





The 21st International Conference on Information Integration and Web-based Applications & Services (iiWAS2019)

The 17th International Conference on Advances in Mobil Computing & Multimedia (MoMM2019)

December 2-4, 2019 Munich, Germany



PROGRAMBOOK



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Welcome Message





Gabriele Anderst-Kotsis iiWAS/MoMM2019 General Conference Chair



Ismail Khalil President @WAS



Maria Indrawan-Santiago iiWAS2019 Program Committee Co-Chair



Eric Pardede iiWAS2019 Program Committee Co-Chair



Pari Delir Haghighi MoMM2019 Program Committee Chair

Welcome to the 21st International Conference on Information Integration and Webbased Applications & Services (iiWAS2019) and the 17th International Conference on Advances in Mobile Computing & Multimedia (MoMM2019).

Until today Munich, Germany was best known for its world-renowned Oktoberfest celebration of fine food, music and fermented hops.

But from today forward, Munich welcomes you to iiWAS/MoMM 2019, the premier international forum for like-minded academics and innovators, meeting to share digital discoveries, new methodologies, and ground-breaking applications of our core technologies. In a manner of speaking, it's our own personal **DecemberFest**.

As iiWAS/MoMM has done for over 20 years, this exciting exchange of ideas will be delivered by an impressive array of international participants and additional distinguished speakers focused on providing you three distinct levels of experiences: A Learning Experience featuring a very strong program of over 100 thought-provoking presentations and keynote speeches in over 25 sessions.

A Networking Experience, offering you valuable opportunities to form lasting friendships and productive collaborations with like-minded academic leaders from around the globe, as you'll find among this year's participants coming from 36 countries and over 150 prestigious research and academic institutions. A Motivational Experience, exposing the young, upcoming colleagues among us to exciting new innovations in our fields as a springboard to motivate their own research and discoveries.

We also have a very enjoyable Social program this year, which features a welcome reception at LMU Lichthof and a gala dinner at Augustiner Keller München where you will enjoy a traditional Bavarian Dinner. The Lagerkeller is reserved for iiWAS/MoMM 2019 Conference Dinner exclusively and you will have the opportunity to taste Bavarian beer as well as hearty local food.

As the conference organizers, we would like to express our sincere thanks to all members of the program committees for carefully reviewing all paper submissions and for putting together this interesting program. We are convinced that you will be inspired by the presentations and talks constituting this year's programme and hope that this will also lead to subsequent cooperation.

We are very grateful to our distinguished keynote speakers: Assoc. Prof. Flora Salim from CIDDA, RMIT University, Melbourne, Australia; Prof. Albrecht Schmidt from LMU Munich, Germany and Prof. Dirk Draheim from Tallinn University of Technology, Estonia. We are also very grateful for our panel chair Prof. Alfredo Cuzzocrea from the University of Calabria, Italy.

We tried our best in arranging everything locally for your comfort. These people and many others behind the scenes created this special spirit which makes all of us feel like coming home every year when we meet at iiWAS and MoMM.

So, welcome to Munich for iiWAS/MoMM 2019. And thank you for your participation, we're confident you will find the conference both fulfilling and rewarding.



Committees

General Conference Chair
Gabriele Anderst-Kotsis, Johannes Kepler University Linz, Austria

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(iiWAS2019)
Maria Indrawan-Santiago, Monash University, Australia
Eric Pardede, La Trobe University, Australia
(MoMM2019)
Pari Delir Haghighi, Monash University, Australia

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David Taniar, Monash University, Australia
Syopiansyah Jaya Putra, UIN Syarif Hidayatullah Jakarta, Indonesia

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Communcations Chair

Paul Wiesinger, Johannes Kepler University Linz, Austria

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Hesti Sudjana, @WAS Organization

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Sami Habib, Kuwait University, Kuwait

Sherif Sakr, The University of New South Wales, Australia

Sucha Smanchat, King Mongkut's University of Technology North Bangkok, Thailand

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Takako Hashimoto, Chiba University of Commerce, Japan

Toshiyuki Amagasa, University of Tsukuba, Japan

Valeria De Antonellis, Università degli Studi di Brescia, Italy

Wanita Sherchan, IBM, Australia

Werner Winiwarter, University of Vienna, Austria

Wookey Lee, Inha University, South Korea

Yacine Sam, University François Rabelais – Tours, France

Yousuke Watanabe, Nagoya University, Japan

Zaher Al Aghbari, University of Sharjah, UAE



Committees

Program Committee MoMM2019

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Young-Koo Lee, Kyung Hee University, South Korea

Yusuke Gotoh, Okayama University, Japan



General Information



Conference Venue

iiWAS2019, MoMM2019 and SHOW are endorsed by the International Organization for Information Integration and Web-based Applications & Services (@WAS) and supported by Institute for Telecooperation JKU Linz and Ludwig Maximilian University München, will be held at Holiday Inn Munich - City Center, that located not far from Munich Old Town.

Hotel Address:

Hochstrasse 3, Munich 81669, Germany https://www.hi-hotel-muenchen.de/en/



Registration Desk

The Registration Desk is located at the Foyer Ballsaal (Ballroom)

All conference participants shall present themselves at the registration Desk for conference check in and collect the participant's packages.

Opening hours:

Sun, 1 Dec; 17.00 – 19.00

Mon, 2 Dec; 08.00 – 16.00

Tue, 3 Dec; 08.30 – 16.00



Coffee Break & Lunches

Coffee Break will be served at Forum 9-11, Ground floor

Morning Coffee Break between 10.30 - 11.00 and Afternoon Coffee Break at 15.30 - 16.00 **Lunch** will be served at the Restaurant, Ground floor, start at around 12.30 - 13.30.

Please always wear/bring your ID badge throughout the conference programs, coffee breaks and lunches.



Smoking Policy

Holiday Inn Munich - City Center is a smoking free place. Smoking only permitted in the restricted area and outside the building.



Mobile Phone Courtesy

iiWAS2019 & MoMM2019 requests that all mobile phones and other equipment with audible alarms be turned off in all sessions as a courtesy to the presenters and to the other attendees.



Presentation Equipments

The conference organizer will provide a standard presentation equipment i.e. Projector and flipchart. All presenters are recommended to bring your personal laptop for presentation including any adaptors required for your laptop, otherwise please inform the organizer earlier before your presentation schedule.



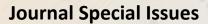
WLAN Access

For hotel guests, free WiFi is available in the entire hotel premises. For those who are not staying in Holiday Inn Munich - City Center, please contact registration desk for WiFi connection & availability in the main meeting room.



Electricity Supply

Electricity in Germany is supplied at 220V. Please make sure to bring your own travel adapter if needed. We cannot guarantee the availability of the appropriate adaptor or transformer.







International Journal of Web Information Systems (IJWIS)



Journal of Data Intelligence (JDI)



International Journal of Pervasive Computing and Communications (IJPCC)



Journal Personal and Ubiquitous Computing (JPUC)

Keynote Speakers



Flora Salim CIDDA, RMIT University, Melbourne, Australia

Context and Behaviour Modelling of User and Urban Activities

Abstract

Context is the most influential signal in analysing human behaviours. Effective and efficient techniques for analysing contexts inherent in the spatio-temporal sensor data from the urban environment are paramount. It is important to observe and learn the context from which the data is generated in, particularly when dealing with heterogenous high-dimensional data from individuals and groups of users, generated either from personal devices or sensors embedded in buildings, cities, and urban areas.

One main challenge in modelling user activities in urban areas is to discover meaningful correlations among the numerous sensor channels and other types of data from multiple domains. Data-driven models need to also reflect on the personalised behaviours of different users. On the other side of the coin, often data is generated by many companies without any information of individuals. However the analysis still needs to reflect different activity profiles.

I will present our generic temporal segmentation techniques that we have used for multiple applications. A new concept of cyber, physical, social contexts will be introduced, and how they translate in various domain applications of our research for analysing occupant behaviours, and for personalised intelligent assistants. Finally, the data-driven models can be used as input for recommender systems for individuals and/or groups, and for optimising the routes and/or itineraries in multiple applications, from visitors in a shopping mall, to travelling parking inspectors and police officers.

Biography

Flora Salim is an Associate Professor at the Computer Science and IT (CSIT) discipline, School of Science, RMIT University, Melbourne, Australia, and a Deputy Director of the RMIT Centre for Information Discovery and Data Analytics (CIDDA). She leads the Context Recognition and Urban Intelligence group in CIDDA. A/Prof. Flora's research interests include context-aware situational intelligence and spatio-temporal analysis, specifically in human mobility tracking, context and behaviour modelling, time-series prediction, and cross-domain data fusion and learning. She obtained her PhD from Monash University in 2009.

She has received numerous awards for her work, including the Humboldt-Bayer Research Fellowship by Alexander von Humboldt Foundation and the Bayer Science & Education Foundation in 2019, Humboldt Fellowship for experienced researcher, Victoria Fellow 2018 (awarded by the Victorian government), the RMIT Vice-Chancellor's Award for Research Excellence – Early Career Researcher 2016; the RMIT Award for Research Impact - Technology 2018; Victorian iAwards (2014), Australian Research Council (ARC) Postdoctoral Research Industry Fellow (2012-2015); IBM Smarter Planet Industry Skills Innovation Award (2010); and a Google Anita Borg Scholar (2008).

Prior to her faculty appointment in CSIT, she was a postdoc in the Spatial Information Architecture Lab, part of the RMIT School of Architecture and Design, working on multiple design modelling and optimisation problems in architecture, engineering, and construction projects. Prior to her PhD, she was a Senior Software Engineer in mediaproxy, developing realtime signal and content monitoring solutions for TV & broadcasting companies.

She is an Associate Editor of the PACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT) and an Area Editor of Pervasive and Mobile Computing.

Keynote Speakers



Albrecht Schmidt LMU Munich, Germany

Making Humans Smarter Than Artificial Intelligence: Digital Technologies to Amplify Human Perception and Cognition

Abstract

Is artificial intelligence (AI) taking over the world? Are humans losing out to AI in the work place? We are at a point in history, where it seems feasible that we create technologies that could become smarter than humans. This raises the fundamental question of what roles humans play in a future world. I argue that by using these advances in technologies and in particular in sensing and AI we can amplify human perception and cognition to levels that we could never before in history even imagine.

We are at the beginning of this fundamental transformation: the use of digital tools to amplify the mind. Many products, ranging from mobile access to search engines, to wearable devices for lifelogging and augmented realty application give us first indications of this transition.

In our research, we create novel digital technologies that systematically explore how to enhance human cognition and perception. Our experimental approach is to: first, understand the users in their context as well as the potential for enhancement. Second, we create innovative interventions that provide functionality that amplifies human capabilities. And third, we empirically evaluate and quantify the enhancement that is gained by these developments.

It is exciting to see how ultimately these new ubiquitous computing technologies have the potential for overcoming fundamental limitations in human perception and cognition and lead the way for creating cognitive and perceptual super powers. If we succeed to create technologies that seamlessly amplify human cognition and perception, humans augmented with these technologies will outsmart artificial intelligence.

Biography

Albrecht Schmidt is a professor for User Centered Ubiquitous Media in the Computer Science Department at the Ludwig-Maximilians Universität München (LMU Munich). He studied computer science in Ulm, Germany and Manchester, UK and receive in 2003 a PhD from the Lancaster University in the UK. For the last 15 years Albrecht has been dedicated to creating usable interactive systems and he coined the term "implicit interaction".

The focus of his current work is on novel user interfaces to enhance and amplify human cognition. He is working on interaction techniques and interactive applications in the context of mobile and ubiquitous computing.

He is co-founder of the ACM conference on Tangible and Embedded Interaction (TEI), initiated the ACM conference on Automotive User Interfaces and co-chaired the ACM SIGCHI program in 2014. He is on the editorial board of ACM ToCHI and edits a forum on interaction technologies in the ACM Interactions magazine. In 2016 Albrecht Schmidt received a ERC Consolidator Grant to work on the Project "AMPLIFY: Amplifying Human Perception Through Interactive Digital Technologies".

Keynote Speakers



Dirk DraheimTallinn University of Technology, Estonia

Collective Intelligence Systems from an Organizational Perspective

Abstract

In this talk, we consider Collective Intelligence (CI) systems from an organizational perspective. CI systems offer a solution to problems that need cognitive skills, problem-solving capabilities, knowledge, know-how or experience at large scale. They help to facilitate and streamline large-scale problem-solving endeavours. The organizational perspective on CI systems offers us two strands of discussion. On the one hand, it can be about understanding the potential of CI systems for today's organizations. On the other hand, CI systems can be considered as organizations themselves and can be investigated as such.

We start by reviewing the state-of-the art of CI frameworks. What are the essential building blocks of a CI system? Who uses them? For what, how and why? We come up with a generalized framework that serves us as a basis for further investigations.

From a governance perspective, today's organizations are recursive-feedback control systems, usually expressed in the form of process-oriented management. A deeper look reveals a plethora of different styles of organizational culture. Still, viable organizations have in common certain essential sub systems, which are policy making, external and internal steering, the primary activities and an informational backbone. How can we exploit CI systems to support these organizational building blocks? Can CI systems be made an integral part of organizations to make them more stable towards distortions; more adaptive towards an ever-changing environment; more agile towards the organization's innovative potential? Answers to such questions would free CI systems from being niche players in certain large-scale problem-solving initiatives.

Reflecting back from the potential of CI systems in today's organizations, we ask: what can be learned with respect to the design and implementation of future CI systems; and: how to break the silos, i.e., how to integrate them with latest computing resources such as big data and the data science toolkit?

I will present our generic temporal segmentation techniques that we have used for multiple applications. A new concept of cyber, physical, social contexts will be introduced, and how they translate in various domain applications of our research for analysing occupant behaviours, and for personalised intelligent assistants. Finally, the data-driven models can be used as input for recommender systems for individuals and/or groups, and for optimising the routes and/or itineraries in multiple applications, from visitors in a shopping mall, to travelling parking inspectors and police officers.

Biography

Dirk Draheim is full professor of information systems and head of the Information System Group at Tallinn University of Technology. Dirk holds a Diploma in computer science from Technische Universität Berlin, a PhD from Freie Universität Berlin and a habilitation from the University of Mannheim. Until 2006, he worked as a Researcher at Freie Universität Berlin. From 2006-2008, he was area manager for database systems at the Software Competence Center Hagenberg, Austria. From 2008-2016 he was head of the data center of the University of Innsbruck and, in parallel, Adjunct Reader at the Faculty of Information Systems of the University of Mannheim. Dirk is co-author of the Springer book "Form-Oriented Analysis" and author of the Springer books "Business Process Technology", "Semantics of the Probabilistic Typed Lambda Calculus" and "Generalized Jeffrey Conditionalization". His research interest is the design and implementation of large-scale information systems.



Program Structure and Room allocation

_		ROOMS						
Date	Time	FORUM 12	FORUM 13/14	FORUM 15	FORUM 16			
	09:30	Welcome & Conference Opening						
	09:45	Keynote Talk 1						
Mon	11:00	Keynote Talk 2						
2.12.2019	13:00	MoMM S.1A Context-aware Computing	iiWAS S.1A Classification Techniques & Applications	iiWAS S.1B Encryption and Security	iiWAS S.1C Machine Learning			
	15:30	MoMM S.1B Mobile Sensing and Services	iiWAS S.1D Social Network Analysis	iiWAS S1E Social Network Analysis 2	iiWAS S.1F Text/Graph Analysis and Mining			
	09:00	Keynote Talk 3						
	09:45	Panel						
Tue	11:00	MoMM S.2A Wearables and Motion Sensing	iiWAS S.2A Machine Learning 3	iiWAS S.2B Social Network Analysis 3	iiWAS S.2C Trust and Privacy			
3.12.2019	13:30	MoMM S.2B Mobile Biometrics and Security	iiWAS S.2E Semantic Web and Linked Data	iiWAS S.2A Database Systems	iiWAS S.2F Smart Environments and IoT			
	16:00	MoMM S.2C Intelligent Agents	iiWAS S.2G Data and Data Mining	iiWAS S.2H Semantic Web & Linked Data 2	iiWAS S.2i HCI and Crowdfunding			
	09:00	MoMM S.3A Multimedia and Computer	iiWAS S.3A Web Services and Applications	iiWAS S.3B Information Retrieval and Management	iiWAS S.3C Knowledge Representation			
	11:00	MoMM S.3B Augmented Reality and Gamification	iiWAS S.3D IS Applications	iiWAS S.3E Machine Learning 2	S.3F SHOW			
Wed 4.12.2019	13:30	MoMM S.3C IoT Systems	iiWAS S.3G Social Network Analysis 3	S.3H SHOW	S.3I SHOW			
	16:00	MoMM S.3D Smart and Efficient Computing	iiWAS S.3J Hardware and Systems	S.3K SHOW	S.3L SHOW			
	17:30	Closing						



Program Structure and Room allocation

All lecture rooms are located on the ground floor Holiday Inn Munich City Center.





Conference Program & Schedule

Sunday, 1st December 2019

TIME

17.00-19.00 **Registration**

Foyer Hallsaal (Ballroom), Ground Floor. Holiday Inn Munich – City Center

Monday, 2nd December 2019

TIME		
08.00	Registration	
09.30	Welcome and Conference Opening	Forum Room 12
09.45	Keynote Talk I Context and Behaviour Modelling of User and Urban Activities Flora Salim, CIDDA - RMIT University, Melbourne, Australia	Forum Room 12
10.30	Coffee Break @Forum 9 -11, Ground Floor	
11.00	Keynote Talk II Making Humans Smarter Than Artificial Intelligence: Digital Technologies to Amplify Human Perception and Cognition Albrecht Schmidt, LMU Munich, Germany	Forum Room 12
11.00	Making Humans Smarter Than Artificial Intelligence: Digital Technologies to Amplify Human Perception and Cognition	Forum Room 12 Foyer Ballsaal
	Making Humans Smarter Than Artificial Intelligence: Digital Technologies to Amplify Human Perception and Cognition Albrecht Schmidt, LMU Munich, Germany	

Session iiWAS – IA Forum room 13/14

Classification Techniques and Applications

Session Chair: Alexander Stenzer

Tourism application with CNN-Based Classification specialized for cultural information

Takuma Hirotsu, Masaharu Hirota, Tetsuya Araki, Masaki Endo, Hiroshi Ishikawa *Japan*

Fake News Classification Based on Subjective Language

Caio Libanio Melo Jeronimo, Leandro Balby Marinho, Claudio E. C. Campelo, Adriano Veloso, Allan Sales da Costa Melo *Brazil*

Building Classifier Models for on-off Javanese Character Recognition

Lucia D. Krisnawati, Aditya W. Mahastama *Indonesia*

Movie Genres Classification using Collaborative Filtering

Raji Ghawi, Jürgen Pfeffer Germany



13.00

Papers Presentations

Session iiWAS – IB Encryption and Security

Session Chair: Chiemi Watanabe

Secure Naïve Bayes Classification Protocol over Encrypted Data Using Fully Homomorphic Encryption

Yoshiko Yasumura, Yu Ishimaki, Hayato Yamana *Japan*

Outsourced Private Set Union on Multi-Attribute Datasets for Search Protocol using Fully Homomorphic Encryption

Rumi Shakya, Yoshiko Yasumura, Suzuki Takuya, Yu Ishimaki, Hayato Yamana *Japan*

A Privacy-Preserving Query System using Fully Homomorphic Encryption with Real-World Implementation for Medicine-Side Effect Search

Yusheng Jiang, Tamotsu Noguchi, Nobuyuki Kanno, Yoshiko Yasumura, Takuya Suzuki, Yu Ishimaki, Hayato Yamana *Japan*

Ontology-Based Model for Automotive Security Verification and Validation

Abdelkader Magdy Shaaban, Christoph Schmittner, Thomas Gruber, Abd El Baith Mohamed, Gerald Quirchmayr, Erich Schikuta Austria

Session iiWAS – IC Machine Learning

Session Chair: Akiyo Nadamoto

Forum room 15

A Hybrid Machine Learning Approach for Improving Mortality Risk Prediction on Imbalanced Data

Araek Tashkandi, Lena Wies Germany

Analyzing and Predicting the Popularity of Online Contents

Minh-Tri Nguyen, Takuma Nakajima, Masato Yoshimi, Nam Thoai Viet Nam, Japan

Flexible Community Search Algorithm on Attributed Graphs

Shohei Matsugu, Hiroaki Shiokawa, Hiroyuki Kitagawa Japan

Fast RankClus Algorithm via Dynamic Rank Score Tracking on Bi-type Information Networks

Kotaro Yamazaki, Shohei Matsugu, Hiroaki Shiokawa, Hiroyuki Japan



Papers Presentations

Session MoMM – IA

Forum room 12

Context-aware Computing Session Chair: Piotr Wawryka

Using Personalisation to improve User Experience in Public Display Systems with Mobile Interaction

Rui Neves Madeira, Pedro Santos, Nuno Correia *Portugal*

Context-Aware Smart Energy Recommender (CASER)

Paras Sitoula, Dwi Rahayu, Pari Delir Haghighi, Sarah Goodwin, Chris Ling *Australia*

DCAT: A Deep Context-Aware Trust Prediction Approach for Online Social Networks

Seyed Mohssen Ghafari, Aditya Joshi, Amin Beheshti, Cecile Paris, Shahpar Yakhchi, Mehmet Orgun *Australia*

Towards Context-aware Social Behavioral analytics

Amin Beheshti, Vahid Moraveji Hashemi, Shahpar Yakhchi *Australia*

15.00

Coffee Break @Forum 9 -11, Ground Floor

15.30

Papers Presentations

Session iiWAS – ID Social Network Analysis

Session Chair: Masaharu Hirota

Towards Linked Data for Wikidata Revisions and Twitter Trending Hashtags

Paula Dooley, Bojan Božić

Ireland

Enabling Social Information Exchange via Dynamically Robust Annotations

Vishwajeet Pattanaik, Shweta Suran, Dirk Draheim *Estonia*

Blockchain as Middleware for Exchange of Resources: The Cross-Company Loyalty Rewarding System Use Case

Kushal Soni, Olga De Troyer Belgium

Session iiWAS – IE

Social Network Analysis 2

Session Chair: Hiroaki Ohshima

Forum room 16

Forum room 13/14

A Simulation Model Demonstrating the Impact of Social Aspects on Social Internet of Things

Kashif Zia, Arshad Muhammad, Sanad Al Maskari, Dinesh Saini, Umar Farooq *Oman, Pakistan*



15.30

Papers Presentations

Theoretical approach to discover mutual friendships from social graph networks

Carson Leung, Fan Jiang, Sehaj Pal Singh, Alfredo Cuzzocrea Canada, Italy

Analysis of High-value Reviews based on Sentiment

Rinji Suzuki, Kazuhiro Akiyama, Tadahiko Kumamoto, Akiyo Nadamoto Japan

Forum room 15

Session iiWAS - IF

Text/Graph Analysis and Mining

Session Chair: Lucia Dwi Krisnawati

Optimal Selection of Training Courses for Unemployed People based on Stable Marriage Model

Jorge Martinez-Gil, Bernhard Freudenthaler Austria

A Method to Estimate Entity Performance from Mentions to Related Entities in Texts on the Web

Vanderson Sampaio, Renato Fileto, Douglas Mace *Brazil*

Pro-Eating Disorders and Pro-Recovery Communities on Reddit: Text and Network Comparative Analyses

Yousra Fettach, Lamia Benhiba *Morocco*

Named entity recognition using point prediction and active learning

Koga Kobayashi, Kei Wakabayashi Japan

Session MoMM - IB

Mobile Sensing and Services

Session Chair: Yusuke Gotoh

Forum room 12

Active Safety for Individual and Connected Vehicles using Mobile Phone Only

Mateusz Paciorek, Piotr Wawryka, Adrian Kłusek, Przemysław Kalawski, Michał Kosowski, Andrzej Piechowicz, Julia Plewa, Marek Powroźnik, Michał Śledź, Aleksander Byrski, Marcin Kurdziel, Wojciech Turek Poland

A Hierarchical Classifier for Detecting Metro-Journey Activities in Data Sampled at Low Frequency

Ankita Dewan, Venkata M. V. Gunturi, Vinayak Naik, Kartik Vishwakarma and Shrehal Bohra *India*



Papers Presentations

Scalable and Secure Mobile Sensor Cloud Architecture for the Delivery of Surveillance Applications as A Service

Forum room 12

Mohamed Jacem Guezguez, Slim Rekhis *Tunisia*

Continuous indoor/outdoor pathway display algorithm for pedestrian navigation service

Wiem Fekih Hassen, Lionel Brunie, Asma Nechba, Harald Kosch *France, Germany*

A Division-based Broadcasting System Considering Dynamic Updates of Delivery Schedule

Syunpei Kanamoto, Yusuke Gotoh *Japan*

18.00 - 20.00

Welcome Reception at LMU Lichthof, the main building LMU Geschwister-Scholl-Platz 1. 80539 München

Tuesday, 3rd December 2019

TIME		
08.30	Registration	
09.00	Keynote Talk III Collective Intelligence Systems from an Organizational Perspective Dirk Draheim, Tallinn University of Technology, Estonia	Forum Room 12
09.45	Panel Big Data Management and Analytics in Intelligent Smart Environments: State- of-the-Art Analysis and Future Research Directions Alfredo Cuzzocrea, ICAR-CNR and University of Calabria, Italy	
10.30	Coffee Break @Forum 9 -11, Ground Floor	
11.00	Papers Presentations	

Session iiWAS – IIA Machine Learning 3 Session Chair : Chinmaya Kumar Dehury

Forum room 13/14

Film Genre Prediction Based on Film Content and Screenplay Structure

Yusuke Nakano, Hiroaki Ohshima, Yusuke Yamamoto *Japan*



Forum room 13/14

11.00

Papers Presentations

Personality Estimation using Demographic Data in a Personality-based Recommender System: A Proposal

Iman Paryudi, Ahmad Ashari, A Min Tjoa Indonesia, Austria

Fatten Features and Drop Wastes: Finding Repeaters Reviews by Feature Generation and Feature Selection

Naoki Muramoto, Hiromi Shiraga, Kilho Shin, Hiroaki Ohshima *Japan*

Effects of Mining Parameters on the Performance of the Sequence Pattern Variants Analyzing Method Applied to Electronic Medical Record Systems

Hieu Hanh Le, Tasuhiro Yamada, Yuichi Honda, Masaaki Kayahara, Muneo Kushima, Kenji Araki, Haruo Yokota *Japan*

Session iiWAS – IIB Social Network Analysis 3

Session Chair: Ngurah Agus Sanjaya ER

Forum room 16

Events Insights Extraction from Twitter Using LDA and Day-Hashtag Pooling Muhammad Haseeb Ur Rehman Khan, Kei Wakabayashi, Satoshi Fukuyama

Japan

Modelling Emotion Dynamics on Twitter via Hidden Markov Mode

Debashis Naskar, Miguel Rebollo, Eva Onaindia, Subhashis Das Spain, Italy

A Crawling Method with No Parameters for Geo-Social Data based on Road Maps

Sou Ijima, Masaharu Hirota, Shohei Yokoyama *Japan*

Detection of Behavioral Facilitation information in Disaster Situation

Yoshiki Yoneda, Yu Suzuki, Akiyo Nadamoto *Japan*

Session iiWAS – IIC Trust and Privacy

Session Chair: Dirk Draheim

Forum room 15

Extending Linked USDL by Trust Assertion

Wolfgang Bauer, Natalia Kryvinska, Jürgen Dorn, Owen Sacco Slovakia, Austria, Malta

URL-based Phishing Detection using the Entropy of Non-Alphanumeric Characters

Eint Sandi Aung, Hayato Yamana *Japan*



11.00

Papers Presentations

Exploiting Blockchain and Smart Contracts for Data Exploration as a Service

Ada Bagozi, Devis Bianchini, Valeria De Antonellis, Massimiliano Garda, Michele Melchiori

Italy

A Privacy-Preserving Similarity Search Scheme over Encrypted Word Embeddings

Daisuke Aritomo, Chiemi Watanabe, Masaki Matsubara, Atsuyuki Morishima *Japan*

Session MoMM – IIA Wearables and Motion Sensing

Session Chair: Daniel Hintze

Forum room 12

Forum room 13.14

Tennis Stroke Classification: Comparing Wrist and Racket as IMU Sensor Position

Christopher Ebner, Rainhard Dieter Findling Austria

Haptic Feedback Method using Deformation of Clothing

Kentaro Ueda, Tsutomu Terada, Masahiko Tsukamoto *Japan*

Activity Recognition and Stress Detection via Wristband

Chun Yiu Wong, Jun Wang, Yujun Fu, Hong Va Leong, Grace Ngai Hong Kong

An Auditory Feedback System to Improve the Foot Pressure Balance for Runners

Ayumi Ohnishi, Isao Nishiyama, Tsutomu Terada, Masahiko Tsukamoto *Japan*

12.30

Lunch @ the Restaurant Ground Floor

13.30

Papers Presentations

Session iiWAS – IID Semantic Web and Linked Data

Jakub Klímek

PLDSD: Personalized Linked Data Semantic Distance for LOD-Based Recommender Systems

Gabriela da Silva, Frederico Durão, Miriam Capretz *Brazil, Canada*

Knowledge Graph of University Campus Issues and Application of Completion Methods

Yuto Tsukagoshi, Takahiro Kawamura, Yuichi Sei, Yasuyuki Tahara, Akihiko Ohsuga Japan

19



13.30

Papers Presentations

Uniform Access to Multiform Data Lakes using Semantic Technologies

Mohamed Nadjib Mami, Damien Graux, Simon Scerri, Sören Auer, Jens Lehmann, Hajira Jabeen *Germany*

Towards Knowledge Graph Construction using Semantic Data Mining

Dina Sharafeldeen, Alsayed Algergawy, Birgitta König-Ries *Germany*

Session iiWAS – IIE Database Systems

Session Chair: Lamia Benhiba

On efficiently storing huge property graphs in relational database management systems

Matthias Schmid Germany

A Hybrid Partitioning Strategy for NewSQL Databases: The VoltDB Case

Geomar Schreiner, Denio Duarte, Guilherme Dal Bianco, Ronaldo Mello *Brazil*

NewSQL Through the Looking Glass

Geomar Schreiner, Ronan Knob, Denio Duarte, Patricia Vilain, Ronaldo Mello *Brazil*

Structural Transition Analysis of Dynamic Network Based on Roles of Adding Edges

Kazufumi Inafuku, Takayasu Fushimi, Tetsuji Satoh Japan

Session iiWAS – IIF

Smart Environments and IoT

Session Chair: Tatsuo Nakajima

Forum room 15

Weighted Load Balancing in Distributed Hash Tables

Robin Lösch, Jan Schmidt, Nils Gentschen Felde *Germany*

Open Routed Energy Distribution Network based on a Concept of Energy Routers in Smart Grid

Alexander Dudko, Tatiana Endrjukaite, Leon L. Roose *Japan, Latvia, USA*

Microbiological Water Quality Test Results Extraction from Mobile Photographs

Jifang Xing, Ruixi Zhang, Remmy Zen, Ngurah Agus Sanjaya Er, Laure Sioné, Ismail Khalil, Stéphane Bressan Singapore, Indonesia, UK, Austria



11.30

Papers Presentations

Building Extraction from Google Earth Images

Jifang Xing, Ruixi Zhang, Remmy Zen, Dewa Made Sri Arsa, Ismail Khalil, Stéphane Bressan Singapore, Indonesia, Austria

Session MoMM – IIB Mobile Biometrics and Security

Session Chair: Ayumi Ohnishi

Hide my Gaze with EOG! Towards Closed-Eye Gaze Gesture Passwords that Resist Observation-Attacks with Electrooculography in Smart Glasses

Rainhard Dieter Findling, Tahmid Quddus, Stephan Sigg Finland

CORMORANT: On Implementing Risk-Aware Multi-Modal Biometric Cross- Device Authentication for Android

Daniel Hintze, Matthias Füller, Sebastian Scholz, Rainhard Dieter Findling, Muhammad Muaaz, Philipp Kapfer, Wilhelm Nüßer, Rene Mayrhofer Austria, Finland, Germany

Security solution methods in the Vehicular Ad-Hoc Networks

Krzysztof Stępień, Aneta Poniszewska-Maranda Poland

Free-Form Gaze Passwords from Cameras Embedded in Smart Glasses

Eira Friström, Elias Lius, Niki Ulmanen, Paavo Hietala, Pauliina Kärkkäinen, Tommi Mäkinen, Stephan Sigg, Rainhard Dieter Findling *Finland*

15.30

Coffee Break @Forum 9 -11, Ground Floor

16.00

Papers Presentations

Session iiWAS – IIG Data and Data Mining

Session Chair: Yoshihisa Udagawa

Forum room 13/14

Improving Findability of Open Data Beyond Data Catalogs

Tomáš Skopal, Jakub Klímek, Martin Nečaskÿ Czech Republic

An Application of Distributed Data Mining to Identify Data Quality Problems

Eshref Januzaj, Visar Januzaj, Peter Mandl *Germany*

ToT for CSV: accessing open data CSV files through SQL

Yasushi Doi, Motomichi Toyama Japan

Generation of Test Cases for Testing SuperSQL

Amulya Bathini, Kento Goto, Motomichi Toyama *Japan*



Papers Presentations

Session iiWAS – IIH Semantic Web & Linked Data 2 Session Chair : Kei Wakabayashi Forum room 16

Query Relaxation using Spreading-Activation and SKOS-Ontologies

Alexander Stenzer Germany

Reverse-Transliteration of Hebrew script for Entity Disambiguation

Aaron Christianson, Maral Dadvar, Kai Eckert *Germany*

Social Media Copyright Management using Semantic Web and Blockchain

Roberto Garcia, Rosa Gil Spain

Session iiWAS – II I HCI and Crowdfunding Session Chair : Yujun Fu

Forum room 15

Gamifying Human Behavior in Urban Crowdsourcing for a Sustainable Smart City

Risa Kimura, Tatsuo Nakajima Japan

Query Recommendation to Draw a Laugh from Web Searcher

Hiroo Umeda, Yusuke Yamamoto *Japan*

What Independent Game Developers Expect from Recommender Systems

Marta Kholodylo, Christine Strauss *Austria*

The Impact of Updates in Social Crowd Projects: Insights from a German Equity Crowdfunding Platform

Regina Cernicka, Andreas Mladenow, Christine Strauss *Austria*

Session MoMM – IIC Intelligent Agents

Session Chair: Tsutomu Terada

Forum room 12

Blockchain e-voting system with the use of intelligent agent approach

Michał Pawlak, Aneta Poniszewska-Maranda *Poland*

A Reinforcement Learning and Synthetic Data Approach to Mobile Notification Management

Rowan Sutton, Kieran Fraser, Owen Conlan *Ireland*



Papers Presentations

Be in/Be out model for intelligent transport in SmartCity approach

Forum room 12

Bartosz Wieczorek, Aneta Poniszewska-Maranda Poland

18.30-22.30

Conference Gala Dinner & Best Paper Awards

a traditional Bavarian Dinner at Augustiner Keller München, Arnulfstr. 52, 80335 München

Wednesday, 4th December 2019

09.00

Papers Presentations

Session iiWAS - IIIA

Web Services and Applications

Session Chair: Lukito Edi Nugroho

Forum room 13/14

Building a Web-Based Federated Toolchain: Lessons Learned from a Four-Year **Industrial Project**

Damir Nešić, Jad El-Khoury, Jonas Westman, Mattias Nyberg Sweden

Personalized Service Delivery using Reinforcement Learning in Fog and Cloud **Environment**

Chinmaya Kumar Dehury, Satish Narayana Srirama Estonia

A Web Serivce Architecture for Social Micro-Learning

Bernhard Göschlberger, Gabriele Anderst-Kotsis Austria

Computing Ranges for Temporal Parameters of Composed Web Services

Marco Franceschetti, Johann Eder

Austria

Session iiWAS - IIIB **Information Retrieval and Management** Forum room 16

Session Chair: Brahim Ouhbi

Improving Precision in IR Considering Dynamic Environments

Claudio Gutiérrez-Soto, Arturo Curiel Chile, Mexico

Target-Topic Aware Doc2Vec for Short Sentence Retrieval from User **Generated Content**

Kosuke Kurihara, Yoshiyuki Shoji, Sumio Fujita, Martin J.Dürst Japan



Papers Presentations

SIMPATICO 3D Mobile for Diagnostic Procedures

Ester Zumpano, Pasquale Iaquinta, Francesco Dattola, Luciano Caroprese, Giuseppe Tradigo, Pierangelo Veltri, Eugenio Vocaturo *Italy*

Session iiWAS – IIIC Knowledge Representation Session Chair: Ismail Khalil Forum room 15

Genereting Anthropomorphism of Subject and Verb by Transformation Matrix

Katsurou Takahashi, Kilho Shin, Hiroaki Ohshima Japan

Fully Informed Vulnerable Road Users - Simpler, Maybe Better

Bruno Fernandes, Henrique Vicente, Jorge Ribeiro, Antönio Capita, Cesar Analide, Jose Neves *Portugal*

HyDRS-WoT: Community-oriented Hybrid Disaster Response System using Web of Things

Youna Jung, Aaron Causey USA

Session MoMM – IIIA Multimedia and Computer Vision Session Chair: Shahpar Yakhchi Forum room 12

Large-Scale Semantic Concept Detection Based on Visual Contents

Mohamed Hamroun, Sonia Lajmi, Henri Nicolas, Ikram Amous *Tunisia, France*

Automatic Vehicle Identification Through Visual Features

Imran Shafiq Ahmad, Boubakeur Boufama *Canada*

An Approach for CCTV Contents Filtering Based on Contextual Enrichment via Spatial and Temporal Metadata

Franck Jeveme Panta, André Péninou, Florence Sedes *France*

10.30

Coffee Break @Forum 9 -11, Ground Floor



Papers Presentations

Session iiWAS – IIID IS Applications

Forum room 13/14

Session Chair: Yusuke Yamamoto

Prototyping and Preliminary Evaluation of Mind Monitoring Service for Elderly People at Home

Chisaki Miura, Haruhisa Maeda, Masahide Nakamura, Kiyoshi Yasuda *Japan*

A Museum Information System for Sustaining and Analyzing National Cultural Expressions

Bea Therese Santos, Jacob Tolentino, Danielle Nicole Aquino, Riel Malibiran, Christine Diane Ramos, Charibeth Cheng, Courtney Ngo *Philippines*

A Context-Aware Adaptive Tourist Recommendation System

Lukito Edi Nugroho, Rico Yudha Saputra, Vivin Mahat Putri, Yohandes Efindo *Indonesia*

Session iiWAS – IIIE Machine Learning 2

Forum room 16

Session Chair: Ester Zumpano

Accent neutralization for speech recognition of non-native speakers

Kacper Radzikowski, Mateusz Forc, Le Wang, Osamu Yoshie, Robert Nowak Japan, Poland

Mining Stock Price Changes for Profitable Trade Using Candlestick Chart Patterns

Yoshihisa Udagawa Japan

Estimation Method of L2 Learners' Second Language Ability by using Features in Conversation

Xinnan Chen, Muhammad Haseeb Ur Rehman Khan, Wakabayashi Kei *Japan*

Session SHOW - IIIF

Forum room 15

Session Chair: Gabriele Anderst-Kotsis

Building Blocks of Negotiating Agents for Healthcare Data

Svetlana Boudko, Wolfgang Leister *Norway*

Towards a social learning environment

Hajar Zankadi, Imane Hilal, Najima Daoudi, Abdellah Idrissi *Morocco*

Data Source Selection in Big Data Context

Hicham Moad Safhi, Bouchra Frikh, Brahim Ouhbi *Morocco*



Papers Presentations

Session MoMM - IIIB

Forum room 12

Augmented Reality and Gamification

Session Chair: Marco Franceschetti

An Interaction Design Model for Information Visualization in Immersive Augmented Reality platform

Shafaq Irshad, Dayang Awang, Suzaih Sulaiman *Malaysia*

Evaluation of Effect on Walking Behavior by Seeing Augmented Reality Objects

Yamato Sakuragi, Naoya Isoyama, Tsutomu Terada, Masahiko Tsukamoto *Japan*

12.30

Lunch @ the Restaurant Ground Floor

13.30

Papers Presentations

Session iiWAS – IIIG Social Network Analysis 3 Session Chair: Khashif Zia

Forum room 13/14

An Analysis of Influence of Emoticons on Affective Impressions Feeling from Tweets

Koji Nakahira, Tadahiko Kumamoto *Japan*

Method for Computing Emotions of Tweets with an Emoticon

Chengzhi Jiang, Tadahiko Kumamoto *Japan*

A Study on Characterizing the Ecosystem of Monetizing Video Spams on YouTube

Ashutosh Tripathi, Kusum Kumari Bharti, Mohona Ghosh India

Session SHOW - IIIH

Forum room 16

Session Chair: Gabriele Anderst-Kotsis

Named Entity Recognition for Biomedical Patent Text using Bi-LSTM Variants

Farag Saad Germany

Robust and Scalable Pipeline for the Real-time Processing and Analysis of Massive 3D Spatial Streams

Salman Ahmed Shaikh, Jun Lee, Akiyoshi Matono, Kyoung-Sook Kim Japan

Security Issues in Mobile Healthcare Applications

Youna Jung USA

BM25-AH: Enhanced BM25 Algorithm for Domain-Specific Search Engine

Youna Jung USA



Papers Presentations

Session SHOW-III I

Session Chair: Dirk Draheim

Forum room 15

Study of machine learning methods for customer churn prediction in telecommunication company

Anna Śniegula, Aneta Poniszewska-Marańda *Poland*

Facilitation of Domain-Specific Data Models Design using Semantic Web Technologies for Manufacturing

Vaclav Jirkovsky, Ondrej Sebek Czech Republic

Session MoMM - IIIC

IoT Systems

Session Chair: Imran Ahmad

Forum room 12

Gateways to Heaven: Observations and Predictions on the Software Architecture of IoT Gateways

Antero Taivalsaari, Tommi Mikkonen Finland

Mitigating Messaging and Processing Load in IoT Environments Managed by Blockchain

Johannes Mittendorfer, Karin Anna Hummel *Austria*

A Holistic Approach for Heating and Ventilation Control in EEBs

Abdelhak Kharbouch, Mohamed Bakhouya, Anas El Maakoul, Driss El Ouadghiri *Morocco*

15.30

Lunch @ the Restaurant Ground Floor

16.00

Papers Presentations

Session iiWAS – IIIJ Hardware and Systems

Session Chair: Alfreddo Cuzzocrea

Forum room 13/14

Development of IoT Monitoring Device and Prediction of Daily Life Behavior

Rabin Maharjan, Koichi Shiraishi, Takehiro Yamamoto, Yusuke Yamamoto, Hiroaki Ohshima Japan

A Design of an Anti-Phishing Training System Collaborated with Multiple Organization

Masayuki Higashino Japan



Papers Presentations

Session SHOW – IIIK

Forum room 16

Session Chair: Ismail Khalil

A Secure Used Car Trading System based on Blockchain Technology

Cho Cho Htet, May Htet *Myanmar*

Predicting the Category of Fire Department Operations

Kevin Pirklbauer, Rainhard Dieter Findling Finland, Austria

Rule-Based Inquiry Service to Elderly at Home for Efficient Mind Sensing

Haruhisa Maeda, Sachio Saiki, Masahide Nakamura, Kiyoshi Yasuda *Japan*

Content Based Fake News Detection Using N-Gram Models

Hnin Ei Wynne, Zar Zar Wint *Myanmar*

Session SHOW - IIIL

Forum room 15

Session Chair: Dirk Draheim

Conversational AI for Corporate e-Learning

Bernhard Göschlberger, Christoph Brandstetter *Austria*

Combining a Gamified Civic Engagement Platform with a Digital Game in a Loosely Way to Increase Retention

Renny Lindberg, Jan Maushagen, Olga De Troyer Belgium

Your body signals expose your fall

Eugene Yujun Fu, CheukYin Wong, Katie TY Lau, Hong Va Leong, Grace Ngai Hong Kong

Session MoMM - IIID

Smart and Efficient Computing

Session Chair: Pari Delir Haghighi

Forum room 12

An Adaptive Recursive Method of ESS for Peak Shaving in Zero Energy Community

Hong-Soon Nam South Korea

VComputeLib: Enabling Cross-Platform GPGPU on Mobile and Embedded GPUs

Nadjib Mammeri, Ben Juurlink *Germany*

Fun with AEDs: Examining the Effects of a Gamified Mobile Crowdsourcing Application

Anran Hao, Chei Sian Lee, Chee Wah Wesley Tan Singapore

17.30

Forum Room 12, Ground Floor Closing



Social Events

Welcome Reception

Welcome Reception will be held on the first day evening at the LMU Lichthof, - the main Building of LMU, Geschwister-Scholl-Platz 1. 80539 München, hosted by @WAS organization and Ludwig-Maximilians-University (LMU) Munich. There will be drinks and light finger-food to serve while guests enjoy a harmonious work of art between the aesthetics and architecture as well as the historical significance of the atrium with the impressive light installations.



To get to the LMU Lichthof from Holiday Inn Munich City Center, you take one of the S-bahn (train) lines 1, 2, 4, 6, 7, or 8 from "Rosenheimer Platz" and stop at "Marienplatz" station. From there you can:

- change to subway line U3 and exit at station "Universität" or
- walk from Marienplatz station to LMU main building, it takes about 17 minutes walking.

Conference Gala Dinner

On the 2nd day evening, A Gala Dinner with a traditional Bavarian menu will be held at at Augustiner Keller München, Arnulfstr. 52, 80335 München.

The Lagerkeller is reserved for iiWAS/MoMM 2019 Conference Dinner exclusively and partcipants will have the opportunity to taste Bavarian beer as well as hearty local food.





To get to Augustiner Keller München from Holiday Inn Munich City Center: Take one of S-bahn (train) lines 1, 2, 3, 4, 6, 7, or 8 from "Rosenheimer Platz" to stop at "Hackerbrücke" station, from there the venue is 5 minutes walking distance.



Conference History

The International organization on Information Integration and Web-based Applications & Services (@WAS) was founded in 2003 given the success of the iiWAS series of workshops (1999, 2000) and conferences (2001-on) and the prospect of continuing the organization of these events in the forthcoming years which have encouraged some to propose the creation of a non-profit International Organization for Information Integration and Web-based Applications & Services (@WAS).

In 2003, @WAS launched another series of conferences called International Conferences on Advances in Mobile Computing and Multimedia (MoMM) held in Jakarta in conjunction with iiWAS2003 conference and was officially opened by the Minister of Communication and Information Technology of the Republic of Indonesia at that time.

MoMM aims to provide a discussion forum for the exchange of ideas and Information by researchers, students, and professionals on the issues and challenges brought by the emerging wireless technologies for mobile and multimedia applications and services.

Conference History iiWAS

	2003	2004	2005	2006	2007	2008	2009
Location	Jakarta, Indonesia	Jakarta, Indonesia	Kuala Lumpur, Malaysia	Yogyakarta, Indonesia	Jakarta, Indonesia	Linz, Austria	Kuala Lumpur, Malaysia
Dates	15-17 Sep	27-29 Sep	19-21 Sep	4-6 Dec	3-5 Dec	24-26 Nov	14-16 Dec
No. of Participants	57	106	129	127	135	110	146
No. of Accepted Papers	36	91	119	53	32	52	102
Acceptance rate	46%	40%	33%	28%	27%	30%	23%
Keynote Talks	4	4	3	3	3	3	5
Tutorials	4	5	3	2	1	3	5
Workshops	-	-	-	4	3	2	3
Panel	1	-	-	-	1	-	
Proceedings	ocg	ocg	ocg	ocg	OCG	ACM & OCG	ACM & OCG
Journals Special Issues	-	4	5	4	4	4	6

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Location	Paris, France	Ho Chi Minh City, Vietnam	Bali, Indonesia	Vienna, Austria	Hanoi, Vietnam	Brussel, Belgium	Singapore	Salzburg, Austria	Yogyakarta, Indonesia
Dates	8-10 Nov	5-7 Dec	3-5 Dec	2-4 Dec	4-6 Dec	11-13 Dec	28-30 Nov	4-6 Dec	19-21 Nov
No. of Participants	119	108	112	139	95	117	75	103	76
No. of Accepted Papers	82	93	34	43	37	58	41	90	65
Acceptance rate	38%	23%	30%	31%	39%	40%	45%	40%	40%
Keynote Talks	4	4	6	4	4	4	2	3	3
Tutorials	4	0	0	0	0	0	0	0	0
Workshops	3	0	0	0	0	0	0	1	1
Panel	-	1	1	0	1	0	1	1	0
Proceedings	ACM & OCG	ACM	ACM	ACM	ACM	ACM	ACM	ACM	ACM
Journals Special Issues	6	4	3	4	4	4	2	2	2



Conference History MoMM

	2003	2004	2005	2006	2007	2008	2009
Location	Jakarta, Indonesia	Bali, Indonesia	Kuala Lumpur, Malaysia	Yogyakarta, Indonesia	Jakarta, Indonesia	Linz, Austria	Kuala Lumpur, Malaysia
Dates	15-17 Sep	22-24 Sep	19-21 Sep	4-6 Dec	3-5 Dec	24-26 Nov	14-16 Dec
No. of Participants	28	68	45	73	82	73	102
No. of Accepted Papers	15	52	36	33	82	37	64
Acceptance rate	53%	51%	40%	39%	28%	32%	28%
Keynote Talks	-	2	3	2	2	3	5
Tutorials	-	2	1	1	1	3	5
Workshops	-	-	-	3	3	4	5
Panel	-	-	-	-	1	-	1
Proceedings	ocg	ocg	ocg	ocg	OCG	ACM & OCG	ACM & OCG
Journals Special Issues	1	4	4	2	3	4	6

	2010	2011	2012	2013	2014	2015	2016
Location	Paris, France	Ho Chi Minh City, Vietnam	Bali, Indonesia	Vienna, Austria	Kaohsiung, Taiwan	Brussel, Belgium	Singapore
Dates	8-10 Nov	5-7 Dec	3-5 Dec	2-4 Dec	8-10 Dec	11-13 Dec	28-30 Nov
No. of Participants	69	64	78	129	46	77	56
No. of Accepted Papers	39	58	27	39	38	36	25
Acceptance rate	33%	35%	35%	33%	45%	47%	45%
Keynote Talks	4	4	6	4		4	2
Tutorials	4	0	0	0		0	0
Workshops	3	0	0	0		0	0
Panel	-	1	1	0		0	1
Proceedings	ACM & OCG	ACM	ACM	ACM	ACM	ACM	ACM
Journals Special Issues	6	4	4	3	3	4	4

	2017	2018
Location	Salzburg, Austria	Yogyakarta, Indonesia
Dates	4-6 Dec	19-21 Nov
No. of Participants	42	22
No. of Accepted Papers	35	19
Acceptance rate	45%	40%
Keynote Talks	3	3
Tutorials	0	0
Workshops	1	1
Panel	1	0
Proceedings	ACM	ACM
Journals Special Issues	4	4



