

The 11th International Conference on
SIGNAL IMAGE TECHNOLOGY & INTERNET BASED SYSTEMS

Bangkok, Thailand

<http://www.sitis-conf.org>

November 23 – 27, 2015

Bangkok Thailand

**VICTA UBIS QUAMUS IWSAC IEB CNA CITIMA
MIRA BigCvEn SIT IWCVA KARE OSIEO WeCA**



**11th International Conference on
Signal Image Technology
& Internet Based Systems**

November 23 – 27, 2015

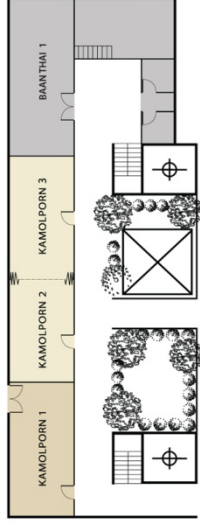
SUKOSOL Hotel, Bangkok, Thailand



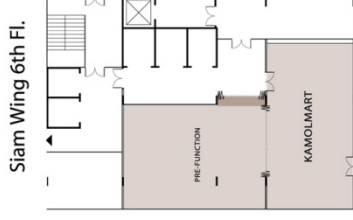
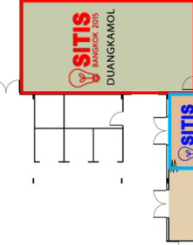
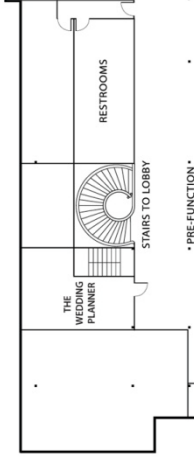
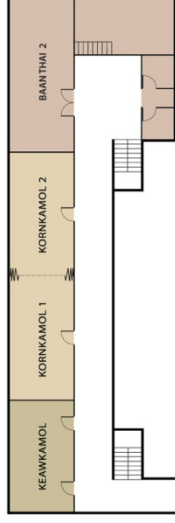
SIGADD.fr



Garden Pavilion 1st Fl.



Garden Pavilion 2nd Fl.



Conference venue floor plan

- ❖ Conference Room 1 at Kamolthip 1
- ❖ Conference Room 2 at Kamolthip 2
- ❖ Conference Room 3 at Duangkamol
- ❖ Banquet at Kamolthip 3
- ❖ Registration
 - ❖ 22 Nov 2015 at Ketkamol room (17.00 - 18.30)
 - ❖ 23 Nov 2015 at Kamolthip 1 (07:45-18:00)
 - ❖ 24-26 Nov 2015 at Kamolthip 1 (08:00-18:00)



*Université de Bourgogne, Dijon
France*



*Centre National de la
Recherche Scientifique,
France*



*Kasetsart University,
Thailand*



*Center of Excellence for
Unified Knowledge and
Language Engineering,
Kasetsart University,
Thailand*



*Thailand Convention and
Exhibition Bureau*



*Università di Milan
Italy*



*Laboratoire LE2I UMR CNRS
5158, Dijon
France*



*SIGSMM (Special Interest
Group on Semantic Multimedia
Management)*



*French Chapter of the Special
Interest Group on Applied
Computing*

SITIS 2015 The 11th International Conference on Signal Image Technology & Internet Based Systems

Foreword

The eleventh International Conference On Signal-Image Technology & Internet-Based Systems SITIS'15 includes three main tracks SIT, WeCA and MIRA. The Web Computing and Application track focuses on issues ranging from information modeling and retrieval techniques to novel concepts, architectures and methodologies for interconnecting information systems. The track on Signal & Image Technologies is aimed at recent developments in digital signal processing, evolutions in audiovisual signal processing, analysis, coding and authentication, and retrieval techniques. The third track, titled "Multimedia Information Retrieval and Application (MIRA), is focused on emerging modeling, representation and retrieval techniques that take into account the amount, type and diversity of multimedia information accessible in distributed computing environment. In addition to the main tracks, the conference this year hosts 11 workshops, covering a wide range of related topics. These workshops are on:

- *Complex Networks and their Applications (CNA)*
- *Visions on Internet of Cultural Things and Applications (VICTA)*
- *Computational Intelligence Techniques for Industrial and Medical Applications (CITIMA)*
- *Quality of Multimedia Services (QUAMUS)*
- *Insight on Eye Biometrics (IEB)*
- *Computer Visions and Application (IWCVA)*
- *Security Assurance in the Cloud (IWSAC)*
- *Open Science and Innovative Earth Observation (OSIEO)*
- *Ubiquity and Information System (UBIS)*
- *Knowledge Acquisition, Reuse and Evaluation (KARE)*
- *Big Data meets Cloud and Virtualized Environment (BigCvEn)*

About 240 original submissions were received from around the world. 120 papers are selected for presentation and publication in the conference proceedings. A peer review process was carried out by the tracks and workshops. Each paper received 2 or 3 reviews. Several received up to 5 reviews.

Each paper is evaluated based on relevance to track or workshop topics, scientific correctness and clarity of presentation.

The success of the conference owes to the dedication of many. They have contributed in many different ways to the selection of a fine scientific program and exciting social events.

First, we acknowledge the commitment and hard work of the track and workshop chairs who have kept the scientific program in focus and made the discussions interesting and invaluable. We recognize the commitment and contributions of the program committee members and the extra reviewers for evaluating the papers on a very tight time schedule. We could not have done it without them.

Next and more importantly, we thank the authors for submitting and trusting their work to the conference. Our gratitude goes also to our academic sponsor institutions for their cooperation, support and assistance: the University of Bourgogne, the University of Milan, the Kasetsart University in Bangkok, the “LE2I (Laboratoire Electronique, Image et Informatique)” research group at the University of Bourgogne and UKNOW, the Center of Excellence for Unified Knowledge and Language Engineering at Kasetsart University.

We thank the conference Honorary Chair, Professor Bancha Kwanyuen, President of Kasetsart University. Our deepest kudos to Professor Asanee Kawtrakul, the conference general chair, for her invaluable help and tireless dedication. Last, our heartfelt thank you to all the members of the local organizing committee with special thanks to Dr Mukda Suktarachan, Dr Hutchatai Chanlekha, Achara Napachot and Areerat Thongbai for timely and appropriately finding solution for all organization problems.

We hope the scientific program of SITIS 2015 lives up to your expectations. Bangkok is a beautiful city with many attractions, cultural and social events and wonders. We hope you will find time to enjoy the “scientific discussions”. We wish you well

The steering committee:

Professors Kokou Yetongnon, Albert Dipanda, Richard Chbeir

November 23 - 27, 2015

**SUKOSOL Hotel
Bangkok, Thailand**

Conference events

Monday November 23, 2015

Opening ceremony (08:30 – 9:15)

Keynote 1 (09:15 – 10:00)

Tuesday November 24, 2015

Keynote 2 (09:00 – 10:00)

Banquet (19:00 – 22:00)

Wednesday November 25, 2015

Keynote 3 (09:00 – 10:00)

Thursday November 26, 2015

Keynote 4 (09:00 – 10:00)



Keynotes

Keynote

HiFun - A High Level Functional Query Language for Big Data Analytics

by *Nicolas Spyratos*, University of Paris South, France

Abstract:

There are many systems developed today for the parallel processing of big datasets. Each of these systems is carefully optimized in accordance with the final application goals and constraints.

However, their evolution has resulted in an array of solutions catering to a wide range of diverse application environments. Unfortunately, this has also fragmented the big data solutions that are now adapted to particular types of applications. At the same time, applications have moved towards leveraging multiple paradigms in conjunction, for instance combining real time data and historical data.

This has led to a pressing need for solutions that seamlessly and transparently allow practitioners to mix different approaches that can function and provide answers as an all-in-one solution.

Based on these observations, the overall objective of our work is to separate clearly the conceptual and the physical level so that one can express analysis tasks as queries at the conceptual level independently of how their evaluation is done at the physical level. To achieve this objective we propose (a) a high level functional query language, called HiFun, in which we can formulate queries and study their properties at the conceptual level and (b) mappings to existing evaluation mechanisms (e.g. Hadoop or SQL) which perform the actual evaluation of queries. In other words, we propose a language which is agnostic of the application environment as well as of the nature, structure and location of data.

Based on the abstract definitions, we propose a formal approach to the rewriting of analytic queries and the generation of query execution plans. We demonstrate the practical use of our language by showing how queries in HiFun can be mapped as MapReduce jobs in Hadoop and as group-by queries in SQL. Additionally, we show how our approach can leverage semantics in data in order to improve performance. We emphasize that, although theoretical in nature, our work uses only basic and well known mathematical concepts, namely functions and their basic operations.

Keywords: Big Data; MapReduce; Query Language; Data Analytics

Biography:

Nicolas Spyratos (spyratos@lri.fr) received his BEng degree from the National Technical University of Athens, Greece, his M.Sc. degree from the University of Ottawa, Canada, his Ph.D degree from Carleton University, Canada and his "thèse d'état" from the University of Paris South 11, France.



He worked as a researcher for Bell-Northern Research in Canada, and for INRIA and the National Research Council (CNRS) in France, prior to joining the University of Paris South as a full professor in 1983, where he was heading the database group from 1985 to 2011.

He is currently Professor Emeritus at the University of Paris South, scientific advisor of Japan Science and Technology (JST), and affiliated senior scientist, at the Institute of Computer Science of Crete, in Greece (<http://www.ics.forth.gr/>). His research interests include databases, big data analytics, conceptual modeling and digital libraries. He is the author of over 200 articles in international journals, books and conferences, and has supervised the work of 24 PhD students. He has also served on the program

committee of over 100 international conferences, he has participated in over 25 national, European and international research projects and has served as evaluator for the NSF and the European commission.

Keynote

Machine Learning and Particle Swarm Optimization Tools for Searching in Big Databases

by *Moncef Gabbouj*, Tampere University of Technology, Finland

Abstract:

The talk deals with a new paradigm for multimedia search based on content. We present an alternative approach to classical search engines for information retrieval, which can be used for Big and generic multimedia repositories. We introduce an incremental evolution scheme within a collective network of (evolutionary) binary classifier (CNBC) framework. The proposed framework addresses the problems of feature/class scalability and achieves high classification and content-based retrieval performances over dynamic image repositories. The secret behind the success of CNBC is a novel design to implement the backbone of CNBC, namely the binary classifier. This is a special neural network, which is optimally designed using the recently developed evolutionary optimization algorithm called multi-dimensional particle swarm optimization. Particle swarm optimization (PSO) is population based stochastic search and optimization process, which was introduced in 1995 by Kennedy and Eberhart. The goal is to converge to the global optimum of some multidimensional fitness function. Two novel techniques, which extend the basic PSO algorithm, are presented. The first algorithm called multi-dimensional PSO (M-D PSO) deals with problems in which the dimension of the solution space is not known a priori. M-D PSO solves such a problem by introducing two interleaved PSO iteration processes, a positional PSO followed by a dimensional PSO in which the dimension of a particle is allowed to vary. In a multidimensional search space where the optimum dimension is unknown, swarm particles can seek both positional and dimensional optima. Most content-based multimedia search engines available today rely heavily on low-level features. However, such features extracted automatically usually lack discrimination power needed for accurate description of the image content and may lead to poor retrieval performance. To address this problem, we propose an evolutionary feature synthesis technique, which seeks for the optimal linear and non-linear operations over optimally selected features so as to synthesize highly discriminative features. The optimality therein is sought through MD-PSO. The synthesized features are applied over only a minority of the original feature vectors and exhibit a major discrimination power between different classes and extensive CBIR experiments show that a significant performance improvement can be achieved.

Biography

Moncef Gabbouj received his BS degree in electrical engineering in 1985 from Oklahoma State University, Stillwater, and his MS and PhD degrees in electrical engineering from Purdue University, West Lafayette, Indiana, in 1986 and 1989, respectively.



Dr. Gabbouj is an Academy Professor with the Academy of Finland since January 2011. He held several visiting professorships at different universities, including The Hong Kong University of Science and Technology, Hong Kong (2012-2013), Purdue University, West Lafayette, Indiana, USA (August-December 2011), the University of Southern California (January-June 2012), and the American University of Sharjah, UAE, (2007-2008). He holds a permanent

position of Professor at the Department of Signal Processing, Tampere University of Technology, Tampere, Finland, where he leads the Multimedia Research Group. He was Head of the Department during 2002-2007, and served as Senior Research Fellow of the Academy of Finland in 1997-1998 and 2007-2008. His research interests include multimedia content-based analysis, indexing and retrieval, machine learning, nonlinear signal and image processing and analysis, voice conversion, and video processing and coding.

Dr. Gabbouj is a Fellow of the IEEE, a member of the European Academy and the Finnish Academy of Science and Letters. He is the past Chairman of the DSP Technical Committee of the IEEE Circuits and Systems Society and member of the IEEE Fourier Award for Signal Processing Committee. He was Honorary Guest Professor of Jilin University, China (2005-2010). He served as Distinguished Lecturer for the IEEE Circuits and Systems Society in 2004-2005, and Past-Chairman of the IEEE-EURASIP NSIP (Nonlinear Signal and Image Processing) Board. He was chairman of the Algorithm Group of the EC COST 211quat. He served as associate editor of the IEEE Transactions on Image Processing, and was guest editor of Multimedia Tools and Applications, the European journal Applied Signal Processing. He is the past chairman of the IEEE Finland Section, the IEEE Circuits and Systems Society, Technical Committee on Digital Signal Processing, and the IEEE SP/CAS Finland Chapter. He was also (co-)Chairman of BigDataSE 2015, EUVIP 2014, CBMI 2005, WIAMIS 2001 and the TPC Chair of ISCCSP 2012, 2006 and 2004, CBMI 2003, EUSIPCO 2000, NORSIG 1996 and the DSP track co-chair of the 2013, 2012, 2011, and 1996 IEEE ISCAS. He is also member of EURASIP Advisory Board and past member of AdCom. He also served as Publication Chair and Publicity Chair of IEEE ICIP 2005 and IEEE ICASSP 2006, respectively, and the Innovation chair of ICIP 2011. He is a member of IEEE SP and CAS societies. Dr. Gabbouj is member of the Finnish Academy of Science and Letters.

Keynote

Digital Innovation for Emerging Economies

By *Kris Singh*: President & CEO at SRII, Silicon Valley, California, USA (www.thesrii.org)

Abstract:

Digital technologies are rapidly transforming both business practices and societies and are integral to the innovation driven economies of the future. While technology is advancing rapidly, organizations and skills advance slowly. Inventing effective organizations and institutions for the digital economy is the grand challenge of our time. Governments will need to facilitate the transition of workers to new types of digital jobs. This talk will discuss key subjects such as: Digital megatrends (Mobile technology, Big data/Business Intelligence, Cloud Computing, Social Media), Building Digital Infrastructure, New Digital Business Model, Building Innovation Ecosystem, Jobs in the Digital Economy, Education & Entrepreneurship, and Industry/Academia/Government partnership

Biography:



Kris Singh has been a senior leader in the IT industry for more than 25 years. Kris has worked for major IT companies in the Silicon Valley like IBM Research, AMD, Intel and National Semiconductor. At IBM Almaden Research Kris has been the Strategic Programs Director for IT Services Research and where he created the global IT Service Research and Innovation Institute, SRII (www.thesrii.org). SRII mission is to drive IT

Innovation for major sectors of economy and build a better world. SRII members include senior leaders from industry, academia, research, government and key professional organizations at the global level. SRII organizations and initiatives are growing all around the world. Before IBM Research, he has been the Director at AMD CTO Office responsible for Product and Technology roadmap definition working closely with major customers and industry ecosystem partners. Prior to AMD CTO Office, Kris worked for Intel as a Director of the Data Center technology/ product/solution roadmap planning team. At Intel he worked with CIO's around the world to better understand the Data Center "Total Cost of Ownership (TCO)" model and help drive down the cost of IT Services/Solutions. Before Intel, Kris has been with National Semiconductor where he managed various groups like Product/ Technology development, Global Manufacturing & Suppliers Management, and major Customer programs.

While working in the IT industry Kris has also been connected with academia. Kris has been an Industry Fellow in the College of Engineering at UC Berkeley, and an adjunct professor in the Electrical Engineering & Computer Science department at Santa Clara University, CA. He is on the Advisory Board at several major universities helping drive "Innovation in Education system and building Entrepreneurship program". Kris is also on the board/advisory member of several startup companies in Silicon Valley and he is a regular speaker at major forums/conferences around the world.

Keynote

Subject-Oriented Business Process Management

by *Udo Kannengiesser*, Metasonic GmbH Germany

Abstract:

Decentralized processing of information and loose coupling of applications are foundational concepts for web computing and related technologies. On the other hand, centralized control is still widely regarded as the paradigm of choice when modelling and executing business processes on top of these technologies. As a consequence, most process applications are inflexible and difficult to adapt and maintain.

This keynote introduces Subject-oriented Business Process Management (S-BPM), a stakeholder-centric, communication-based approach to process management. In contrast to approaches based on centralized control flow, S-BPM modularizes processes into separate viewpoints, each of which describes the behaviour of a different process participant (or "subject"). A single overall process model emerges from the interconnection of the partial viewpoints via messages. Such a clear separation of concerns, combined with the very simple notation of S-BPM, allows domain experts to readily model their work procedures from their own, "subjective" perspective. Changes in the process can be localized and encapsulated in a single module of the process without necessarily affecting others. This is a major departure from traditional approaches where process models are typically monolithic and therefore difficult to change.

The keynote provides an introduction to the innovative concepts, tools and applications of S-BPM, highlighting its benefits with respect to traditional approaches such as BPMN. In particular, results from an EU FP7 project are shown where S-BPM is used as the backbone of next-generation Internet of Things (IoT) applications in manufacturing. An example application is reported in which wearable human sensors and machine actuators are integrated via S-BPM process models.

Biography:

Udo Kannengiesser is a researcher in business process management with over 15 years of experience in modelling dynamic processes and developing agile process management systems.

He has published more than 60 research papers in the fields of business process management, information systems, design science and artificial intelligence. His work on the FBS process framework of design has become a major reference for design researchers worldwide and has been applied in various design disciplines including business process design. He obtained his PhD from the University of Sydney (Australia) and worked as a research scientist at National ICT Australia. He is currently a senior research engineer at Metasonic GmbH (Germany), where he leads research projects related to agile process management.



Google Scholar profile:

<http://scholar.google.com/citations?user=RnFNksUAAAAJ&hl=en>

Monday November 23, 2015

8 :45 – 12 :30

08:30 – 09:15 Opening Ceremony

09:15 – 10:15 Keynote

10:15 – 10:30 Coffee Break

12:30 – 14:00 Lunch Break

Room 1, 2, 3

08:30 – 09:15 Opening

9:15 -10:15 Keynote1

**HiFun - A High Level Functional Query Language for
Big Data Analytics**

by Nicolas Spyrtos, University of Paris South, France

Chair: Asanee Kawtrakul, Kasetsart University, Thailand

**Room
Session**

Monday November 23, 2015 --- 10:30-12:30

**Room 1
SI-SIT**

Track: Signal and Image Technology (SIT)

Session SI-SIT: Learning-Recognition-Classification

Chair: Albert Dipanda, University of Bourgogne, France

71 An Obstacle Categorization System for Visually Impaired People

Bogdan Mocanu, Ruxandra Tapu, Titus Zaharia

**106 Automatic detection and tracking of animal sperm cells in
microscopy images**

Mohamad Mazen Hittawe, Desire Sidibe, Fabrice Meriaudeau

16 Partial Face Recognition Based on Template Matching

Soodeh Nikan, Majid Ahmadi

**172 Video-Based People Fall Detection via Homography Mapping of
Foreground Polygons from Overlapping Cameras**

Mousse Ange Mikaël, Motamed Cina, Ezin Cokou Eugène

**212 Reduced reference 3D mesh quality assessment based on statistical
models**

Ilyass Abouelaziz, Mounir Omari, Mohammed El Hassouni, Hocine Cherifi

Workshop on Complex Networks and Their Applications (CNA)

Session SI-CAN

Chair: Chair: Hocine Cherifi, Université de Bourgogne, France

**188 Approximation of the Maximal alpha-Consensus Local
Community detection problem in Complex Networks**

Patricia Conde-Céspedes, Blaise Ngonmang, Emmanuel Viennet

**229 Comparing Community Detection Algorithms on Neuroimaging
Data from Multiple Subjects**

Joshua de Souza, Fumihiko Taya, Nitish Thakor, Anastasios Bezerianos

**195 Overlapping community detection versus ground-truth in
AMAZON co-purchasing network**

Malek Jebabli, Hocine Cherifi, Chantal Cherifi, Atef Hamouda

**222 Reinventing the Triangles: Rule of Thumb for Assessing
Detectability**

Jeremi Kazimierz Ochab

**107 An Accurate Probabilistic Model for Community Evolution
Analysis in Social Network**

Ibrahima Gueye, Joseph Ndong, Idrissa Sarr

36 A retweet network analysis of the European Parliament

Darko Cherepnalkoski, Igor Mozetic

**Room 2
SI-CNA**

Room 3 S1-VICTA	Workshop on Visions on Internet of Cultural Things and Applications (VICTA) <i>Chair: Francesco Piccialli, University of Naples Federico II, Italy</i>
	79 The "Paolo Orsi" Syracuse Archaeological Museum pilot project. A 360° tour with Google Indoor Street View <i>Elisa Bonacini</i>
	156 Designing access to audiovisual cultural heritage. The case of the Carrot <i>Mariana Salgado, Willemien Sanders</i>
	178 Usability Evaluation of a Wearable Augmented Reality System for the Enjoyment of the Cultural Heritage <i>Nadia Brancati, Giuseppe Caggianese, Maria Frucci, Luigi Gallo, Pietro Neroni</i>
	181 Visiting Styles in an Art Exhibition Supported by a Digital Fruition System <i>Salvatore Cuomo, Pasquale De Michele, Ardelio Galletti, Giovanni Ponti</i>
	193 Verification and Planning in Agent-Based Systems <i>Flora Amato, Antonino Mazzeo, Francesco Moscato, Dario Pianese</i>
	196 What's the matter with Cultural Heritage tweets? An Ontology-based approach for CH Sensitivity Estimation in Social Network Activities <i>Fiammetta Marulli, Paolo Benedusi, Adriano Racioppi, Luca Flaviano Ungaro</i>

14 :00 – 18 :30

16:00 – 16:30 Coffee Break

Room Session	Monday November 23, 2015 --- 14:00-16:00
Room 1 S1-WeCA	Track: Web Computing and Applications (WeCA) Session S1-WeCA: Networked Information <i>Chair: Richard Chbeir, University of Pau, France</i>
	53 Measuring inconsistencies propagation from change operation based on ontology partitioning <i>Mouhamadou Gaye, Ousmane Sall, Mamadou Bousso, Moussa Lo</i>
	66 Boosting of Association Rules for Robust Emergency Detection <i>Emanuele Cipolla, Filippo Vella</i>
	144 Network Disintegration in Criminal Network <i>Dyah Angraini, Sarifuddin Madenda, Eri Prasetyo Wibowo, Lahcen Bomedjout</i>
	200 Network Virtualization Using VPN for Stable Communication with Offshore Cloud <i>Hiroshi Fujikawa, Hirofumi Yamaki, Yukiko Yamamoto, Setsuo Tsuruta</i>
	203 Towards Self-organizing Internet of Things - aware Systems for Online Sales <i>Yukiko Yamamoto, Takashi Kawabe, Setsuo Tsuruta, Ernesto Damiani, Atsuo Yoshitaka, Yoshiyuki Mizuno, Rainer Knauf</i>
Room 2 S2-CNA	Workshop on Complex Networks and Their Applications (CNA) Session S2-CNA <i>Chair: Anastasios Bezerianos, National University of Singapore, Singapore</i>
	98 Orthogonal Eigenvector Matrix of the Laplacian <i>Xiangrong Wang, Piet Van Mieghem</i>
	101 Group Intimacy and Network Formation <i>Kibum Kim, Woo Seong Jo, Beom Jun Kim</i>
	136 Factorization Threshold Models for Scale-free Networks Generation <i>Akmal Artikov, Aleksandr Dorodnykh, Yana Kashinskaya, Egor Samosvat</i>

Room 3 IEB & QUAMUS	183 Evolving Social Networks via Friend Recommendations <i>Amit Kumar Verma, Manjish Pal</i>
	206 Features of Evolutionary Complex Networks in Complex Adaptive Systems <i>Xiangyun Gao, Haizhong An, Huajiao Li, Lijun Wang, Xiaoqi Sun, Feng An</i>
	Workshop on Insight on Eye Biometrics (IEB)
	Workshop on Quality of Multimedia Services (QUAMUS)
	Session IEB & QUAMUS
	<i>Chair: Luig Gallo, ICAR-CNR, Italy</i>
	8 Bimodal Eye imaging system <i>Josef Hájek, Martin Dražanský, Radim Kolář, Jan Odstrčilík, Ján Borovský</i>
	140 Improving Cross-Smartphone Periocular Verification in Visible Spectrum Using Time-Frequency Features of Laplacian Decomposition <i>Kiran B. Raja, R. Raghavendra, Christoph Busch</i>
	215 Effective retinal blood vessel detection using only directional information <i>Maria Frucci, Daniel Riccio, Gabriella Sanniti di Baja, Luca Serino</i>
	146 A Layered Model for Quality Estimation of HTTP Video from QoS Measurements <i>Toni Mäki, Martín Varela, Doreid Ammar</i>
Room 1 S1-MIRA	55 Quality Prediction of Mobile Video Service Based on Radio Access Network Log Data <i>Seungbo Yoo, Dongmin Kim, Dongsoo S. Kim, Hyunseung Choo</i>

Room Session	<i>Monday November 23, 2015 --- 16:30-18:30</i>
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Room 1 S1-MIRA	Track: Multimedia Information Retrieval and Applications (MIRA)
	Session S1-MIRA
	<i>Chair: Andrea Kutics, International Christian University, Japan</i>
	29 Real-time Ball Position Measurement for Football Games Based on Ball's Appearance and Motion Features <i>Masaki Takahashi, Yuko Yamanouchi, Toshiyuki Nakamura</i>
	43 A Gradual Shot Change Detection using Combination of Luminance and Motion Features for Frame Rate Up Conversion <i>Sangchul Kim, Hotak Hong, Jongho Nang</i>
	89 A rotation invariant BSIF descriptor for video copy detection using a ring decomposition <i>Yassine Himeur, Karima Ait Sadi</i>
	218 Towards a Scene-based Video Annotation Framework <i>Fekade Getahun taddesse, Mekuanent Birara</i>
	Workshop on Complex Networks and Their Applications (CNA)
	Session S3-CNA
	<i>Chair: Yuichi Ikeda, Kyoto University, Japan</i>
Room 2 S3-CNA	104 Community Dynamics and Controllability of G7 Global Production Network <i>Yuichi Ikeda, Hideaki Aoyama, Yohei Sakamoto</i>
	44 Building Dynamic Correlation Network for Financial Asset Returns <i>Takashi Isogai</i>
	225 Structural Evolution of Stock Networks <i>Serkan Alkan, Khaldoun Khashanah</i>
	84 Superinfection in networks <i>Marcus Mörtens, Ruud van de Bovenkamp, Piet Van Mieghem</i>
	135 On the Detection of Influential Actors in Social Media <i>Ziyaad Qasem, Marc Jansen, Tobias Hecking, H.Ulrich Hoppe</i>

Tuesday November 24, 2015

08:45 – 12 :30

*09:00 – 10:00 Keynote
10:00 – 10:30 Coffee break
12:30 – 14:00 Lunch Break*

*Room 1, 2, 3
9:00 -10:00 Keynote1*

***Machine Learning and Particle Swarm Optimization
Tools for Searching in Big Databases
by Moncef Gabbouj, Tampere University of Technology, Finland
Chair: Andrea Kucics, International Christian University, Japan***

**Room
Session**

Tuesday November 24, 2015 --- 10:30-12:30

**Room 1
S2-WeCA**

Track: Web Computing and Applications (WeCA)

Session S2-WeCA: Information system analysis and performance

Chair: Ana Roxin, University of Bourgogne, France

46 A Performance Analysis of the XACML Decision Process and the Impact of Caching

Ömer Malik Ilhan, Dirk Thatmann, Axel Küpper

57 An evaluation of data processing solutions considering preprocessing and "special" features

Rabiul Islam Jony, Nabeel Mohammed, Ahsan Habib, Sifat Momen, Rakibul Islam Rony

60 A first prototype for indexing, visualizing and mining heterogeneous data in Mediterranean ecology within the IndexMed consortium interdisciplinary framework

Romain David, Jean-Pierre Feral, Sophie Gachet, Alrick Dias, Cyrille Blanpain, Julien Lecubin, Cristinel Diaconu, Christian Surace, Karina Gibert

163 An Improved Concept Vector Space Model for Ontology Based Classification

Zenun Kastrati, Ali Shariq Imran, Sule Yildirim Yayilgan

201 Enhanced Context Respectful Counseling Agent

Yukiko Yamamoto, Tetsuo Shinozaki, Setsuo Tsuruta, Ernesto Damiani, Rainer Knauf

Workshop on Complex Networks and Their Applications (CNA)

Session S4-CNA

Chair: Sabrina Gaito, Università degli Studi di Milano, Italy

83 Following people's behavior across social media

Matteo Zignani, Azadeh Esfandyari, Sabrina Gaito, Gian Paolo Rossi

32 Influence Assessment in Twitter Multi-Relational Network

Lobna Azaza, Sergey Kirgizov, Marinette Savonnet, Eric Leclercq, Rim Faiz

127 Evolutionary Games on Multiplex Networks: Effects of Network Structures on Cooperation

Yasuyuki Nakamura, Yusuke Nagashima, Koichi Yasutake

171 Comparison of Inter-layer Couplings of Multilayer Networks

Tsuyoshi Murata

134 An Efficient Method for Link Prediction in Complex Multiplex Networks

Shikhar Sharma, Anurag Singh

**Room 2
S4-CNA**

Room 3 S2-VICTA	41 Comparing the sensitivity of social networks, web graphs, and random graphs with respect to vertex removal <i>Christoph Martin, Peter Niemeyer</i>
	Workshop on Visions on Internet of Cultural Things and Applications (VICTA) Session S2-VICTA <i>Chair: Salvatore Cuomo, University of Naples Federico II, Italy</i>
	100 Virtual Preservation of Contemporary Architectural Heritage in Developing Countries in Absence of Protection <i>Human Esmaeili, Peter Charles Woods, Harold Thwaites</i>
	152 Contextual Aware Computing and Tourism: a Case Study <i>F. Colace, L. Greco, S. Lemma, M. Lombardi, F. Amato, V. Moscato, A. Picariello</i>
	154 How to Describe Cultural Heritage Resources in the Web 2.0 Era? <i>Francesco Colace, Massimo De Santo, Saverio Lemma, Marco Lombardi, Amedeo Rossi, Alfonso Santoriello, Alessandro Terribile, Marianna Vigorito</i>
	197 Smart Sensor Box: a real implementation of devices network for Structural Health Monitoring <i>Michela Basili, Berta Buttarazzi, Gianluca Troiani, Walter Liguori</i>
	228 An IoT Protocol and Framework for OEMs to make IoT-enabled devices forward compatible <i>Gourinath Banda, Krishna Chaitanya, Harsh Mohan</i>
	93 Innovative e-Tourism Services on top of Geo2Tag LBS Platform <i>Ekaterina Balandina, Sergey Balandin, Yevgeni Koucheryavy, Dmitry Mourmtsev</i>
	128 SMuNe: a Smart Multisensor Network based on embedded systems in IoT environment <i>Angelo Chianese, Francesco Piccialli, Giuseppe Riccio</i>

14 :00 – 18 :30	16:00 – 16:30 Coffee Break
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Room Session	Tuesday November 24, 2015 --- 14:00-16:00
Room 1 S2-SIT	Track: Signal and Image Technology (SIT) Session S2-SIT: 3D Image processing-kinect image applications <i>Chair: Luigi Gallo, ICAR-CNR, Italy</i>
	189 Detection and isolation of switches in point clouds of the German railway network <i>Jean-Jacques Ponciano, Claire Prudhomme, Burkhard Tietz, Frank Boochs</i>
	34 Complexity and Distortion Analysis on Methods for Unrolling 3D to 2D Fingerprints <i>Cynthia Sthembile Mlambo, Yaseen Moolla</i>
	72 An Adaptive Codebook Model for Change Detection with Dynamic Background <i>Tapas Badal, Neeta Nainy, Mushtaq Ahmedz and Vishakha Sharma</i>
	74 Facial emotion recognition based on facial motion stream generated by Kinect <i>Nattawat Chanthaphan, Keiichi Uchimura, Takami Satonaka, Tsuyoshi Makioka</i>
	208 A Person Re-Identification System For Mobile Devices <i>George Cushen.</i>
Room 2 S5-CNA	Workshop on Complex Networks and Their Applications (CNA) Session S5-CNA <i>Chair: Tsuyoshi Murata, Tokyo Institute of Technology, Japan</i>
	94 Topological Evaluation of Methods for Reconstruction of Genetic Regulatory Networks <i>Jakub Olczak, Narsis A. Kiani, Hector Zenil, Jesper Tegnér</i>

95 A Social Network Analysis of Face Tracking in News Video

Benjamin Renoust, Thanh Duc Ngo, Duy Dinh Le, Shin'Ichi Satoh

137 A Preliminary Study on Mobile Apps Call Graphs through a Complex Network Approach

Matteo Orru, Simone Porru, Roberto Tonelli, Michele Marchesi

143 A Web Service Composition Framework based on Centrality and Community Structure

Sopheha Chhun, Kanokwan Malang, Chantal Cherifi, Néjib Moalla, Yacine Ouzrout

191 Efficient data structures for dynamic graph analysis

Benjamin Schiller, Jeronimo Castrillon, Thorsten Strufe

198 Does diversity of papers affect their citations? Evidence from American Physical Society Journals

Murali Krishna Enduri, I. Vinod Reddy, Shivakumar Jolad

Workshop on Big Data meets Cloud and Virtualized Environment

Workshop on Ubiquity and Information System

Workshop on Security Assurance in the Cloud

Session BigCvEn-UBIS-IWSAC

Chair: Ana Roxin, University of Bourgogne, France

31 WC3:Wikipedia Category Consistency Checker based on DBPedia

Masaharu Yoshioka, Rhett Loban

160 Improvement of Sun Flare Prediction by SVM integrated GA

Yukiko Yamamoto, Setsuo Tsuruta, Takayuki Muranushi, Yuko Hada Muranushi, Syoji Kobashi, Yoshiyuki Mizuno, Rainer Knauf

210 DbHAaaS: Database High Availability as a Service

Chetan Jaiswal, Vijay Kumar

214 An Approach based on Social Network and Collective Intelligence for Interactive composition of Web Services

Ameni Youssfi Noura, Yassine Jamoussi, Henda Ben Ghezala Hajjami

230 Evolutionary-based Wireless Sensor Deployment for Target Coverage

Arouna Ndam Njoya, Wahabou Abdou, Albert Dipanda, Emmanuel Tonye

180 Towards Cloud-Aware Vulnerability Assessments

Kennedy A Torkura, Christoph Meinel

Room 3
BigCvEn
UBIS
IWSAC

Room
Session

Tuesday November 24, 2015 --- 16:30-18:30

Room 1
Special
Student
Track

Student Discussion Panel

Moderator: Richard Chbeir, University of Pau, France

Wednesday November 25, 2015

8 :45 – 12 :30

09:00 – 10:00 Keynote

10:00 – 10:30 Coffee break

12:30 – 14:00 Lunch Break

*Room 1, 2, 3
9:00 -10:00 Keynote 3*

***Digital Innovation for Emerging Economies**
by Kris Singh, SRII President & Chairman of the Board?
Chair: Asanee Kawtrakul, Kasetsart University, Thailand*

**Room
Session**

Wednesday November 25, 2015 --- 10:30-12:30

**Room 1
S3-WeCA**

Track: Web Computing and Applications (WECA)

Session S3-WeCA: Descriptions and Applications

Chair: Kokou Yetongnon, University of Bourgogne, France

204 Assessing the Quality of Domain Concepts Descriptions in DBpedia

Ludovic Font, Amal Zouaq, Michel Gagnon

213 Pytos: a Framework for Mobile Computation Offloading in Python.

Enrique Arturo Soto Mendoza, Arlindo Flavio da Conceição, Alvaro H. Mamani-Aliaga, Dario Vieira

219 Modeling Pervasive Context-aware Mobile Phone Application

Fekade Getahun taddesse, Berhanu Abebe

166 Elementary Risks: Bridging Operational and Strategic Security Realms

Wael Kanoun, Serge Papillon, Samuel Dubus

**Room 2
S1-
CITIMA**

Workshop on Computational Intelligence Techniques for Industrial and Medical Applications (CITIMA)

Session S1-CITIMA

Chair: Valerio Bellandi, Università degli Studi di Milano, Italy

130 Efficient Graph-Oriented Smart Transportation using Internet of Things generated Big Data

M. Mazhar Rathore, Awais Ahmad, Anand Paul, Gwanggil Jeon

67 A Survey on Fruit Fly Optimization Algorithm

Hazim Iscan, Mesut Gunduz

103 Analysis of brain-death EEG data using 2T-EMD algorithm

Daren Zheng, Gaochao Cui, Toshihisa Tanaka, Jianting Cao

81 NAND Flash Memory Garbage Collection Policy According to the Ratio of the Hot Pages

SeokHoon Kang, HyunYoung Jeong

14 :00 – 18 :30

16:00 – 16:30 Coffee Break

Room
Session

Wednesday November 25, 2015 --- 14:00-16:00

Room 1
S3-SIT

Track: Signal and Image Technology (SIT)

Session S3-SIT: Feature extraction-Texture analysis

Chair: Andrea Kutics, International Christian University, Japan

139 Video Script Identification using a Combination of Textural Features

Zumra Malik, Ali Mirza, Akram Bennour, Imran Siddiqi, Chawki Djeddi

88 Estimation of aboveground biomass from satellite data using quaternion-based texture analysis of multi chromatic images

Cedrique Djongo, Serge Moto, Olivier Monga

10 Signature Verification for Offline Skilled Forgeries Using Textural Features

Chawki Djeddi, Imran Siddiqi, Somaya Al-Maadeed, Labiba Souici-Meslati, Abdeljalil Gattal, Abdel Ennaji

2 Clustering based Fingerprint Indexing using Triangle Spiral

Ashima Jain, Munaga V N K Prasad

49 Exploiting Change Blindness for Image Compression

Steven Le Moan, Ivar Farup

Workshop on Computational Intelligence Techniques for Industrial and Medical Applications

Session S2-CITIMA

Chair: Gwanggil Jeon, Incheon National University, Korea

148 Depth-First-Search based Region Merging for the Waterfall

Kyungkoo Jun

5 Heart Sound Enhancement based on Improved Spectral Subtraction

Lu Zhang, Lei Wang

39 Infrared Image Recovery from Visible image by Using Multi-scale and Multi-view Sparse Representation

XiaominYang, Wei Wu, Hua hua, Kai Liu

216 A low-complexity interpolation method for single-sensor camera imaging with White-RGB Color Filter Array

Xiangdong Chen, Liwen He, Jiaye Tang, Young-Sup Lee

227 A new framework for infrared image enhancement

Hong Li, XiaominYang, Wei Wu, Kai Liu

Room
Session

Wednesday November 25, 2015 --- 16:30-18:30

Room 1
S4-SIT

Track: Signal and Image Technology (SIT)

Session S4-SIT: Signal Processing

Chair: Frank Boochs, Mainz University of Applied Sciences, Germany

159 An optimal performance investigation for bilateral filter under four different image types

Wanlapha Phummara, Kriengkri Langampol, Wilaiporn Lee, Vorapoj Pattanavijit

105 Applying Non Linear Approach For ECG Denoising And Waves Localization

Mohamad Mazen Hittawe, Taleb Alashkar, Eric Fauvet, Olivier Laligant

126 Battery consumption of smartphone sensors

Zoltan Horvath, Ildiko Jenak

64 Daylight Spectrum Estimation from Hyper- and Multispectral Image without Area Extraction of Uniform Materials

Eiji Kaneko, Hirofumi Aoki, Masato Tsukada

**Workshop on Knowledge Acquisition, Reuse and Evaluation
Session S1-KARE**

Chair: Davy Monticolo, Polytechnical Institute of Lorraine, France

45 A BPK-CRIO Methodology for the Design and Implementation of a Multi-agent based Business Process Monitoring System

Yishuai LIN, Jiawei ZHU, Qingshan LI

48 Introduction to Feature Selection for Atmospheric Quality Parameters Forecasting

George Papadourakis, Ioannis Kyriakidis

56 Refinement of Knowledge Sharing Platforms to promote effective use: A use case

Carine Edith Klindjioh TOURE, Christine MICHEL, Jean-Charles MARTY

91 How to extract knowledge from professional e-mails

Rauscher Francois, Matta Nada, Atifi Hassan

177 Multi-Agent System to Support Creative Workshop

Alex Gabriel, Davy Monticolo, Mauricio Camargo, Mario Bourgault

202 A Refined Case Based Genetic Algorithm for Intelligent Route Optimization

Yukiko Yamamoto, Takashi Kawabe, Yuuki Kobayashi, Setsuo Tsuruta, Yoshitaka Sakurai, Rainer Knauf

61 Recovery Medical Articles using Semantic Enrichment Method

Jucélio Costa de Araújo, José Maria Parente de Oliveira, Leonardo Garcia Marques

**Room 2
S1-KARE**

Thursday, November 26, 2015

8 :45 – 12 :30

10:00 – 10:30 Coffee break

Room 1, 2, 3

9:00 -10:00 Keynote 4

Subject-Oriented Business Process Management

by Udo Kannengiesser, Metasonic GmbH Germany

Chair: Ana Roxin, University of Bourgogne, France

**Room
Session**

Thursday November 26, 2015 --- 10:30

Track: Signal and Image Technology (SIT)

Session S5-SIT: Image segmentation

Chair: Olivier Monga, IRD France

**Room 1
S5-SIT**

157 Enhancement of Latent Fingerprint Images with Segmentation Perspective

Abir Raza Baig, Ilyas Huqqani, Khurram Khurshid

164 Rain Streaks Removal by Using Composite Method

Fitri Utaminigrum, I Komang Somawirata

190 Image based contamination detection on hard disk head gimbal assembly

Jirarat leamsaard, Paisarn Muneesawang, Frode Eika Sandnes

Workshop on Computer Visions and Application

Session S1-IWCVA

Chair: Narit Hnoohom, Mahidol University, Thailand

22 Isan Dhamma Handwritten Characters Recognition system by using Functional Trees Classifier

Narumol Chumuang, Mahasak Ketcham

25 Detecting Image Forgery using XOR and Determinant of Pixels

Pakpoom Mookdarsanit, Lawankorn Soimart, Mahasak Ketcham, Narit Hnoohom

54 Thai handwritten verification system on documents for the investigation

Narit Hnoohom, Narumol Chumuang, Mahasak Ketcham

59 A Linear Scoring Algorithm for Shredded Paper Reconstruction

Tanasanee Phienthrakul, Tewan Santitewagun, Narit Hnoohom

86 Presentation Attack Detection Algorithms for Finger Vein Biometrics: A Comprehensive Study

R. Raghavendra, Christoph Busch

102 Indoor Navigation System for Vision-impaired Individual An Application on Android Devices

Varit Prudtipongpun, Wirawan Buakeaw, Thorntita Rattanapongsen, Mingmanas Sivaraksa

**Room 2
S1-
IWCVA**

14 :00 – 18 :30

16:00 – 16:30 Coffee Break

**Room
Session**

Thursday November 26, 2015 --- 14:00 -16:00

Track: Signal and Image Technology (SIT)

Session S6-SIT: Algorithms – Applications

Chair: Albert Dipanda, University of Bourgogne, France

145 An Algorithm Based on Fuzzy Logic For Text-Independent Fongbe Speech Segmentation

Fréjus A. A. Laleye, Eugène C. Ezin, Cina Motamed,

63 Bag-of-Visual Words Codebook Development for the Semantic Content Based Annotation of Images

Abass Olaode, Golshah Naghdy, Catherine Todd

70 Fast Intra Coding Based on Reference Samples Similarity in HEVC

Qibing Jiang, Jechang Jeong

153 Wrinkle Image Registration for Serial Microscopy Sections

Xi Chen, Qiwei Xie, Lijun Shen, Hua Han

124 Keyword based Information Retrieval System for Urdu Document Images

Raashid Hussain, Haris Ahmad Khan, Imran Siddiqi, Khurram Khurshid, Asif Masood

**Room 1
S6-SIT**

Workshop on Computer Visions and Application

Session S2-IWCVA

Chair: Mahasak Ketcham, King Mongkut's University of Technology North Bangkok, Thailand

108 Efficient Facial And Facial Expression Recognition Using Canonical Correlation Analysis for Transform Domain Features Fusion and Classification

Ehab H. El-Shazly, Moataz M. Abdelwahab,, Rin-ichiro Taniguchi

**Room 2
S2-
IWCVA**

133 Development Of Color QR Code For Increasing Capacity
Nutchanad Taveerad, Sartid Vongpradhip

**147 A Framework for Compilation of Multi-Lingual Handwritten
Database: Four Levels XML Ground-Truth**
Prakash Choudhary, Neeta Nain, Maninder Singh Nehra

**155 Foreground Object Extraction using Thresholding With
Automatic Shadow Removal**
Mohit Singh, Neeta Nain, Dinesh Tyagi

**173 Fast Face Detection Based on Skin Segmentation and Facial
Features**
Shalini Yadav, Neeta Nain

Farewell and see you @
SITIS 2016
in Naples, Italy

CONFERENCE SCHEDULE

	Sunday 22/11/2015	Monday 23/11/2015			Tuesday 24/11/2015			Wednesday 25/11/2015		Thursday 26/11/2015		Friday 27/11/2015	
		Registration (07:45 - 18:00)			Registration (08:30 - 18:00)			Registration (08:30 - 18:00)		Registration (08:30 - 18:00)			
08:30 - 09:00		Opening Ceremony Room1											
09:00 - 09:30		Keynote1 Dr Nicolas Spyrtatos Room 1			Keynote2 Dr Moncef Gabbouj Room1			Keynote 3 Dr Kris Singh Room 1		Keynote 4 Dr Udo Kannengiesser Room1			
09:30 - 10:00													
10:00 - 10:30		Coffee Break			Coffee Break			Coffee Break		Coffee Break			
10:30 - 11:00													
11:00 - 11:30		S1 - SIT Room1	S1 - CNA Room2	S1-VICTA Room3	S2 - WeCA Room1	S4 - CNA Room2	S2-VICTA Room3	S3 - WeCA Room 1	S1 - CITIMA Room2	S5 - SIT Room 1	S1-IWCVA Room 2		
11:30 - 12:00													
12:00 - 12:30													
12:30 - 13:00													
13:00 - 13:30		Lunch Break			Lunch Break			Lunch Break		Lunch Break			
13:30 - 14:00													
14:00 - 14:30													
14:30 - 15:00		S1 - WeCA Room1	S2 - CNA Room 2	IEB & QUAMUS Room3	S2 - SIT Room 1	S5 - CNA Room 2	BigCvEn & UBIS & IWSAC Room3	S3 - SIT Room 1	S2- CITIMA Room 2	S6 - SIT Room 1	S2-IWCVA Room 2		
15:00 - 15:30													
15:30 - 16:00													
16:00 - 16:30		Coffee Break			Coffee Break			Coffee Break		Coffee Break			
16:30 - 17:00													
17:00 - 17:30	Registration	S1 - MIRA Room 1	S3 - CNA Room 2		Student Discussion Panel Moderator: Dr Richard Chbeir			S4 - SIT Room 1	S1-KARE Room 2			That's all Folks!	
17:30 - 18:00													
18:00 - 18:30													
Social Event					19:00 - 22:00 Banquet								