 | 008-mel | **Testing and Evaluation of a Smart Irrigation System Towards Smart Landscaping in UAE**<br><br>Fatma AlSulaimani, **Bassam Abu-Hijleh**<br><br>*The British University in Dubai, Dubai, The United Arab Emirates* |
| 3 | 016-mel | **A Novel Architecture for Multi-Bit Shift and Rotate Operation**<br><br>**Sushma Wadar,** S C Patil, D S Bormane, Avinash Patil<br><br>*E&TC Department, AISSMSIOIT, Pune, MS-India* |
| 4 | 020-mel | **Fully-automated Segmentation for MRI Human Spine Images using Thresholding Methods**<br><br>**Aqilah Baseri Huddin*,** Wan Mimi Diyana Wan Zaki, Salina Abdul Samad, Aini Hussain, Nor Aqlina Binti Abdul Halim<br><br>*Universiti Kebangsaan Malaysia, Malaysia* |
| 5 | 017-mel | **Square Operation Implementation on Reconfigurable Hardware Logic to Attain High speed, Area Optimization and Low Power Consumption**<br><br>**Avinash Patil,** D S Bormane, S C Patil, Sushma Wadar<br><br>*E&TC Department, Rajarshi Shahu College of Engineering, Pune, MS-India* |
| 6 | 021-mel | **Frontier Strategy with GA based Task Scheduler for Autonomous Robotic Exploration Systems**<br><br>**Mohd Faisal Ibrahim**, Aqilah Baseri Huddin, Aini Hussain, Muhamad Hanif Md. Saad, Mohd Hairi Mohd Zaman<br><br>*Universiti Kebangsaan Malaysia, Malaysia* |

Session 3
Time: 1630-1800
Venue: **Elizabeth Room**
Session Chair: **Dr. Racheal Samuel**

| No | Paper ID | Presenter |
|---|---|---|
| 1 | 014-mel | **Interethnic Bridging Social Capital Among Gen Y in Malaysia Differences based on Demographic Characteristics**<br><br>**Rachel Samuel**, Maheran Katan, Nasreen Miza Hilmy Nasrijal, Tan Gek Siang<br><br>*Universiti Teknologi MARA (UiTM), Malaysia* |
| 2 | 027-mel | **Aspects of The Study of Architectural Composition Theory in The Curriculum of Senior Years of Architecture Students**<br><br>**Tatiana V. Portnova,** Irina V. Portnova<br><br>*Peoples' Friendship University of Russia, Moscow-117198, Russia* |
| 3 | 028-mel | **The Ideological Aspects of The Relationship "Nature-Man" on the Example of Russian Animalistic Art of The XIX-XX Centuries**<br><br>**Portnova I.V.*** Portnova T.V<br><br>*Department of Architecture & Civil Engineering, Peoples' Friendship University of Russia (RUDN), Moscow, Russia* |
| 4 | 030-mel | **An Assessment of High School Students' Development of Mathematical Thinking**<br><br>**Parmjit Singh,** Cheong Tau Han, Muhammad Farid Bin Mohd Kassim, Teoh Sian Hoon, Kor Liew Ke<br><br>*Universiti Teknologi MARA, Malaysia* |

# Conference Venue




**ibis Melbourne Hotel and Apartments**
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www.ipneducationgroup.org
www.ipnconference.org

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+6013-4234705 (Nurul Faezah Mohd Talib)

# Note

## List of Abstract

| No | Paper | Abstract |
|---|---|---|
| 1 | 003-mel | **Economics Entrepreneurship of the Female Business Operators: A Study on Motives, Motivations and Performance**<br><br>**Norasibah Abdul Jalil[1],** Zainizam Zakariya[2], Norimah Rambeli @ Ramli[3], Hamidah Yusof[4] , Noor Al-Huda Abdul Karim[5]<br><br>*[1]Sr. Lecturer, Universiti Pendidikan Sultan Idris, Perak, Malaysia; norasibah@fpe.upsi.edu.my*<br>*[2]Assoc. Prof., Universiti Pendidikan Sultan Idris, Perak, Malaysia; zainizam@fpe.upsi.edu.my*<br>*[3]Assoc. Prof.; Universiti Pendidikan Sultan Idris, Perak, Malaysia; norimah@fpe.upsi.edu.my*<br>*[4]Prof.; Universiti Pendidikan Sultan Idris, Perak, Malaysia; hamidah.yusof@fpe.upsi.edu.my*<br>*[5]Assoc. Prof.; Universiti Pendidikan Sultan Idris, Perak, Malaysia; nooralhuda@fpe.upsi.edu.my*<br><br>**Abstract:** The main purpose of this study is to analyze the economic entrepreneurship of the female business operators; with specific focus on the Motives, Motivation and Performance. 190 respondents from two selected districts in Terengganu, Malaysia; namely Besut and Kuala Terengganu (K. Trg.), participated in this study. The data are analyzed by using descriptive statistics. The overall findings in the Motives analysis reported more than half (55.79%) of the participants operate the business under motive no. 6 (As the main source of income), followed by the "Deep Interest" motive (17.37%) and the "Inherits from the family" motive (10.53%). The rest of the motives score less than 10 percent. The overall findings from the Sources of Motivation analysis reported the majority of 61.58% admitted "Family" as their main source of motivation, followed by "Own Self" source of motivation (34.74%). "Friends" and "Others" types of motivations reported a (2.63%) and (1.05%) percentage values. The overall results of the Performance analysis reported 89.47% of the respondents proclaimed to have experienced an "Expansion" status, and the following 10.53% reported a Status-quo status. By level of profit; the highest percent (45.26%) received an estimated monthly profit by the amount of below RM10,000, the second highest of 27.89% received between RM21,000-RM30,000, the third highest percent of 21.05% received between |

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| | | RM10,000-RM20,000. The lowest percent of 5.79% claimed to have received an estimated monthly profit by value of more than RM30K. Looking at the overall findings; with more than 76% of the total respondents being the sole owner of the business; and also more than 90% of the business operators are making supernormal profit, we may conclude female entrepreneurs in Terengganu; by characteristics, are independent and proactive. Their strong will and determination not only assists their own family economy but also helps to enhance the performance of the overall economic activity. |
| **2** | **008-mel** | **Testing and Evaluation of a Smart Irrigation System Towards Smart Landscaping in UAE**<br><br>Fatma AlSulaimani [1], **Bassam Abu-Hijleh *[2]**<br><br>*[1&2] Sustainable Design of the Built Environment, Faculty of Engineering & IT, The British University in Dubai, Dubai, The United Arab Emirates*<br>**Corresponding author: Bassam Abu-Hijleh, The British University in Dubai, PO Box 345015, Dubai-UAE, Tel: +971-4-2791447, Fax: +971-4-2791490, E-mail: bassam.abuhijleh@buid.ac.ae*<br><br>**Abstract:** It is clear that the population is growing drastically causing an increase in urban development and landscape expansion, which as a result increase the demand for water. In the GCC region, water is becoming a threat with the impact of climate change and the lack of water resources. The main source of water is mostly desalination plants. Current irrigation systems are not suited to solve the issues of water in the near future. This study is an evaluation to the impact of an innovative technology, especially the use of Internet of things (IoT) on the performance of a typical irrigation system currently used in Dubai, UAE. A field experiment was conducted to measure the selected parameter: Water consumption and irrigation management. This means, a profound measurement on the impact of integrating soil moisture sensor into the current irrigation system is evaluated to assess the impact this integration. The core methodology used in this research was the field experiment; statistical analysis was also required to validate the results obtained on site. The results observed from the experiment were that the use of smart irrigation system (SIS) has environmental advantages in the long term especially in terms of water consumption and irrigation management. Less water is required to irrigate when the soil is saturated enough causing a healthier plants growth. The outcomes of the use of SMS have shown better results in water conservation, a 21%, and 26% decrease in water consumption for the months of September and October, respectively. |
| **3** | **010-mel** | **Evaluation of *Carica Papaya* Linn. Fractions against Denv-2 Activity**<br><br>Fitrien, H.[1], Shahar, S.[3], Soib, H.H.[1,2], Hashim, N.A.[4], **Yaakob, H.[1,2*]**<br><br>*[1]Institute of Bioproduct Development, Universiti Teknologi Malaysia, 81310, Johor Bahru, Malaysia*<br>*[2]Department of Bioprocess Engineering, Faculty of Chemical and Energy Engineering, Universiti Teknologi Malaysia,81310, Johor Bahru Malaysia.*<br>*[3]Faculty of Biosciences and Medical Engineering, Universiti Teknologi Malaysia,* |

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| | | *81310, Johor Bahru, Malaysia.*<br>*[4]Department of Chemistry, Faculty of Science, Universiti Teknologi Malaysia, 81310 Johor Bahru, Malaysia*<br>**For correspondence; Tel. + (60)5532502, E-mail: harisun@ibd.utm.my*<br><br>**Abstract:** *Carica papaya* Linn. (Caricaceae) has long been used as an alternative for folks medicine in the treatment of dengue fever in Malaysia. The aim of this study was to evaluate the *in vitro* activity from SPE methanolic-water fractions of *Carica papaya* leaves (CPL) against DENV-2 replication in C6/36 cells. The CPL was fractionated by using SPE in methanol-water gradients. The antiviral activity of the fractions were assessed by employing qRT-PCR and the fractions were tested after the initiation of DENV-2 infection. The methanolic-water fractions inhibited up to 50% viral infectivity and the concentrations used were not cytotoxic to the cells. This study is the first evaluation of CPL fractions against DENV-2. The experimental data suggest that CPL fractions have drug ability as an anti-dengue agent. |
| **4** | **011-mel** | **Seeing Body Through Sociological Lens**<br><br>**Miss. Komal Sharma**<br><br>*Ph.D. Research Scholar, Department of Sociology and Social Anthropology, Punjabi University, Patiala, Punjab, India*<br><br>**Abstract:** Although classical Sociology encompasses the various fields of social relations, institutions and social structure, the need of the modern sociology is to understand the modern issues emerging in the societies. So, the present paper holds the idea of understanding the body through various sociological perspectives. Humans are not biological beings but are social beings also. But with the development of medical technologies, the questions are raised on the very existence of the human beings. Various problems relating to the body that have emerged in the modern society have been addressed.The changes that have come to the understanding of body with the intervention of technology and mass media are addressed in this paper. |
| **5** | **013-mel** | **Revert Muslim and Mental Health**<br><br>**Norazlina Zakaria**<br><br>*Kulliyyah Usuluddin, Universiti Islam Antarabangsa Sultan Abdul Halim Muadzam Shah (UniSHAMS) Kuala Ketil, Malaysia*<br>*norazlina@unishams.edu.my*<br><br>**Abstract:** Revert Muslims might have community and familial support, but the majority had risked losing family or friends in the process of embracing Islam. This experience had sometimes posed mental strain on the individual. This article will discuss on examples of mental strain that had been faced by revert Muslims and will suggest therapies from the Islamic perspective. The data was collected from literatures relating to this topic. Field data had also been collected from interviews of three respondents, one Malaysian counselor who had experiences dealing with |

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| | | Revert Muslim clients and two Revert Muslims. The result showed that some Revert Muslims were facing depression, trauma of rejection, loneliness, longing, lacking of love, anxiety, guilt and inferiority complex. There were some Muslim counselors who had applied Islamic therapies such as Islamic CBT and other Islamic psychotherapy methods involving *salah* and *zikr* while counseling their Revert Muslim clients. |
| **6** | **014-mel** | **Interethnic Bridging Social Capital Among Gen Y in Malaysia Differences based on Demographic Characteristics**<br><br>**Rachel Samuel[1]**, Maheran Katan[1], Nasreen Miza Hilmy Nasrijal[1], Tan Gek Siang[2]<br><br>*[1]UiTM Cawangan Melaka, 110 off Jalan Hang Tuah, 75300 Melaka, Malaysia*<br>*rachelsam@bdrmelaka.uitm.edu.my*<br>*[2]Multimedia University Melaka, Malaysia Nasharudin Mat Isa Wasatiyah Centre for Peace*<br>*Putrajaya, Malaysia*<br><br>**Abstract:** As a multi-racial and multi-cultural country, Malaysia would gain if the various ethnic groups work together to create bridging social capital. This survey was undertaken to understand how demographic characteristics (i.e. gender, place of work, residential neighborhood, family dynamics) impact interethnic bridging social capital among Generation Y in Malaysia. Nonparametric analysis found that multi-ethnic workplaces, multi-ethnic residential neighborhood and intermarriage in families enhance bridging social capital. The findings from the survey would help draw up workplace policies and neighborhood activities to enhance interethnic bridging social capital. |
| **7** | **015-mel** | **Antecedents of Interethnic Bridging Social Capital Score among Gen Y in Malaysia**<br><br>**Maheran Katan[1],** Rachel Samuel[1], Nasreen Miza Hilmy Nasrijal[1] , Tan Gek Siang[2] Nasharudin Mat Isa [3]<br><br>*[1]Universiti Teknologi MARA (UiTM) 110 off Jalan Hang Tuah, 75300 Melaka, Malaysia Maheran68@melaka.uitm.edu.my*<br>*[2]Multimedia University Melaka, Malaysia*<br>*[3]Wasatiyah Centre for Peace, Putrajaya, Malaysia*<br><br>**Abstract:** Given Malaysia is a plural country with three main ethnic groups; Bumiputera (Malays and indigenous peoples), Chinese and Indians, understanding the interethnic bridging social capital (IBSC) is crucial. IBSC is the level of trust and networks between ethnic groups. The objectives of this study are to investigate the level of IBSC Score among Gen Y and to identify factors influencing IBSC Score. This is an important issue because interethnic ties provide essential links to economic opportunity and help contain conflicts among different racial groups. Quantitative research is carried out using questionnaire survey. The respondents are Gen Y born from 1981-1999 from the northern, eastern, central and southern regions of Malaysia. A total of 796 usable questionnaire responses were analyzed. The results indicated that the |

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| | | level of IBSC Score among respondents is unsatisfactory. Interethnic Cultural Sensitivity and Social Media have positive and significant impact on IBSC Score. The findings of this study can be valuable inputs for constructive public policy and employer initiatives. |
| **8** | **016-mel** | **A Novel Architecture for Multi-Bit Shift and Rotate Operation**<br><br>**Sushma Wadar**[1] S C Patil[3] D S Bormane[2] Avinash Patil[4]<br><br>*[1]Research Scholar, E&TC Department, AISSMSIOIT, Pune, MS-India* 1sushma97in@yahoo.co.in<br>*[3]Professor, Dept of Information Technology, Rajarshi Shahu College of Engineering,Pune, MS-India,* 3Shailaja.patil11@gmail.com<br>*[2]Principal, AISSMSCOE, Pune, MS-India,* 2bdattatraya@yahoo.com<br>*[4]Research Scholar, E&TC Department, Rajarshi Shahu College of Engineering, Pune, MS-India* 4avispatil@yahoo.co.uk<br><br>**Abstract:** In the available microprocessors and microcontrollers, the multi-bit operations are implemented with very less efficiency. Generally, these complex bit operations are emulated using programming logic. These bit manipulation operations are frequently required in the applications that are becoming very important. In this paper, we propose two new techniques which can directly support these bit operations in the form of shifter unit that can implement standard shifter operations in microprocessors and controllers. The design of the proposed shifter unit is based on the inverse butterfly circuit. In this paper, we propose two techniques that have shift/rotate and mask circuits which enables the same circuit to perform all types of the standard shift and rotate operations found in some processors. The first technique is using Data reversal method and second using Two's complement method. The design of Shifter-Permute functional unit is the most challenging task towards its speed, area and power consumption. Here we have implemented an 8-bit Shift-rotate functional unit for bit manipulation in the form of two approaches and have analyzed the circuits in terms of speed, area, and power consumption. Here the circuits are implemented and analyzed by using the most popular semi-custom design tool Vivado ISE 2015 and is synthesized by using Artix-7 FPGA and the same is reflected in the mathematical model purposed for each circuit. |
| **9** | **017-mel** | **Square Operation Implementation on Reconfigurable Hardware Logic to Attain High speed, Area Optimization and Low Power Consumption**<br><br>**Avinash Patil**[1] D S Bormane[3] S C Patil[2] Sushma Wadar[4]<br><br>*[1]Research Scholar, E&TC Department, Rajarshi Shahu College of Engineering, Pune, MS-India* 1avispatil@yahoo.co.uk<br>*[3]Principal, AISSMSCOE, Pune, MS-India,* 3bdattatraya@yahoo.com<br>*[2]Professor, Dept of Information Technology, Rajarshi Shahu College of Engineering, Pune, MS-India,* 2Shailaja.patil11@gmail.com<br>*[4]Research Scholar, E&TC Department, AISSMSIOIT,Pune, MS-India* 4sushma97in@yahoo.co.in |

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| | | **Abstract:** The contribution made by authors in the research work carried out on square operation is bought forward operated on a four and eight-bit number using duplex property of number based on Vedic mathematics. The conventional method of computing square of a number follows the polynomial multiplication of the same number to find the square. The said method requires the area and power consumption is not sufficiently optimized considering today's low power application needs. The proposed method of computing the square of a number presented here is based on the Dwandva yog of Vedic mathematics which also called as duplex property of a number. The duplex method of calculating the square of number gives the online solution which can be easily calculated mentally and the efforts were to prove the same with the electronic circuit. The implementation of the square algorithm using polynomial multiplication and Vedic mathematics based duplex property for square operation is carried out with VHDL coding on the Xilinx Vivado 2015 ISE tool and the FPGA used is Artix7 device: 7a35tcpg236-1. The results were compared with 4-bit as well as 8-bit operation using both algorithms for a square operation are it is observed that the speed of operation is improved by 20 % whereas the hardware resources utilized were reduced by 66 %. |
| **10** | **020-mel** | **Fully-automated Segmentation for MRI Human Spine Images using Thresholding Methods**<br><br>**Aqilah Baseri Huddin*[1],** Wan Mimi Diyana Wan Zaki[1], Salina Abdul Samad[1], Aini Hussain[1] Nor Aqlina Binti Abdul Halim[2]<br><br>*[1]Center for Integrated Systems Engineering & Advanced Technologies (INTEGRA) Faculty of Engineering & Built Environment, Universiti Kebangsaan Malaysia*<br>**aqilah@ukm.edu.my*<br>*[2]Programme of Electrical & Electronic Engineering, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia*<br><br>**Abstract:** Computer Aided Diagnosis (CAD) in MRI image processing could assist experts in detecting the abnormality of human spine image efficiently. The manual process of detecting abnormality are tedious, and hence the use of CAD in this field is useful to increase the diagnose's efficiency. Segmentation method is one of the important process in CAD that could affect the accuracy of the overall diagnosis of MRI spine images. There are various segmentation methods commonly used in CAD. One of the method is segmentation using thresholding. Thresholding approaches divide area of interest by identifying the threshold values that can separate the the image into desired levels of grayscale based on its pixel's intensity. This study focusses on investigating the optimum approach in segmentating lumbar vertebrae on the MRI images. The steps involved in this study include pre-processing (normalization), segmentation using local and global thresholding, neural network classification and performance measurement. 20 images are used to evaluate and compare the segmentation methods. The effectiveness of segmentation method is measured based on the performance measurement technique. This |

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| | | preliminary study shows that, local thresholding outperform the global thresholding approach with accuracy of 91.4% and 87.7%, respectively. |
| **11** | **021-mel** | **Frontier Strategy with GA based Task Scheduler for Autonomous Robotic Exploration Systems**<br><br>**Mohd Faisal Ibrahim**, Aqilah Baseri Huddin, Aini Hussain, Muhamad Hanif Md. Saad, Mohd Hairi Mohd Zaman<br><br>*Centre for Integrated Systems Engineering and Advanced Technologies (INTEGRA) Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia Bangi, Selangor, Malaysia*<br>*Corresponding author: faisal.ibrahim@ukm.edu.my*<br><br>**Abstract:** The efficiency of a robot performing autonomous area exploration depends on a main factor that is how it selects next target locations. This paper present a Genetic algorithm (GA) based task scheduler to optimise target selection task in the state-of-the-art Frontier exploration strategy. The proposed approach implements the concept of a travelling salesman problem to find the best target location given a set of candidate exploration points. The results show that the Frontier strategy with the proposed GA-based task scheduler outperforms the greedy approach of conventional Frontier strategy in terms of exploration performance with 30% to 50% improvement of total travelling path. |
| **12** | **022-mel** | **Enhancing Interethnic Bridging of Gen Y Workforce**<br><br>**Nasreen Miza Hilmy Nasrijal**[1],Maheran Katan[2], , Rachel Samuel[2], Tan Gek Siang[3], Nasharudin Mat Isa[4]<br><br>[1]*Universiti Teknologi MARA (UiTM), KM26, Jalan Lendu, 78000 Alor Gajah, Melaka, Malaysia*<br>[2]*Universiti Teknologi MARA (UiTM,110) off Jalan Hang Tuah, 75300 Melaka, Malaysia*<br>[3]*Multimedia University Melaka, Malaysia*<br>[4]*Wasatiyah Centre for Peace, Putrajaya, Malaysia*<br><br>**Abstract:** Society and the workplace experience transformation with every emergence of new generation. The partaking of Gen Y or 'Millennials' into the workforce since the new millennium had resulted in multigeneration of workforce, each with their own features. Malaysia, being a multi-racial nation, is susceptible to the societal and workforce changes with the advent of Gen Y. Interethnic relations among Gen Y in Malaysia is vital in ensuring amity and peace as Gen Y make up the imminent future leaders. However, general characteristics of Gen Y being individualistic, challenge the norms of society as well as overtly conceding to racism would impede racial integration. This study examines the factors of interethnic bridging social capital of Gen Y. The results showed that while Gen Y are generally satisfied with ethnic integration and areas affecting ethnic groups, there were issues which require improvement to enhance interethnic bridging of social capital. |

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| **13** | **026-mel** | **From Creation of The World to Cosmic Dance: on Coordinates of Artistic Thinking**<br><br>**Tatiana V. Portnova**<br><br>*Department of Architecture, Civil Engineering, Peoples' Friendship University of Russia, Moscow-117198, Russia;*<br><br>**Abstract:** The study is devoted to cosmological themes in dance, which is regarded as a cultural phenomenon suggesting an understanding of the historical relationship between pre-stage, extra-stage and stage dance forms. The continuity of development of cosmism in dance is traced. The problematics of the language of choreographic art, which is expressed in dance by the body and movement in conjunction with the concept of "The Origin of the Universe", becomes the basis of theoretical reasoning in this field. The relevance of the idea of globalization and synthesis of the arts, which is important for modern theory and practice of choreography, is substantiated; the main positions of theoretical understanding and stages of development of dance culture in the context of creation issues are identified. The author dwells on separate historical modes of dance mastering of the topic from the creation of the world to cosmic dance of the new time. The changes and complication of plastic forms, new content and imaginative structure, director's interpretation of the main ballet production "The Creation of the World" by N. Kasatkina and V. Vasilev are considered, as well as the version created later by the choreographer of the Belarusian Opera and Ballet Theater V. Elizariev. The study ends with an analysis of the current state of choreographic art, which makes it possible to highlight the expansion of a cosmic theme up to the world of the universe, which is solved on the basis of new material. The author comes to the conclusion that the modern dance paradigm uses the atmosphere as a whole cosmic system together with innovative technologies penetrating the stage space. |
| **14** | **027-mel** | **Aspects of The Study of Architectural Composition Theory in The Curriculum of Senior Years of Architecture Students**<br><br>**Tatiana V. Portnova,** Irina V. Portnova<br><br>*Department of Architecture, Civil Engineering, Peoples' Friendship University of Russia, Moscow-117198, Russia;*<br><br>**Abstract:** The article deals with the problems of studying the new "Theory of Architectural Composition" course, introduced into the curriculum of students of the architectural direction of senior years of universities. Special attention is paid to the issues of compositional analysis; it is aimed at expanding and deepening the knowledge in the field of compositional laws, rules, forms, and types of compositions and compositional expressive means. The article touches upon the techniques, methods, and history of the study of composition, types of composite thinking and stages of its evolution necessary in the architectural practice. The emphasis is placed on an integrative approach to the compositional analysis taking into account the |

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| | | synthetic image created in architectural creations. The conceptual basis of special tasks aimed at finding compositional parallels and analogies in architecture, painting, music, sculpture, and theater envisaged in the content of the curriculum, is considered. The author considers existing approaches in the analysis of architectural composition in terms of such categories as space, volume, plasticity, color, time, etc. The author's topics included in the course study and focused on the synthetic organization of the architectural environment help the students to understand the artistic language of architecture and the compositional structure of buildings, to identify the logic of architectural forms and semantics of the imagery, to master modern research approaches in the analysis of architectural composition. |
| **15** | **028-mel** | **The Ideological Aspects of The Relationship "Nature-Man" on The Example of Russian Animalistic Art of the XIX-XX Centuries**<br><br>**Portnova I.V.*** Portnova T.V<br><br>*Department of Architecture & Civil Engineering, Peoples' Friendship University of Russia (RUDN), Moscow, Russia*<br><br>**Abstract:** The article dwells on views of artists-animalists of the XIX-XX centuries on the wildlife world. The worldview questions are considered as a factor of the value of the interconnection of human and wildlife world which is predetermined by the historical situation. The author underlines the indispensable role of the animal in the development of human civilization. So, this implies an ethical attitude towards nature as a unique value. It was also noted that the moral and ethical basis of this relationship, that became actual in the era of global change and the crisis of the ecological situation, was contributing to the formation of ecological way of thinking as the reality of the New time. According to the artist-animalist's worldview, an animal looks beautiful, its behavior is expedient, that has a beneficial impact on human. The interconnection of artists' points of view and the way how they see the animalistic image from the position of humans of the New time are also considered in this article. |
| **16** | **029-mel** | **The Russian Animalistic Art of the 20th Century as a Cultural Phenomenon of that Time**<br><br>**Portnova I.V.***<br><br>*Department of Architecture & Civil Engineering, Peoples' Friendship University of Russia (RUDN), Moscow, Russia*<br><br>**Abstract:** The article dwells on the Russian animalistic art that is considered as the distinctive feature of the 20th century, that represents the visual and cultural phenomenon of that time. Here we noted some prerequisites of its activation, which were connected with the significance of the biological science of that time, issues of ecology. Such a situation had led people to to a change in worldview in the views of society on nature and the animal world. Painters were expressing their points of view on a world of flora and fauna, what helps to find out |

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| | | a system of moral values and ideals of the New time man. The meaning of the statements is to justify the historical role of animals in the development of civilization. The statement of cultural questions is important as in a theoretical sense – for identification of the spot and role of the animalistic in modern culture and art, as in a practical sense – as a prerequisite of creation of a high-grade artistic image. Here the animalistic art has demonstrated its graphic and expressive qualities which are connected with the specifics of the genre. In the 20th century the animalistic acquires a special status, it becomes a popular kind of art and shows up as a mobile one in different types fitting in a conception of artistic styles of the second half of the 20th century. |
| **17** | **030-mel** | **An Assessment of High School Students' Development of Mathematical Thinking**<br><br>**Parmjit Singh[1],** Cheong Tau Han[1], Muhammad Farid Bin Mohd Kassim[1], Teoh Sian Hoon[1], Kor Liew Ke[2]<br><br>*[1]Faculty of Education, Universiti Teknologi MARA Selangor, Malaysia*<br>*[2]Universiti Teknologi MARA, Kedah, Malaysia*<br><br>**Abstract:** The aim of high school mathematics curriculum is to develop the mind of learners who are able to think mathematically and apply learnt content into solving problems of different areas of learning. This study was undertaken to assess the level of students development of mathematical thinking in the context of their preparedness to face the challenges of tertiary level based on the curriculum learnt at High school. A quantitative descriptive design was used to assess 649 high school leavers, ages 18 to 19, on their current level of mathematica thinking. The findings depict students low level of mathematical thinking development in terms of their dearth in critical thinking and creative thinking to solve higher order thinking tasks. Furthermore, they also lack in heuristics repertoire as a guide to use their contextual knowledge to solve fundamental problems. The analyses shows that these high school leavers faced great difficulty in conceptualizing fundamentals topics learnt in schools. They were unable to make representations of unfamiliar problems, lack fundamental knowledge, and were not able to apply math learnt in school into problem solving situation. The evidence suggests that the grades obtained in the national examination SPM were not translated into their ability to solve non-routine problems. In other words, there seems to be a mutual exclusiveness between the content learnt in schools and their ability to think mathematically. The question to be asked at this point is, what are the potential remedies well suited to address the rather disturbing facts above? |