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# Welcome to Rome Conferences

**Dear Professors and distinguished delegates,**

**Welcome to 2015 IACSIT Rome Conferences. On behalf of IACSIT organization, I would like to thank all the Conference Chairs, Program Chairs and the technical Committees. Their high competence and professional advice enable us to prepare the high-quality program. We hope all of you have a wonderful time at the conference and also in Rome.**

**We believe that by this excellent conference, you can get more opportunity for further communication with researchers and practitioners with the common interest in Computer Communication and Management, System Engineering and Modeling, Industrial and Intelligent Information.**

**In order to hold more professional and significant international conferences, your suggestions are warmly welcomed. We look forward to meeting you again next time.**

**Best Regards!**

**Yours sincerely,**
**Emma Wang**
**Director of Conference Department, IACSIT**

## Note:

✧ You can also register at any working time during the conference

✧ Certificate of Participation can be collected at the registration counter.

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

✧ Please get the notification for your paper printed out and it is required when you register on desk.

## Warm Tips for Oral Presentation:

✧ Get your presentation PPT or PDF files prepared

✧ Regular oral presentation: about 15 minutes (including Q&A)

✧ Keynote speech: about 45 minute (including Q&A)

✧ Laptop (with MS-Office & Adobe Reader), projector & screen, laser sticks will be provided by the conference organizer

✧ Please keep your belongings (laptop and camera etc.) with you

# Announcement

✧ All accepted papers of **ICCCM 2015** will be published in one of the following Journals:

*Journal of Advanced Management Science (JOAMS)*
**Abstracting/Indexing:** Ulrich's Periodicals Directory, Google Scholar, EBSCO, Engineering & Technology Digital Library and Electronic Journals Digital Library

*International Journal of e-Education, e-Business, e-Management and e-Learning (IJEEEE)*
**Abstracting/Indexing:** Engineering & Technology Digital Library, Google Scholar, Electronic Journals Library, QUALIS, ProQuest, EI (INSPEC, IET).

*Lecture Notes on Photonics and Optoelectronics ( LNPO)*
**Abstracting/Indexing:** Ulrich's Periodicals Directory, Google Scholar, EBSCO, Engineering & Technology Digital Library and Electronic Journals Digital Library

*International Journal of Future Computer and Communication (IJFCC)*
**Abstracting/ Indexing:** Google Scholar, Engineering & Technology Digital Library, and Crossref, DOAJ, Electronic Journals Library, EI (INSPEC, IET).

✧ All accepted papers of **ICSEM 2015** will be selected and published in one of the following Journals:

*International of Computer and Communication Engineering (IJCCE*)
(ISSN: 2010-3743)
**Abstracting/Indexing**: EI (INSPEC, IET), Google Scholar, Engineering & Technology Digital Library, ProQuest, and Crossref, Electronic Journals Library

*International Journal of Modeling and Optimization (IJMO)*
**Abstracting/Indexing**: Engineering & Technology Digital Library, ProQuest, Crossref, Electronic Journals Library, DOAJ, Google Scholar, EI (INSPEC, IET).

✧ All accepted papers of **ICIII 2015** will be selected and published in :

*Journal of Industrial and Intelligent Information*
(ISSN: 2301-3745, DOI: 10.12720/jiii)
**Indexing:** EI (INSPEC, IET), Google Scholar, EBSCO, Engineering & Technology Digital Library and etc.

**For the journal publication schedule, some authors could not get the journal on conference site. We'll post the journal after publication.**

**A CD including all registered papers will be handed out to the presenters.**

**\*Attention:**
One excellent presentation will be selected from each session and the author of excellent presentation will be awarded the certificate after the session is over.

**IACSIT Committee**

# Conference Venue



**Barceló Aran Park Hotel**

**Address:** Via Riccardo Forster 24 | 00143 Roma
**Telephone number:** +39 06 510 721
**Fax:** +39 06 510 72 777
**Email:** aranpark@barcelo.com

The Barceló Aran Park****hotel is situated in a quiet residential area of the EUR district in Rome. It is surrounded by green, gardened areas, which invite relaxation.

The hotel has 325 spacious and bright rooms, refurbished in 2014 and decorated in a modern and innovative style. They are fully equipped, and have free Wi-Fi connection and 40" LCD TV.

Its 6 meeting rooms stand out, as they are technologically equipped for any type of event and have seating capacity for up to of 280 people. All the rooms have natural light and free Wi-Fi. In addition, the hotel offers free covered parking and a fully equipped gym.

The hotel has a wide variety of cuisines on offer. There are 2 restaurants and a bar where you can enjoy both Italian and international cuisine. The Il Giardino Delle Rose Restaurant, located on the 7th floor, has capacity for up to 500 people and offers excellent panoramic views from the terrace. The Batik Restaurant specialises in ad-hoc events, subject to prior booking. In the Lobby Bar you can enjoy a snack while you relax watching TV or surfing The Internet from our business Centre.

The hotel Barceló Aran Park is well communicated with Fiumicino and Ciampino airports. The Laurentina Metro Station, which communicates with the Centre of Rome, is just 3 km and there are different bus stops that connect with the metro and train stations. In addition, the hotel offers shuttle service between the hotel and the city centre.

Please note: you will be requested to pay a local tax of 6 € per person per night upon check-out.

**For Room Reservation**
**Email: aranpark.res@barcelo.com**
**Our participants will enjoy a discount price, please reference *IACSIT conferences* in your email.**

# Technical Program at a Glance

| First Day | | | |
|---|---|---|---|
| **May 18** | **Lobby** | *10:00-17:00* | **Registration** |
| Second Day | | | |
| **May 19 9:00-11:45** | **Venue: Meeting Room** | *9:00-9:10* | **Opening Remarks** | **Prof. Alexander Balinsky** |
| | | 09:10-09:55 | **Plenary Speech I** | **Prof. BEN-OTHMAN Jalel** |
| | | 09:55-10:15 | *Coffee Break* | |
| | | 10:15-11:00 | **Plenary Speech Ⅱ** | **Prof. William Arrasmith** |
| | | 11:00-11:45 | **Plenary Speech Ⅲ** | **Prof. Alexander Balinsky** |
| **May 19 11:45-13:00** | *Lunch @ Hotel restaurant* | | |
| **May 19 13:00-17:55** | **Venue: Meeting Room** | 13:00-16:00 | **Session I** | **12papers** |
| | | 16:00-16:10 | *Coffee Break* | |
| | | 16:10-17:55 | **Session Ⅱ** | **7 papers** |
| **May 19 18:30-20:00** | *Dinner @ Hotel restaurant* | | |

# Keynote Speakers



### *Prof. Alexander Balinsky*
**Cardiff University, UK**

Prof. Alexander Balinsky received his PhD degree in Mathematical Physics from the Landau Institute of Theoretical Physics in 1990 and was Research Fellow in the Department of Mathematics at The Technion-Israel Institute of Technology from 1993 till 1997. He joined Cardiff University in 1997.He is a Professor in the Cardiff School of Mathematics and WIMCS (Wales Institute of Mathematical and Computational Sciences) Chair in Mathematical Physics. His current research interests lie in the areas of spectral theory, stability of matter, image processing and machine learning.He has participated in EU TMR network on Partial Differential Equations and Quantum Mechanics (1996-2001).He was PI on three years grant from United State-Israel Binational Science Foundation (1996-1999),on three years EPSRC Research Grant 2003-2006.He was founding member of Cardiff Communication Research Center.In 2007-2011 he had joint with Hewlett-Packard EPSRC CASE award,and from October 2011 joint with Hewlett-Packard 50%-50% PhD Scholarship.He also did consultancy work for Reuters, London on athematical models for Internet Security.



### *Prof. William Arrasmith*
**The Florida Institute of Technology (FIT) in Melbourne, Florida, USA**

Dr. Arrasmith is currently a professor in the Department of Engineering Systems at FIT. He has 20 years' experience with government research and development programs and has had extensive exposure to electro-optical, infrared, and laser detection systems.

Prior to his position at Florida Tech, Dr. Arrasmith served as Program Manager of Physics and Electronics at the Air Force Office of Scientific Research (AFOSR) in Washington DC. In 1997 he moved to the United States Naval Academy in Annapolis, Maryland to teach courses in Engineering and Linear Adaptive Optics. Dr. Arrasmith was then reassigned to the Air Force Technical Applications Center (AFTAC) at Patrick Air Force Base where he became Chief of the Systems and Technology Division. He was later appointed Division Chief for the Advanced Science and Technology Division of the AFTAC and remained in the position until joining Florida Tech in 2003.

**_Prof. BEN-OTHMAN Jalel_**
**University of Paris 13, France**

Dr. Ben-Othman received his B.Sc. and M.Sc. degrees both in Computer Science from the University of Pierre et Marie Curie, (Paris 6) France in 1992, and 1994 respectively. He received his PhD degree from the University of Versailles, in 1998. He was an Assistant Professor at the University of Orsay (Paris 11) and University of Pierre et Marie Curie (Paris 6), in 1998 and 1999 respectively. He was an Associate Professor at the University of Versailles from 2000 to 2011. He is now full professor at University of Paris 13. Dr. Ben-Othman's research interests are in the area of wireless ad hoc and sensor networks, Broadband Wireless Networks, multi-services bandwidth management in WLAN (IEEE 802.11), WMAN (IEEE 802.16), WWAN (LTE), security in wireless networks in general and wireless sensor and ad hoc networks in particular. His work appears in highly respected international journals and conferences, including, IEEE ICC, Globecom, LCN, VTC, PIMRC, etc. He has supervised and co-supervised several graduate students in these areas. He is widely known for his work on wireless ad hoc and sensor Networks, in particular, security. He is an editorial board member of Wiley Wireless Communications and Mobile Computing, Inderscience Int. J. of Satellite Communications Policy and Management and an Associate Editor of Wiley International Journal of Communication Systems. He has served as a member of Technical Committees of more than 40 international IEEE/ACM conferences and workshops including ICC, Globecom, MSWIM, LCN. He is a member of IEEE and ACM. He served as Local Arrangement Chair for the 13th IEEE International Symposium on Computer Communication (ISCC 09). He served as a TPC Co-Chair of IEEE Globecom Wireless Communications Symposium (Globecom 2010) and 9th international Workshop on Wireless local Networks (WLN09) and 10th international Workshop on Wireless local Networks (WLN10). He served as a publicity chair of several conferences such as the 12th ACM International Conference on Modelling, Analysis and Simulation of Wireless and Mobile Systems (MSWIM 09), IEEE International Symposium on a World of Wireless Mobile and Multimedia Networks (WOWMOM 2010), 25th Biennial Symposium on Communications. Currently he is serving as TPC Co-Chair for IEEE Globecom Ad hoc, Sensor and Mesh Networking (Globecom 2011), 6th ACM International Symposium on QoS and Security for Wireless and Mobile Networks (Q2SWinet 2010, Q2SWinet 2011, Q2SWinet 2012), Wireless Networking Symposium of The 7th International Wireless Communications and Mobile Computing Conference (IWCMC 2011, IWCMC 2012), IEEE International Conference on Communications Ad hoc, Sensor and Mesh Networking (ICC 2012). He is an active member of IEEE CIS-TC, TC AHSN, and WTC.

# Schedule of Sessions
## Plenary Speeches
Location: Meeting Room

| | |
|---|---|
| **Opening Remarks 9:00-9:10** | <br>**Opening Remarks**<br>*Prof. Alexander Balinsky*<br>**Cardiff School of Mathematics, Cardiff University, UK** |
| **Plenary Speech I 9:10-9:55** | <br>**Title: From Infrasound to Imaging: Modeling and Analyzing Systems throughout the Systems Development Lifecycle**<br>*Prof. William Arrasmith*<br>**The Florida Institute of Technology (FIT) in Melbourne, Florida, USA**<br><br>**Abstract**—Simulation and analysis methods are essential elements of the systems engineering discipline and have become pervasive throughout the systems development lifecycle. Presently, a wide range of partially integrated Systems Engineering tools are available to the system architect, systems engineers, designers, developers, the production team, and system end-users. These tools are well vetted with industry and are capable of defining enterprise and systems architectures, integrating requirements management methodologies, drive the design, and connect with engineering, production, and support tools, and systems engineering process and analytical methods. These tools are ever-evolving as the systems engineering framework for systems development continues to expand its influence. At their most basic level, these tools provide an organized structure within which the conception, design, development, production, verification/validation, deployment, support, and even retirement of a system, service, product, or process may be executed. This |

"cradle-to-grave" scope lies at the core of the systems engineering lifecycle management philosophy. Representative applications of various systems engineering tools throughout the systems development lifecycle are provided. Analysis, modeling and simulation methods and tools are used to evolve a system design and evaluate predicted system performance against established system requirements. Two different phenomenological systems – an infrasound system, and an optical imaging system – are used as example case studies. Also presented are the latest results of on-going research in the application of analysis and modeling tools to study man-made infrasound signals of interest (SOI) and high-speed atmospheric turbulence compensated optical imaging methods.



*Coffee Break & Group Photo*
**09:55-10:15**

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|---|---|
| **Plenary Speech II 10:15-11:00** | <br><br>**Title: New stochastic tools to model wireless networks**<br>*Prof. BEN-OTHMAN Jalel*<br>**University of Paris 13, France**<br><br>**Abstract**— to be added |
| **Plenary SpeechⅢ 11:00-11:45** | <br><br>**Title: A-Contrario methods for data mining and image analysis**<br>*Prof. Alexander Balinsky*<br>**Cardiff University, UK**<br><br>**Abstract**—We present a review and mathematical background of |

"a-contrario" detection theory in data mining and image processing. Several new applications for text mining, data segmentations and image analysis will be presented. Relations between "a-contrario" modelling and deep learning will be discussed.



*Lunch @ Hotel Restaurant*
**11:45-13:00**

**Session I- Computer and information technology**
**13:00-16:00**
**Session Chair:** *Dr. Ismail Rakip Karas*
**Karabük University, Turkey**

| ICSEM SEM009 | **Title:** Using Evolutionary Models with Mutations to Predict Long-Term Trends in Simple Social Interactions<br>**Authors:** *Barry Webster* and *Suja Ramakrishnan*,<br>Florida Institute of Technology<br><br>**Abstract**—Predicting the outcomes of social interactions between humans is notoriously difficult. Variations within the experiences, beliefs, and actions of individual humans (and even within a particular given human from one situation to the next) render accurate predictions of the outcome of individual interactions problematic at best. However, it is somewhat easier to make predictions regarding the expected outcome of interactions involving large groups of humans over an extended period. This paper presents a series of studies where simple social interactions between humans of different personality types were modeled over a long term, and where the behavior patterns of individuals within the population were allowed to change. The results of these studies provide predictions for how groups of humans would likely behave in similar situations. |
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| ICSEM SEM0014 | **Title:** Implementation Scenarios of Reporting from Data Warehouse for Business Intelligence<br>**Authors:** *Derya Gunduz, M. Ergul Azizler, Emel Arslan,* Istanbul University, Turkey<br><br>**Abstract**—Business Intelligence (BI), which has proven to be a key strategy to improve business benefits and performance, is a crucial need for Information and Communications Technology (ICT) industry. Data warehousing and reporting are two concepts that BI provides to create meaningful information from integrated data. Microsoft offers SQL Server Reporting Services (SSRS) as a reporting solution to provide a ready to use, scalable, versatile platform to create, deploy and manage reports. There are numerous studies that define data warehouse and reporting, their components, usage and benefits in the literature. In addition to such studies, this paper presents implementation scenarios of taking reports from different data sources to show difference between taking report from operational database and data warehouse by using Adventureworks database. |
|---|---|
| ICIII LY005 | **Title:** Prediction of crowd-powered search performance based on random forest<br>**Authors:** *Tao Wang, Weiming Zhang, **Cheng Zhu**, Kaiming Xiao, Zhong Liu, and Baoxin Xiu*<br>National University of Defense Technology<br><br>**Abstract**—Crowd-powered search is a form of crowdsourcing scheme which involves collaborations among voluntary Web users. Most popularly known episodes are succeed, while search tasks often failed in fact. In this research, we analyzed the factors which related to the performance of crowd-powered search though human flesh search (HFS)episodes, and predicted search performance based on these factors. We have analyzed 2.3 million microblogs about HFS which involved more than 1.3 million users over 2 years in Sina Weibo—the most popular social media site like twitter in China. Some useful features are found. Based on these features, we predict the performance of HFS episodes based on random forest method. The results of classification shown that our model performed good at differentiating these succeed and failed episodes automatically. |

| ICIII LY010 | **Title:** A CORDIC Algorithm with Improved Rotation Strategy for Embedded Applications<br>**Authors:** *Kui-Ting Chen, Ke Fan, Xiaojun Han and Takaaki Baba*<br>Waseda University<br><br>**Abstract**—Coordinate rotation digital computer (CORDIC) is an iterative algorithm to calculate various complex mathematical functions such as trigonometric, hyperbolic, logarithmic functions and so on. The iterative procedure of the conventional CORDIC algorithm is inefficient due to its rotation strategy. This research presents a resourceful rotation strategy to reduce the unnecessary iteration times. The proposed rotation strategy divides the conventional rotation approach to two rotation functions which are named coarse rotation function and precise rotation function. The simulation results prove that can drastically reduce unnecessary iteration times compared with the conventional approach. In addition, the proposed approach is a hardware-oriented algorithm for embedded applications when compared with other CORDIC algorithms. |
|---|---|
| ICIII LY011 | **Title:** Matlab software in PC to replace Embedded System used in seismic exploration<br>**Authors:** *M. F. Rocha, E. Andrade, M. E. Rocha, Z.C. Flores, M. I. Rocha G, C. Canto, R. Navarrete*<br>Instituto Politecnico Nacional, Mexico<br><br>**Abstract**—Seismic exploration is the search for underground storage of crude oil, natural gas and minerals, commercially viable, through registration, processing and interpretation of artificially induced acoustic waves, and includes processes and activities such as seismic data; drilling; technical team to get data.The importance of this activity lies in the information that these sites may have before making such a large investment in your piercing. The seismic exploration is a complex technology that combines advanced physics, mathematics and computing. The Backup software systems used in seismic exploration is an expensive and complex system. Therefore, in this paper we present a series of algorithms that run on a Personal Computer, are written in Matlab code, to date, This Software is rapidly gaining users to solve problems as presented, because the costs will be dramatically reduced. This is achieved by algorithms which are grouped into a small number of toolboxes Matlab functionality and extends, confirm the approach undertaken within the implementation of a dynamic and easy to use method, especially economical compared to the systems currently used in seismic exploration. |

| ICIII LY012 | **Title:** Automation of production and recycling paper Tissue using PLC, PAC, HMI and Ethernet/IP<br>**Authors:** *R. Navarrete, **M. F. Rocha**, E. Andrade, M. E. Rocha, Z.C. Flores, M. I. Rocha G, C. Canto*<br>Instituto Politecnico Nacional, Mexico<br><br>**Abstract**—This paper aims to present a proposal for automation for the optimal performance of the equipment used in the process of disintegration of production Tissue engineering performing the necessary programming the programmable automatic controller (PAC), development of human machine interface (HMI) and the integration of all devices in the automation through the Ethernet / IP protocol. Submit a cleaning system high density as a major component in the system disintegration to reduce the various contaminants in the process feedstock causing deterioration in the equipment in order to obtain higher quality Tissue. Get a functional design that would reduce production costs and increase product quality. |
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| ICIII LY019 | **Title:** Quantification of Trabecular Bone Porosity on X-Ray Images<br>**Authors:** *Khaled Harrar and Rachid Jennane*, University of M'Hamed Bougara, Algeria<br><br>**Abstract**—Osteoporosis is a disease characterized by low bone mass and deterioration of the micro-architecture of the bone tissue, which lead to increased bone fragility and therefore, an increased risk of fracture. The purpose of this work is to quantify the porosity of radiographic bone images in order to characterize osteoporosis. Two methods are used to characterize radiographic bone images, lacunarity and star volume distribution. The first method is based on fractal analysis and the second on the evaluation of the bone medullar space. 2D bone radiographic images from two populations composed of 80 control subjects and 80 patients with osteoporotic fractures are analyzed. The results show a good discrimination between the two groups. |
| ICIII LY020 | **Title:** A Study on Building of Sports Data Sharing Platform from the Perspective of the Personal Information Protection Act<br>**Author:** *Kai-Li Wang*<br>National Taiwan Sport University<br><br>**Abstract**—The evolution of wearable devices, big data and Internet of Things (IoT) has given rise to today's emerging apps. Among them, sports- and health-related ones are drawing the most attention. Many giants have thus launched cloud-based platforms that combine hardware products with software services and even social networking functionality. This way, users of |

sensor-equipped wearable devices can monitor and track their sports data. They can further share the data for more fun with their sports activities. In this study, such platform is termed as "sports data sharing platform" (SDSP). However, the increasing concern over privacy rights has urged more governments to establish new laws on personal data protection worldwide. The move will affect the said developing service models. In this study, we will start from the perspective of the recently enacted Personal Information Protection Act (PIPA) of Taiwan R.O.C. to analyze several important SDSP-related legal issues. We will then discuss several models used to establish the SDSP, and their differences in legal risks. SDSP developers are advised to refer to the conclusion of this study for future improvements. As for the government, suggestions mentioned here may also serve to help handle legal practices about the PIPA. The purpose is to avoid making legal interpretations that might undermine thriving services.

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**ICIII LY014**

**Title:** Matlab software in PC to replace an embedded system used for face recognition
*Authors: M. R. Osnaya, **M. F. Rocha**, E. Andrade, M. E. Rocha, Z.C. Flores, M. I. Rocha G, C. Canto, R. Navarrete*
Instituto Politecnico Nacional, Mexico

**Abstract**—Currently in the European and American markets are highly developed systems of fingerprint recognition which commercial cost is in the range of one hundred to five hundred thousand dollars. Of the recognition of human faces in digital images, is very useful in environments where it is impossible for human monitoring of people, facilitating the detection of persons who are in a database of suspects. Face identification is also a good biometric method which can be used in access control and restricted areas. The use of artificial neural networks to solve the problem of face recognition and the need for a priori knowledge of the statistical distribution of the data, inherent parallelism, rapid classification and the most important thing is fault tolerance. This proposal is developed to Practice to users, small businesses, industry and government to promote compliance with standards, knowledge and development of biometrics. Therefore, in this paper a series of algorithms that run on a personal computer, are written in Matlab code, to date, this software is rapidly gaining users to solve problems as presented, is presented because the costs will be reduced drastically.

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**ICCCM M5002**

**Title:** Solving the Problem of the Accents for Speech Recognition Systems
**Authors:** *Irakli Kardava, Jemal Antidze, and Nana Gulua*
Sokhumi State University, Georgia

**Abstract**—Since the speech recognition system has been created, it has developed significantly, but it still has a lot of problems. As you know, any

specific natural language may own about tens accents. Despite the identical word phonemic composition, if it is pronounced in different accents, as a result, we will have sound waves, which are different from each other. Differences in pronunciation, in accent and intonation of speech in general, create one of the most common problems of speech recognition. If there are a lot of accents in language we should create the acoustic model for each separately. When the word is pronounced differently, then the software can become confused and misunderstand (perception) also correctly what is pronounced. The same can also occur, if the human speaks slowly or vice versa quickly, then the program expects. There are any partial decisions (solutions) but they don't solve all problems. We have developed an approach, which is used to solve above mentioned problems and create more effective, improved speech recognition system of Georgian language and of languages, which are similar to Georgian language. In addition, by the realization of this method, it is available to solve the artificial intelligence issues, such as arrange sound dialogue between computer and human, independent from any accents of any languages.

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**ICCCM M5010**

**Title:** Preventing Data Loss in Linux-based EtherCAT Master
**Authous:** *Cheol-Jin An*, *Hyun-Chul Yi, Hyoung-Woo Kim,Sung-Mun Park and Joon Young Choi*
Pusan National University

**Abstract**—A receiving and sending algorithm is proposed to prevent the packet loss in Linux-based EtherCAT master. The algorithm is implemented by modifying the IgH EtherCAT master stack module, and can be used in the application program for EtherCAT master. The performance of the modified EtherCAT master is verified by experimenting it with the EtherCAT slave hardware provided from Texas Instruments Inc. Experiment results show the improved data throughput as well as the compensation of communication jitter compared to the existing IgH EtherCAT open master stack.

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**IJKE CK105**

**Title:** Adaptive Influence Maximization in Microblog under the Competitive Independent Cascade Model
**Authors:** *Zheng Ding , Kai Niu , Zhiqiang He*
Beijing University of Posts and Telecommunications

**Abstract**— With the rapid development of social media technology, many different pieces of information, ideas, products, and innovations are propagating widely in online social networks. Information diffusion has been further researched by many scientists and experts in the past few decades. In this paper, we study the competitive influence propagation in Sina microblog under the competitive independent cascade model, which extends the classical

independent cascade model. This paper pays attention to the problem that adaptively selecting a certain number of seeds to maximize its influence benefit (IB) under a competitive diffusion model. We call this problem the adaptive influence maximization (AIM) problem.The traditional Monte-Carlo greedy algorithm can select a specified number of seeds, and has a very high complexity. A new efficient algorithm called M-based algorithm is designed to select seeds adaptively, and faster than the Monte-Carlo greedy algorithm.

coffee break

16：00-16：10

**Session II- Communication and information system**
**16:10-17:55**
**Session Chair:** *Prof. Wei-Chang Yeh*
**National Tsing Hua University, Taiwan**

| ICSEM SEM302 | **Title:** Systems Engineering Modeling and Comparative Analysis of Various Infrasound Signals of Interest |
|---|---|

*Authors: William W. Arrasmith*, *Everett R. Coots, Eric A. Skowbo, John V. Olsen*
Florida Institute of Technology, USA

**Abstract—**Good modeling, simulation, and analysis methods are essential elements of the systems engineering discipline and have become pervasive throughout the systems development lifecycle. Presently, a wide range of partially integrated Systems Engineering tools are available to the system architect, systems engineers, designers, developers, the production team, and system end-users. These tools are well vetted with industry and are capable of defining enterprise and systems architectures, integrating requirements management methodologies and helping drive the design to closure. Additionally, these tools establish a synergy that connects engineering, analysis, production, and support. These tools are ever- evolving as the systems engineering framework for systems development continues to expand its influence. At their most basic level, these tools provide an organized structure within which the conception, design, development, production, verification/validation, deployment, support, and even retirement of a system, service, product, or process may be executed. This "cradle-to-grave" scope lies at the core of the systems engineering lifecycle management philosophy.

This paper presents the representative application of various systems engineering tools throughout the systems development lifecycle. Analysis, modeling and simulation methods and tools are used to evolve a system design and evaluate predicted system performance against established system requirements. An operational infrasound system is used to develop an example case study. This paper also presents the latest results of on-going research in the application of analysis and modeling tools to study man-made infrasound signals of interest (SOI).

ICIII
LY013

**Title:** Photonics Technology will transform the software and hardware of telecommunications
**Authors:** *Zoar C. Flores, **Miguel F. Rocha**, Eduardo Andrade, Miguel E. Rocha, Mar ú I. Rocha, Carlos E. Canto and Mar ú R. Osnaya*
Instituto Politecnico Nacional, Mexico

**Abstract—**Optics is the old and venerable branch of physics that involves the generation, propagation and detection of light. Three key developments achieved are responsible for rejuvenating the optical and its growing importance in modern technology, Laser, low loss optical fibers, transmitting signals. Surge the term Photonics, reflecting the important link between the applied optics and electronics. Electronics and control involves flow of electric charge in a vacuum or matter, involving control Photonics photon in free space or in the field. Both disciplines relate clearly since electrons typically control the flow of photons, and photons control the flow of electrons. Photonics thus the term reflects the importance of nature of the photon of light in the description of the operation of many optical devices. Photonic chip that may be a precursor of the programmable quantum processors can be generated, manipulated and measured entirely on a chip. As a result of these developments, new disciplines and new terms that describe them, electro-optics, optoelectronics, quantum electronics, quantum optics, light wave technology among others emerge. That is why this work with practical applications of this ultra-futuristic technology so that we look at the future of technological development in this field is presented.

ICCCM
M5004

**Title:** All Optical Communication Filter based on Photonic Crystal Structure
**Authors:** ***Hamed Alipour-Banaei**, Farhad Mehdizadeh and Behnaz Amini*
Department of Electronics, Tabriz Branch, Islamic Azad University, Tabriz, Iran

**Abstract—**In this paper we proposed a novel structure for designing all optical filter based on photonic crystal structure. For designing the proposed filter we simply employed a point defect localized between input and output waveguides as wavelength selecting part of the filter. The initial form of this filter is

capable of selecting optical waves at =1554.2 nm, the transmission efficiency of the filter is 100%. In designing and studying the optical properties of the filter we used plane wave expansion and finite difference time domain methods. After designing the filter we studied the impact of different parameters on the filtering behavior of the structure. The total footprint of the filter is less than 76 m2. Simplicity of design and ultra-compact dimensions are the most significant characteristics of our filter.

| ICCCM M5007 | **Title:** A Novel Incremental Instruct Dynamic Intrusion Detection System using PSO-RBF<br>**Author:** *M V Siva Prasad, Anurag Engineering College* |

**Abstract** —This research paper is an elaboration of Incremental Radial Based Function Neural Network model with Particles Swarm Optimization (IRBF-PSO) in Intrusion Detection System. This system is helpful to find the most featured misuse and anomaly detection. RBF network is most popular real-time classifier method. RBF method comprises of mostly analysis and the thorny part is finding the right weights and bias values for dynamic systems. The intrusion detection system has become highly dynamic. Many large or small enterprise systems are still facing with different problems in this area with dynamic form. So the main objective of my work is to employ Particles Swarm Optimization to detect the right weight and bias values for RBF method.

In this method, apart from training with existing data and information for design, there is a need to extend or redesign the existing system to identify different pattern types and modulate the system using PSO with new patterns. After experimentation, this method has improved to identify thedifficulty in anomaly detections and reduce the rate of false alarm and fail cases.

| ICCCM M5008 | **Title:** A Novel Concatenated Code for Fading Channel<br>**Authors:** *Ying Huang, Jing Lei, Baoguo Li and Erbao Li*<br>Institute of Electronic Science and Engineering National University of Defense Technology |

**Abstract—**A novel concatenated code is proposed for fading channel, which combines a linear outer code with a rate-1 inner code. Based on coding and diversity technique, higher reliability can be achieved without reducing efficiency because of inner code. In the paper, the rate-1 inner code design is discussed in great detail. The design rule is shown as an optimized problem. According to different modulation and mapping style, the optimal inner coding matrixes are devised, which can be applied directly. Theoretical analysis shows

that our proposed concatenated code obtains higher diversity order, which is adaptive for fading channel. Furthermore, it can be seen from the simulation result that the proposed concatenation can achieve better performance compared with the traditional concatenated code, even using the simpler outer code.

| ICCCM M5017 | **Title:**M5017 Improving The Energy Efficiency Of Wearable Computing Units Using On Sensor Fifo Memory<br>**Author:** *Ozgun Pinarer*<br>Galatasaray University, Istanbul, Turkey |

**Abstract**—Proliferation of wearable devices with wide spectrum of sensing capabilities together with commercial availability has increased the applicability of ambient intelligence concepts in practical system designs. Although being wearable brings in some nice features, it enforces extra constraints in terms of form factor and weight. These constraints, in turn, heavily limit the computational properties and the battery lifetime of the wearable units. Usability is a key factor for the success of the systems designed. If one facet of usability is related to the form factor, weight and ergonomic of the devices, the other facet is related to the maintenance of the wearable devices, especially lifetime of the sensor device which is related with the energy consumption. Accordingly, there has been increasingly many number of studies for the energy efficiency of embedded and mobile hardware platforms. Due to the known techniques, increasing the energy consumption of an embedded system inherently requires some components to go into the low energy modes with a certain pattern, which in turn entails performance penalties at the application level. Existing solutions for increasing energy efficiency mainly focus only on a certain component of the system, such as hardware, networking firmware and try to achieve energy efficiency without considering the statethe application is dynamically in. In this study, the critical balance between energy efficiency and application performance is handled. Application feedback is merged with energy efficiency and according to the application performance, duty cycle mechanism can be configured dynamically. A memory unit (FIFO) of the sensing component is also involved into the dynamic sleep scheduling mechanism in order to process latest sampled data while microprocessor and radio module of the sensor devices are in sleep mode. In this context, one of the fundamental implementations of ambient application which is based on triaxial accelerometer signal, pedometer is performed. Experiments realized on the dataset proved that it exists an interval where energy efficiency is obtained without degrading application performance under critical level and also usage of FIFO showed a significant impact on application performance and energy gain.

| ICCCM M5203 | **Title:** A Comparative Analysis of the Social Graph Model and Multiparty Access Control Model for Online Social Networks<br>**Authors**: *Gabriela Suntaxi-Oña, Vijay Varadharajan*<br>Department of Informatics and Computer Science of the National Polytechnic School, Quito, Ecuador<br><br>**Abstract—**In recent years, with the growth of the Internet, the number of users of Online Social Networks (OSNs) has increase. Users use these systems to communicate and share information with each other. In order to protect the amount of data that is being shared in these systems and to avoid security and privacy issues, it is important to have an adequate Access Control Model.Researchers have proposed different access control models to satisfy users' requirements and address the security and privacy issues. This paper presents a discussion of strength and weaknesses of the Social Graph Model and Multiparty Access Control Model. In addition, we provide a comparative analysis of the selected models based on the access control requirements with the purpose of determining whether the models fulfil or not the social requirements of the community. |



*Dinner @ Hotel Restaurant*
**18:30-20:00**

# Conference Questionnaire

You are highly appreciated to fill this questionnaire. Your feedback from the following survey will allow us to perform a procedural evaluation and to enhance the key elements necessary for a successful IACSIT. Thank you!

(Where options are given, please underline your chosen response)

| Name of the conference: (abbreviation) | Your Paper ID: |
|---|---|
| Your Name: | E-mail: |
| Current position: | ☐Prof.　　☐Assistant Prof.　　☐Dr.　　☐Engr. <br><br> ☐PhD candidate　　☐Graduate <br><br> ☐junior faculty　　☐senior faculty <br><br> ☐Other(please specify) |

1. How did you know or where did you learn about this conference?
   Recommendation (　) please specify:
   _____
   Advertising Website (　) please specify:
   _____
   Direct Mail Promotion from IACSIT (　)
   Others (please specify)
   _____

2. What were the key factors influencing your decision to attend?
   Speakers& Workshops (　)
   Indexing/Publisher (　) please specify: _____
   Networking /discussion opportunity (　) please specify: _____
   Titles and content of talks (　)
   Location/Venue (　)
   Other (please specify) _____

3. How do you think of the conference proceeding/journal?
   Very Good (　)　　　　Good (　)　　　　Average (　)　　　　Dissatisfied (　)

4. How do you think the invited speakers?

Very Good ( )　　　　　Good ( )　　　　　Average ( )　　　　　Dissatisfied ( )

Your recommendation of excellent professor at this filed.

Name: _____　　　Email: _____

University: _____

5. What should this conference be improved?

_____

6. Where you suggest this conference to be held next year?

_____

**Please use a 1 to 5 scale where "5" means "Very Satisfied" and "1" means "Very dissatisfied"**

7. How satisfied were you with the conference materials provided?

　☐1　　　　　☐2　　　　　☐3　　　　　☐4　　　　　☐5

8. How satisfied were you with the conference secretary's previous work? Did He/she reply the mail in time; did He/she try the best to meet your requirements?

　☐1　　　　　☐2　　　　　☐3　　　　　☐4　　　　　☐5

9. Conference staff onsite was helpful and courteous

　☐Strongly Disagree　　☐Disagree　　☐Agree　　☐Strongly Agree

_____

_____

10. How would you rate this conference compared to other conferences of this type that you have attended? Please comment on the overall quality, in your view, of the scientific program?

　☐Excellent　　　☐Good　　　☐Average　　　☐Poor　　　☐Unsatisfactory

11. Will you recommend this conference to others?

　☐Yes　　　　　☐No　　　　　☐Don't Know

Your comments and suggestions would be helpful to us to plan and organize future conferences:

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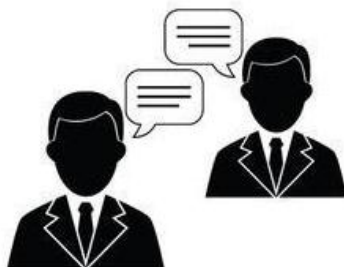
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Conference information

Please visit: *www.iacsit.org*

*emmawang@iacsit.org*

Complaint and suggestion

Please mail: *complaint@iacsit.org*

# Note