

BOOK OF CONFERENCE PROCEEDINGS

# *GIMAR*

FEBRUARY 01-02, 2016

2ND INTERNATIONAL CONFERENCE ON  
GLOBAL ISSUES IN  
MULTIDISCIPLINARY RESEARCH & PRACTICE  
(DUBAI, UAE)

Organized by:



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Researching and Developing for Humanity

2<sup>nd</sup> International Conference on Global Issues in Multidisciplinary  
Academic Research (GIMAR-February, 01-02, 2016)  
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Global Illuminators, Kuala Lumpur, Malaysia.



# CONFERENCE PROCEEDINGS

## BOOK OF ABSTRACTS GIMAR-2016

**“GLOBAL ISSUES IN MULTIDISCIPLINARY ACADEMIC  
RESEARCH”  
(GIMAR – 2016) Duabai, UAE**

# **Book of Abstracts Proceedings**

**“GLOBAL ISSUES IN MULTIDISCIPLINARY ACADEMIC  
RESEARCH”  
(GIMAR – 2016) Dubai, UAE**

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Proceedings of the International Conference on

**“GLOBAL ISSUES IN MULTIDISCIPLINARY ACADEMIC  
RESEARCH”  
(GIMAR – 2016)**

**ISBN: 978-969-9948-40-0**

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**(GIMAR-2016)**

**Venue: Hotel Grand Flora Dubai, UAE**

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## CONFERENCE CHAIR MESSAGE



### **Farooq Ahmed Jam (PhD)**

International Conference on “Global Issues in multidisciplinary Academic Research ” (GIMAR-2016) serves as platform that aims to help the scholarly community across nations to explore the critical role of multidisciplinary innovations for sustainability and growth of human societies. This conference provides opportunity to the academicians, practitioners, scientists, and scholars from across various disciplines to discuss avenues for interdisciplinary innovations and identify effective ways to address the regional and global challenges faced by our societies. The research ideas and studies that we received for this conference are very promising, unique, and impactful. I believe, these studies have the potential to address key challenges in various sub-domains of social sciences and applied sciences. The scholars attending this conference will certainly find it helpful in refining their own research ideas, finding solutions to basic/applied problems they face and interact with other renowned scholars for possible future collaborations.

I am really thankful to our honourable scientific and review committee for spending much of their time in reviewing the papers for this event, selecting the best paper awards and helping the participants in publishing their research in affiliated journals. Also special thanks to all the session chairs from industry, academia and policy-making institutions who volunteered their time and support to make this event a success.

A very special thanks to the great scholars for being here with us as key note speakers. Their valuable thoughts will surely open the horizon of new research and practice for the

conference participants coming from across the globe. I am also thankful to all the participants for being here with us to create an environment of knowledge sharing and learning. We the scholars of this world belong to the elite educated class of this society and we owe a lot to return back to this society. Let's break all the discriminating barriers and get free from all minor affiliations. Let's contribute even a little or single step for betterment of society and welfare of humanity to bring prosperity, peace and harmony in this world. Stay blessed.

Thank you

**Farooq Ahmed Jam (PhD)**

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## KEYNOTE SPEAKER



**Dr. Wasantha Subasinghe**, a Senior Lecturer of the Department of Sociology since 1999 in the University of Kelaniya, Sri Lanka, She completed her Graduation from the University of Kelaniya in 1998 with a Bachelor's Degree and received her PhD from PR China in 2009. She is an academic member of the National Institute of Social Development, Deputy Director/Learning Resources of the Centre for Distance and Continuing Education (CDCE) and a Council Member of the Association of Sri Lankan Sociologists. She achieved a Best Researcher award in the Faculty of Social Sciences of the University of Kelaniya, Sri Lanka in 2014. Her Research Interests include field of Planning and Development Studies and Gender Studies. Seven books and more than fifteen academic articles relevant to Sociology are written by her. Her recent research work is based on urban slum dwellers, gypsy community, tsunami affected families, child deviancy, socio – economic consequences of chronic kidney disease families, the impact of school counselling programs, economic viability and socio-economic impact of NAITA Programs in Sri Lanka, present capacity utilization of southern highway and future prospects etc. She has presented research findings at national and international conferences in Japan, Canada, India, Thailand, Turkey and China.

# CONFERENCE PROGRAM

**DAY 01 Monday (February 01, 2016)**  
**Welcome Reception & Registration**

**8:15 am – 9:00 am**

**Opening Ceremony (09:00am – 10:30 am)**

**Venue: Room 1**

09:00 am – 9:10 am	Welcome Remarks – <b>Dr. Muhammad Muzamil Naqshbandi</b>
09:10 am – 9:20 am	Opening Speech – <b>Dr .Farooq Ahmad Jam</b> - Conference Chair- GIMAR-2016 Executive Director- Global Illuminators
09:20 am – 9:45 am	Key Note Speech – <b>Dr. Wasantha Subasinghe</b> - University of Kelaniya, Sri Lanka
09:45 am - 10:30 am	Group Photo & Award Ceremony

**Grand Networking Session and Tea Break (10:30 am – 11:00 am)**

**DAY 01 Monday (February 01, 2016)**

**Session 1 (11:00 am – 1:00 pm)**

**Venue: Room 1**

**Session Chairs: Chang-Soo Kim, & Muhammad Azhar**

**Track: Engineering & Technology Studies & Physical Life and Applied Sciences**

GIMAR-16-113	Effects of deposition temperatures on resistive switching behaviors of ZnO memories	Chih-Chieh Hsu
GIMAR-16-116	Fabrication of resistive memories by using solution-processed Al-Zn-Sn-O films as the active layers	Chih-Chieh Hsu
GIMAR-16-117	Fabrication of solution-processed in ZnO resistive memories	Jhe-Jhang Cao
GIMAR-16-119	Study on the Measurement and Stability Estimation of Concrete Roadbed Slab at High-speed Train in Bridge-earthwork Transition Zone	Park, Jongho
GIMAR-16-137	Proposed Design of 3-Dimesional Intra-Oral Scanner for Accurate mapping of denture	Park,Hong-Seok
GIMAR-16-148	Using of safety cores in the event of major earthquakes for multi-storey buildings	Daniel Stoica
GIMAR-16-158	Polymeric membranes: Effects of catalyst volume fraction on dielectric relaxation time and crystallites dimensions	Laurentiu Iordaconiu

**Lunch Break (1:00 pm – 2:00 pm)**

**DAY 01 Monday (February 01, 2016)**

**Session 2 (2:00 am – 3:30 pm)**

**Venue: Room 1**

**Session Chairs: Hong-Seok Park, Chang-Soo Kim**

**Track B: Social Science & Humanities**

GIMAR-16-124	Drawing on Bernstein's work and Legitimation Code Theory to analyze suitable curriculum framework of vocational education system for disadvantaged students	Jen-Chun Chang
GIMAR-16-134	The New Relationship Between Islam and Science in Postmodernism Era: An Epistemological Perspective	Muhammad Azhar,
GIMAR-16-136	Puppetry, Cultural Manifestations and Environmental Issues: Folk Puppet Tradition and New Dancing Amazonian Puppets in Brazil	Mayumi Denise s. Ilari
GIMAR-16-147	Sri Lankan Women Migrant Workers and Role of Family and Kinship Networks	Wanninayake, Shantha,
GIMAR-16-152	Relationship of Birth Order and Academic Achievement of PUP Santa Rosa Campus Second Year Students During the School Year 2014-2015	Marisa R. Baybay

**Tea Break (3:30 pm – 3:45 pm)**



**DAY 01 Monday (February 01, 2016)**

**Session 3 (03:45 pm – 5:00 pm)**

**Venue: Room 1**

**Session Chairs: Jhe-Jhang Cao, Daniel Stoica**

**Track A: Business, Management & Economic Studies**

GIMAR-16-110	Influence of Social Relations on Knowledge Conflicts –An Empirical Study from Chinese Universities	Huimin Liu
GIMAR-16-146	Asymmetrical Corporate Responses to Economic Information: Applying the Firm Size Effect	Wan Soo Lee
GIMAR-16-153	Smallholder commercialization in Ethiopia: Market orientation and participation	Chang-Soo Kim

**Closing Ceremony: 5:00pm to 5:30pm**

**DAY 02 Tuesday, (February 02, 2016)**  
**“CITY TOUR”**

Gathering of Participants at the Lobby of Hotel Grand Flora Dubai, UAE  
at 2:00 pm

Departure: 2:30 pm

For

**CITY TOUR**

Drop Back at Hotel Grand Flora Dubai, UAE at 9:00 pm

**Important Note:** This tour is organized by Global Illuminators and entry to this tour is free for all participants. You may also bring your Siblings/Family/Friends but you have to register for them on registration desk.



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Abstract Proceeding Book  
GIMAR- February 01-02, 2016  
Dubai, UAE  
ISBN: 978-969-9948-40-0

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## **TRACK A: BUSINESS MANAGEMENT & ECONOMIC STUDIES**



## Influence of Social Relations on Knowledge Conflicts – An Empirical Study from Chinese Universities

Huimin Liu<sup>1\*</sup>, Xiaofeng Dong<sup>2</sup>  
Nanjing University, china  
Abstract

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This paper aims to systematically investigate the impact of different types of social relationships on knowledge conflicts during the process of knowledge sharing based on the theory of relation model. This empirical study collected 288 surveys from research team members in fourteen universities in China. The results show that public sharing and academic power has positive effects on cognitive knowledge conflicts and negative effects on emotional knowledge conflicts; expected association has more significant effects on knowledge conflicts than expected reward; sharing cost has positive effects on knowledge conflict, knowledge sharing willingness plays a mediator role between social relations and knowledge conflicts. At last, the paper presents management suggestions from perspectives of team trust, power allocation and incentive methods.

**Keywords:** Relation Model, Research Team, Knowledge Sharing, Knowledge Conflicts

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## Smallholder Commercialization in Ethiopia: Market Orientation and Participation

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### Abstract

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The commercialization of smallholder agriculture entails that farmers become market-oriented and base their production decisions on market signals, as well as selling a significant proportion of their produce in market. However, previous research has focused almost exclusively on market participation and ignored market orientation. We examine the impact of market orientation on the market participation of smallholder cereal farmers in Ethiopia, drawing on data from the latest 2009 round of the Ethiopian Rural Household Survey (ERHS). Heckman's two-stage analysis and IV regressions are employed. Market orientation is found to strongly enhance market participation. Moreover, higher level of crop production, land size, access to credit and all-weather roads enhanced market participation while age of household head and family size reduced participation.

**Keywords:** Smallholders, Commercial Production, Market Orientation, Market Participation, Cereal Crops, Ethiopia

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## Asymmetrical Corporate Responses to Economic Information: Applying the Firm Size Effect

**Wan Soo Lee\***

Professor. Division of Media and Communication, Dongseo University,  
Busan, Korea

### Abstract

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This research utilized longitudinal economic data to analyze differences by firm size in how business sentiments are affected by economic news and economic conditions. A regression was also conducted for the relationship between firm-specific BSI (Business Survey Index) values and rate of employees and business activities. Results showed no statistically significant effect from economic news tone on business sentiment for large firm sizes as opposed to individuals. At the same time, the economic situation was found to have an effect on business sentiment regardless of firm size. Anticipated future economic conditions exhibited an effect on business sentiment regardless of firm size, but current economic conditions had an effect on business sentiment only for small firms. Business sentiment had an effect on business activities according to GDP rate, regardless of firm size. Theoretical and managerial implications as well as directions for future research are discussed.

**Keywords:** Economic Communication, Economic Conditions, Business Sentiments, Media Coverage, Perception of the Economy, Firm Size

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Abstract Proceeding Book  
GIMAR- February 01-02, 2016  
Dubai, UAE  
ISBN: 978-969-9948-40-0

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## **TRACK B: SOCIAL SCIENCES AND HUMANITIES**



## The New Relationship Between Islam and Science in Postmodernism Era: An Epistemological Perspective

**Dr. Muhammad Azhar\***

Muhammadiyah University of Yogyakarta, Indonesia

### Abstract

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The New Relationship between Islam and Science in Postmodernism Era: An Epistemological Perspective (Dr. Muhammad Azhar, MA/Muhammadiyah University of Yogyakarta) Speaking about the relation of religion and science especially within the perspective of contemporary Islamic epistemology seems like a rather complicated peculiarity no days. Islam which at its onset was very concerned about visionary science, in its later stages of development earns a reputation as a religion that secludes itself away from the thriving world of science. After quickly touch on the subject of stagnation phenomena within scientific Epistemology in Moslem world, as a follow up here are several explanations on what contemporary model of Moslems' scientific epistemology can offer, things that nowadays hold significant influence in the Islamic world. The following discussions on contemporary Moslem figures also, in general, are to be understood as only specifically addressed through a perspective of an Islamic study; however in several matters attachment to scientific field is possible. Those are several critical-epistemological views of some contemporary Moslem intellectuals that distinctly correlated with the effort to develop religious knowledge, along with their implications in the attempts to enlarge Moslems' scientific field in coming age.

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**Keywords:** Islam and Science, Epistemology, Postmodernism Relationship

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## **Puppetry, Cultural Manifestations and Environmental Issues: Folk Puppet Tradition and New Dancing Amazonian Puppets in Brazil**

**Mayumi Denise s. Ilari\***  
Universidade de São Paulo, Brazil

### **Abstract**

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This paper addresses the traditional Bumba-Meu-Boi, a popular Brazilian ox-puppet that acts as a central character in several popular celebrations and festivals throughout the country. Large and richly embellished, the Boi originates from syncretic traditions whose roots stem from colonial Brazil, and served as inspiration for a new puppet: the Amazonian Jabuti-Bumbá, a relatively new colourful and larger-than-life tortoise puppet that has become a “new tradition” in the state of Acre, located in the western extreme of Brazil's North region. The performing company that bears its name was created in 2005, and the Jabuti performances mix local and popular legends, myths, rhythms, and cultural manifestations, denouncing the growing destruction of the Amazon forest. Contrasting with the ox tradition, the Jabuti puppet symbolizes the preservation of life in the Amazon forest: a symbol of endurance, the tortoise, though bearing a thick and strong shell, is too slow to run away and escape from the fire, and is thus the first species to be victimized in the destruction. The aim of this paper is to address it as a new and original variation of one of Brazil's most popular puppet manifestations, the Bumba-Meu-Boi folk tradition, which adds to its earlier indigenous, European and African roots important elements and issues of our own time and history.

**Keywords:** Brazilian Folk Puppetry; Brazilian Puppetry - 21st Century; Bumba-Meu-Boi; Jabuti-Bumbá

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## **Sri Lankan Women Migrant Workers and Role of Family and Kinship Networks**

**Wanninayake, Shantha\***

Senior Lecturer, University of Peradeniya, Sri Lanka

### **Abstract**

Migration from Sri Lanka to other countries has played an important role not only in Gross National Production of the country, but also social and cultural activities in the people. The International Labour Organization (ILO) estimated however, that the total number of legal migrant workers was 25 million and the illegal migrants were in the range of 45 million throughout the world (Sri Lanka Bureau of Foreign Employment -SLBFE 2014). In 2012, migrant worker remittances amounted to \$6.1bn, or over 10% of GDP, the highest income from a foreign income source to the government. Many studies have focused on economic, social and cultural impact on the person, family and the society from the women migration to Middle East employment (Colen 1990; Gunatilake 1995; Gamburd, 1995; Wanninayake 2006). The aim of this paper is to explore the impact created by women's migration on the family network and kinship relation and the find success achieved by their families. Particularly, when a woman leaves her family for foreign employment, instantly gaps and challenges arrive regarding the security of the family and taking care of children. In such situations, how does the family network and kinship networks operate, and with what effect? The study show when the woman absent, family members filling the gaps and share the service as well as how they managed, controlled, consumed, saved or invested remittance which have received as foreign earning by using their family and kinship networks. The study covers the two DS Divisions in administrative district of Kurunegala in North Western Province in Sri Lanka and selected a random sample for collecting data. The study manly depends on qualitative data using in-depth interviews, interview with key informants.

***Keywords:*** Women, Migrant Workers, Family, Kinship, Networks

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## Relationship of Birth Order and Academic Achievement of PUP Santa Rosa Campus Second Year Students During the School Year 2014-2015

**Marisa R. Baybay\***

Polytechnic University of the Philippines

### Abstract

Throughout the history, birth order is a significant concept in families of different cultures and race. Every child in the family may differ from his/her siblings because of his/her role in the family. The first born may be a lot more different from the second born and last born. His/her academic achievement may also be affected because of the expectancy from parents. Individual personality of a child may also influence by his/her role in the family for it is his/her first group experience. According to Adler, character traits and behaviors derive primarily from developmental issues, including birth order. This study was conducted to examine birth order's relationship to academic achievement in order to further understand the links between the said variables. This research was conducted to determine if birth order is related to the academic achievement of the second year students of Polytechnic University of the Philippines - Sta. Rosa Campus. A descriptive type of research was used in this study. The research locale is the Polytechnic University of the Philippines – Sta. Rosa Campus. With a total population of 766 second year students, using Sloven's Sampling Technique with 5 percent margin of error, sample size were arrived at 263 respondents. The researcher used a researcher made questionnaire in collecting information among the respondents. Based on the statement of the problems, findings were a greater number of respondents were middle child who has a good academic performance. Likewise, a p value of 0.584 was obtained which was higher than the 0.05 level of significance which reveals that there is no significant relationship between the respondents' birth order and academic achievement. The respondents' birth order has little to no bearing on their academic achievement. Therefore, the null hypothesis is accepted.

**Keywords:** Birth Order, Academic Achievement, First born, Middle Child, Last born, Only Child, Average Grade Point

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## Drawing on Bernstein's Work and Legitimation Code Theory to Analyze Suitable Curriculum Framework of Vocational Education System for Disadvantaged Students

**Jen-Chun Chang\***

National Kaohsiung Marine University Department of General Education  
Taiwan R. O. C

### Abstract

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The article describes the educational and social injustice drawing on Bernstein (2000), the "Conceptualizing curriculum differentiation in higher education: a sociology of knowledge point of view" (Shay, 2013), and recently relevant literature analyzing suitable curriculum framework of vocational education system for disadvantaged students. The article will also presents related traits of disadvantaged students. Since the trend of the times, it is still in favour of paying equal attention to the semantic codes of gravity and density. It pays equal attention for quadrant of vertical and horizontal as well. The professional and vocational knowledge is important, but theoretical knowledge can better bring about abstract thinking and problem-solving abilities and be able to innovate. Though the learning needs of learners and the environmental trend requirements, it is often inferred that professional and vocational knowledge will be important and meaningful to most of vocational system learners. Based on the history and educational nature, theoretical knowledge is highly recommended and put emphasis on integrating and abstract abilities. In addition to training students for making a living, the educational institutions should offer mind guidelines such as constructed education as freedom, consciousness-raising and emancipator; thinking functions will be importantly educational purposes.

**Keywords:** Bernstein, Legitimation Code Theory, Q2 Practical Curricula, Q4 Theoretical Curricula, Q3vocational/Professional Curricula, Q1 Generic Curricula

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Abstract Proceeding Book  
GIMAR- February 01-02, 2016  
Dubai, UAE  
ISBN: 978-969-9948-40-0

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## **TRACK C: ENGINEERING & TECHNOLOGY STUDIES**



## Effects of Deposition Temperatures on Resistive Switching Behaviors of ZnO Memories

Chih-Chieh Hsu<sup>1\*</sup>, Wei-Chieh Ting<sup>2</sup>

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Taiwan

### Abstract

This work investigated effects of deposition temperatures on the performances of lateral resistive ZnO memories. In addition, the resistive switching behaviours and endurances of the memories with different inter-electrode distances were examined. After cleaning the glass substrates by using acetone, alcohol, and deionized water, the ZnO films were prepared by using a sputter with a working pressure of 3 mtorr and a sputtering power of 50 W. The substrate temperatures were 80 - 400 °C. After the ZnO deposition, the Mo was deposited by the sputter as the electrodes. For the ZnO films deposited at the substrate temperature of 80 °C, a normal electrical characteristic of a Schottky diode was obtained. The resistive switching behaviour cannot be found. However, for the ZnO film deposited at the substrate temperature of 240 °C, the resistive switching behaviour of the memory having an inter-electrode distance of 250 μm can be immediately obtained at an bias loop of -10 V □ 0 V □ 10 V □ 0 V □ -10 V. The conventional electroforming procedure is unnecessary. Before the set process, the resistance of the memory is 4.24 x 10<sup>8</sup> ohm at the read voltage of 1 V for the positive sweep. Then, the resistance was changed to 1.42 x 10<sup>8</sup> ohm at the read voltage of 1 V for the negative sweep. A stable ON/OFF ratio of 2.9 can sustain under switching cycles of 100 times. When the inter-electrode distance is reduced to 60 μm, an obvious set phenomenon was found at voltage of 2 V and the ON/OFF ratio can be simultaneously enhanced to 8.6 at the read voltage of 1 V. The x-ray diffraction patterns, scanning electron microscope (SEM) pictures, and ultra-violet visible spectrums were measured to study the corresponding physical mechanisms under the switching behaviour of the lateral resistive ZnO memories.

**Keywords:** Resistive Memory, Zinc Oxide, Resistive switching

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## Fabrication of Resistive Memories by Using Solution-Processed Al-Zn-Sn-O Films as the Active Layers

Chih-Chieh Hsu<sup>1\*</sup>, Yu-Ting Chen<sup>2</sup>

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### Abstract

Resistive memories using solution-processed Al-Zn-Sn-O (AZTO) semiconductor as the active layers were studied in this work. Meanwhile, effects of electrode materials on resistive switching behaviours of the memories were examined. The AZTO semiconductor was prepared by a solution process. The AZTO solution was obtained by adding 0.1 M zinc acetate dehydrate, 0.1 M tin chloride dehydrate and 0.01 M aluminium nitrate non a hydrate to 15 ml Ethanol followed by the addition of mono-ethanolamine. This mixed solution was stirred at temperature of 70 °C for 30 minutes and then aged at room temperature for 24 hours. After cleaning the n<sup>+</sup> si substrates, the AZTO film was spun coated on the substrate with first spin speed of 1000 rpm for 10 s and second spin speed 3000 rpm for 30 s. The deposited AZTO film with thickness of 15-20 nm was subsequently cured at 120°C for 10 min. Finally, Indium balls and silver paste were used as the top electrodes while the bottom electrode was the n<sup>+</sup> si substrate. For the vertical AZTO memory with In ball as the top electrode, the resistive switching behaviour can be obtained at a bias loop of 0 V → 3 V → 0 V → -3 V → 0 V. The high resistance (HR) of 2k ohm and low resistance (LR) of 200 ohm can be found at the read voltage of 1 V. The ON/OFF ratio is 10. For the vertical AZTO memory with silver paste as the top electrode, the resistive switching behaviour is not found. For the lateral AZTO memories using in balls as the electrodes, the HR of 71.9k ohm and LR of 33.5k ohm are observed at the read voltage of 1 V. The vertical and lateral solution-processed AZTO memories were successfully fabricated and the corresponding carrier transport mechanism was also investigated in this work.

**Keywords:** Resistive Memory, Solution Process, Oxide Semiconductor

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## Fabrication of Solution-Processed Inzno Resistive Memories

Chih-Chieh Hsu<sup>1\*</sup>, Jhe-Jhang Cao<sup>2</sup>

National Yunlin University of Science and Technology, Taiwan

### Abstract

This work fabricated and investigated solution-processed indium zinc oxide (IZO) resistive memories. Besides, effects of zirconium (Zr) doping on resistive switching behaviour of the IZO memory were also studied. After the  $n^+$  substrates were cleaned by deionized water and buffer oxide etching solution, the IZO film was deposited by a spin coating process with first spin speed at 1000 rpm for 10 s and second spin speed at 3000 rpm for 30 s. The deposited film was subsequently cured at 40 °C for 60 s. Then, the second and third IZO films were deposited on the first IZO film by using the same deposition procedure. Finally, this stacked film was cured at 300 °C by a stepwise curing process. The indium balls and  $n^+$  substrate were used as the top and bottom electrode, respectively. The resistive switching behaviour was obtained under a voltage loop of 0 V  $\rightarrow$  -3 V  $\rightarrow$  0 V  $\rightarrow$  +3 V  $\rightarrow$  0 V. A high resistance of  $2 \times 10^3$  ohm (high resistance state, HRS) was found at the read voltage of -1 V for negative bias sweep. When the bias was swept from -3 V to 0 V, a low resistance of 454 ohm (low resistance state, LRS) was observed. The HRS/LRS ratio was 4.4. An endurance test shows that this value can be stable under 1500 operations. For the IZO film with Zr doping, the resistance switching behaviour is absent. This is maybe due to the decreasing oxygen vacancies cause by the Zr doping. The memory structures were examined by a scanning electron microscope. The crystallinities and components of the IZO films were investigated by using x-ray diffraction analysis and an energy dispersive x-ray spectrometer. The physical mechanism of the resistive switching behaviour of the vertical IZO memory was explored.

**Keywords:** Indium Zinc Oxide, Zirconium, Resistive Memory, Resistive Switching, Solution Process

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## Using of Safety Cores in the Event Major Earthquakes For Multi-Storey Buildings

**Daniel Stoica\***

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### Abstract

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In countries with "traditional" catastrophic events due to hurricanes or typhoons shelters are provided, but they generally occur in either low-rise building, single family - in basement areas or even to smaller communities. There are some items and materials for a period of survival and of course there are so varied range of shelters, made by different companies, with different prices. For single-family houses, villas type can easily be made conformable projects such shelters or safe rooms, including their use in case of an earthquake, but what can be done in the higher buildings case? Based on a personal idea, a similar sfatey room variant, usable for multi-storey buildings (and so in each apartment, at every level), is presented in this paper for use in earthquake cases. The carried out studies shows that the response of safety cores falls into goals.

***Keywords:*** Shelter, Safety, Ductility, Plastic Hinges, Cores

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## Study on the Measurement and Stability Estimation of Concrete Roadbed Slab at High-speed Train in Bridge-earthwork Transition Zone

**Kim, Taekyun<sup>1</sup>, Choi, Byeongjin<sup>2</sup>, Park, Jongho<sup>3</sup>, Hong, Sunnam<sup>4\*</sup>, Park, Sun-Kyu<sup>5</sup>**

<sup>1, 2, 3, 4, 5</sup> Sungkyunkwan University, South Korea

### Abstract

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Recently, many countries are interested in development of high speed train. However, compared to high speed train technology is developing, high speed train infra system is not verified. Furthermore, in case of bridge-earthwork transition zone that is the most complicated in railroad facility that track, bridge, earthwork is connected complicatedly. Disorder and destruction of track can be occurred by rigidity transition. In order to apply high speed train with 430km/h, it is needed to evaluate stability of behaviour condition of bridge-earthwork transition zone by instrumentation system and the construction methods that accurate and consistently verifiable. In this study, vertical displacement of bridge-earthwork that connect prestressed concrete box bridge and earthwork zone is calculated theoretically, and evaluate stability compared with measurement of wheel load, strain, displacement data with estimation data and criteria of measurement. Therefore, as a result of comparing wheel load, strain, displacement data with estimation data and criteria of measurement, the stability showed favourable

**Keywords:** Bridge-Earthwork Transition Zone, Measurement, Stability, High-Speed Train

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## Proposed Design of 3-Dimesional Intra-Oral Scanner for Accurate Mapping of Denture

**Park, Hong-Seok<sup>1</sup>, Shah, Chintal<sup>2\*</sup>, shah, Rima<sup>3</sup>**  
<sup>1, 2, 3</sup> University of Ulsan, Republic of Korea

### Abstract

For the microscale accuracy measurement, 3D digitization technology has gained its importance from last decades in the field of dentistry. However, due to the precise measurement of the denture with respect to size and volume of the 3D dental scanner, it becomes difficult for scanning the mouth cavity and globally there are less than 10 intra-oral scanners commercially available due to mating requirements of achieving high accuracy. In this paper, using active triangulation technique and confocal laser scanning microscopy principle, design of intra-oral scanner is proposed. Laser as a light source is passed through the beam splitter which then strikes the object through scanning window. The reflected light is guided back through the flat reflectors and is stored by the camera module and then the image is being transferred to the computer. The least-square calibration method is employed for achieving maximum accuracy. By using this method we can achieve accuracy of about 25µm. Once the image is acquired, using CAD/CAM software's we can measure the scanned denture/teeth's and further with the help of 3D milling machine or 3D printing machine the prosthesis/abutments can be made easily. The main purpose of developing this scanner, it reduces traditional long procedures and results in patient's comfort.

***Keywords:*** Digitization, Intra-Oral Scanner, Active triangulation, Denture

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Abstract Proceeding Book  
GIMAR- February 01-02, 2016  
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ISBN: 978-969-9948-40-0

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## **TRACK D: PHYSICAL LIFE AND APPLIED SCIENCES**



## Polymeric Membranes: Effects of Catalyst Volume Fraction on Dielectric Relaxation Time And Crystallites Dimensions

**Laurentiu Iordaconiu<sup>1</sup>, Iosif Malaescu<sup>2</sup>, Ioan Bica<sup>3\*</sup>**

<sup>1,2,3</sup> West University of Timisoara, Bd. V.Parvan, nr.4, 300223-Timisoara, Romania

### Abstract

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We have obtained polymeric membranes based on silicone rubber, stearic acid, silicone oil at various concentrations of catalyst. The obtained polymeric membranes are used as dielectric materials for fabricating plane capacitors. By using the plane capacitor method, we measure capacitance C and dissipation factor D of the plane capacitors in an electric field of medium frequency. From the obtained data we calculate the dispersion and absorption characteristics of the membranes. We show that these characteristics are sensibly influenced by dimensions of the crystallites which in turn, depend on the concentration of catalyst used at polymerization of silicone rubber.

**Keywords:** Polymeric Membranes, Silicone Rubber, Relaxation Time, Dielectric Polarization, Plane Capacitor.

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Email: ioanbica50@yahoo.com,

## **FUTURE EVENTS**

## **2<sup>nd</sup> INTERNATIONAL CONFERENCE ON**

**“Multidisciplinary Innovation in Business Engineering  
Science & Technology”  
(MI-Best 2016)**



**Date:** February 23-24, 2016

**Venue:** Century Park Hotel Manila Philippine

**Conference Email:** [mibest@globalilluminators.org](mailto:mibest@globalilluminators.org)

**Abstract Submission Date:** February 10, 2016

**Full Paper Submission Date:** February 15, 2016

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(TMBER- 2016)**



**Date:** March 25-26, 2016

**Venue:** Holiday Inn Bangkok Silom, Thailand

**Conference Email:** [tmber@globalilluminators.org](mailto:tmber@globalilluminators.org)

**Abstract Submission Date:** March 10, 2016

**Full Paper Submission Date:** March 15, 2016

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(MIAR-2016)**



**Date:** July 29-30, 2016

**Venue:** Hotel Kazakhstan, Almaty

**Email:** [miar@globalilluminators.org](mailto:miar@globalilluminators.org)

**Abstract Submission Date:** April 30, 2016

**Full Paper Submission Date:** May 30, 2016

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“Multidisciplinary Academic Research & Global Innovation”  
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**Date:** August 25-26, 2016

**Venue:** Hotel Novotel Beijing, China

**Email:** [margi@globalilluminators.org](mailto:margi@globalilluminators.org)

**Abstract Submission Date:** April 30, 2016

**Full Paper Submission Date:** May 30, 2016

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“Multidisciplinary Trends in Academic Research”  
(MTAR- 2016)



**Date:** September 29-30, 2016

**Venue:** Holiday Inn Bangkok Silom, Bangkok Thailand

**Email:** mtar@globalilluminators.org

**Abstract Submission Date:** June 30, 2016

**Full Paper Submission Date:** July 30, 2016

**Selected conference papers will be published in special /regular issue of ISI/Scopus indexed journals associated with this conference.**

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“Regional Challenges to Multidisciplinary Innovation”  
(RCMI- 2016)



**Date:** October 05-06, 2016

**Venue:** Grand Flora Dubai, UAE

**Email:** rcmi@globalilluminators.org

**Abstract Submission Date:** June 30, 2016

**Full Paper Submission Date:** July 30, 2016

**Selected conference papers will be published in special /regular issue of ISI/Scopus indexed journals associated with this conference.**

### **Conference Main Tracks**

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- Social Science & Humanities
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## 3rd INTERNATIONAL CONFERENCE ON

“Innovative Trends in Multidisciplinary Academic Research”  
(ITMAR-2016)



**Date:** October 20-21, 2016

**Venue:** Istanbul GONEN Hotel, Istanbul, Turkey

**Email:** itmar@globalilluminators.org

**Abstract Submission Date:** July 30, 2016

**Full Paper Submission Date:** August 30, 2016

**Selected conference papers will be published in special /regular issue of ISI/Scopus indexed journals associated with this conference.**

### Conference Main Tracks

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**“Global Trends in Academic Research”  
(GTAR-2016)**



**Date:** April 20-21, 2016

**Venue:** The Trans LUXURY HOTEL Bandung, Indonesia

**Email:**gtar@globalilluminators.org

**Abstract Submission Date:** March 30, 2016

**Full Paper Submission Date:** March 15, 2016

**Selected conference papers will be published in special /regular issue of ISI/Scopus indexed journals associated with this conference.**

### **Conference Main Tracks**

- Business , Management and Economics Studies
- Health and Medicine Studies
- Engineering & Technology Studies
- Social Science & Humanities
- Physical Life and Applied Sciences
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- Multidisciplinary and Interdisciplinary Studies

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## **2<sup>nd</sup> INTERNATIONAL CONFERENCE ON**

**“New Directions in Multidisciplinary Research & Practice”  
(NDMRP -2016)**



**Date:** May 12-13, 2016

**Venue:** Istanbul Gonen Hotel Istanbul Turkey

**Email:** [NDMRP@globalilluminators.org](mailto:NDMRP@globalilluminators.org)

**Abstract Submission Date:** March 30, 2016

**Full Paper Submission Date:** April 15, 2016

**Selected conference papers will be published in special /regular issue of ISI/Scopus indexed journals associated with this conference.**

### **Conference Main Tracks**

- Business , Management and Economics Studies
- Health and Medicine Studies
- Engineering & Technology Studies
- Social Science & Humanities
- Physical Life and Applied Sciences
- Regional and Religious Studies
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### 3RD INTERNATIONAL CONFERENCE ON

“Multidisciplinary Innovation for Sustainability and Growth”  
(MISG – 2016)



**Date:** June 2-3, 2016

**Venue:** PEARL International Kuala Lumpur Malaysia

**Email:** MISG@globalilluminators.org

**Abstract Submission Date:** April 30, 2016

**Full Paper Submission Date:** May 30, 2016

**Selected conference papers will be published in special /regular issue of ISI/Scopus indexed journals associated with this conference.**

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- Business , Management and Economics Studies
- Health and Medicine Studies
- Engineering & Technology Studies
- Social Science & Humanities
- Physical Life and Applied Sciences
- Regional and Religious Studies
- Multidisciplinary and Interdisciplinary Studies

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## **3rd INTERNATIONAL CONFERENCE ON**

**“Emerging Trends in Academic Research”  
(ETAR – 2016)**



**Date:** November 25-26, 2016

**Venue:** Trans Resort & Hotel Bali Indonesia

**Email:** MISG@globalilluminators.org

**Abstract Submission Date:** September 30, 2016

**Full Paper Submission Date:** October 30, 2016

**Selected conference papers will be published in special /regular issue of ISI/Scopus indexed journals associated with this conference.**

### **Conference Main Tracks**

- Business , Management and Economics Studies
- Health and Medicine Studies
- Engineering & Technology Studies
- Social Science & Humanities
- Physical Life and Applied Sciences
- Regional and Religious Studies
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## **4th INTERNATIONAL CONFERENCE ON**

**“Innovation Challenges in Multidisciplinary Research &  
Practice”**

**(ICMRP -2016)**



**Date:** December 15-16, 2016

**Venue:** Hotel Grand Pacific Singapore

**Email:** MISG@globalilluminators.org

**Abstract Submission Date:** October 15, 2016

**Full Paper Submission Date:** November 30, 2016

**Selected conference papers will be published in special  
/regular issue of ISI/Scopus indexed journals associated  
with this conference.**

### **Conference Main Tracks**

- Business , Management and Economics Studies
- Health and Medicine Studies
- Engineering & Technology Studies
- Social Science & Humanities
- Physical Life and Applied Sciences
- Regional and Religious Studies
- Multidisciplinary and Interdisciplinary Studies

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ISBN 9789699948459



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2nd International Conference on "GLOBAL ISSUES IN MULTIDISCIPLINARY RESEARCH & PRACTICE" (GINAR-2016)