



# **The 19<sup>th</sup> International Conference on Information Integration and Web-based Applications & Services**

## **The 15<sup>th</sup> International Conference on Advances in Mobile Computing & Multimedia**

December 04-06, 2017  
Salzburg, Austria

PROGRAM**BOOK**



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## Welcome Message



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**Eric Pardede**  
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**Pari Delir Haghighi**  
MoMM2017 Program  
Committee co-Chairs

As the conference organizers, it is so gratifying to see the growth of iiWAS/MoMM from a gathering of five innovative academics 19 years ago in Yogyakarta Indonesia to this impressive international assembly with over 150 international participants and additional distinguished speakers and guests.

Following the conferences in 2001, 2008 and 2013 this is our fourth year meeting in Austria. And as always, we endeavour to provide you with three distinct levels of experiences: A Learning Experience... which this year includes a very strong program of thought-provoking 115 presentations and three distinguished keynote speeches in 32 sessions, A Networking Experience... giving you the opportunity to form productive collaborations and lasting friendships with like-minded academics around the globe which can be seen from this year participants coming from 37 countries and over 164 research and academic institutions, and A Motivational Experience... exposing our young, up-and-coming colleagues to the latest innovations in our fields as a springboard to their own research and discoveries.

With respect to the social programme, we have a very interesting program this year which consists of a reception at the Salzburg Residence in the city center: one of the most splendid amongst numerous monumental buildings in Salzburg. The reception will start with a Chamber Concert followed by a welcome cocktail. This is the time for all participants to break the ice and start networking, specially for those who are participating in iiWAS/MoMM for the first time. You will find the bound in our iiWAS/MoMM family - welcome to the family!

For the conference dinner, we decided to take you to “Festung Hohensalzburg” (Salzburg Fortress) in the heart of Salzburg, which combines culture and history with the latest technological facilities in a perfect and harmonious manner. We hope that your schedule will allow you in addition to those events to spend some time in Salzburg and Austria and to enjoy the beginning of the Christmas Season.

The General Chair and the @WAS President would like to express their sincere thanks to the iiWAS2017 program committee chair Maria Indrawan and to the MoMM2017 program committee chairs Eric Pardede and Pari Delir Haghighi and 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: Prof. Dr. Andreas Uhl from the University of Salzburg, Austria Dr. Ioana Manolescu from Inria Saclay and Ecole Polytechnique, France and Dr. Thomas Natschläger from the Software Competence Centre Hagenberg, Austria and panel chair Dr. Karin-Anna Hummel from Johannes Kepler University Linz.

We would kindly like to thank the city of salzburg and the province of salzburg for their valuable support in organising iiWAS/MoMM2017 and especially for hosting us at the welcome reception.

We tried our best in arranging everything locally for your comfort. Matthias Steinbauer, Ivan Salvadori and Hesti Sudjana deserve all the credits for a perfect organisation.

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 & MoMM.

As Wolfgang Amadeus Mozart said “Neither a lofty degree of intelligence nor imagination nor both together go to the making of genius. Love, love, love, that is the soul of genius.”

So welcome to Salzburg for IIWAS/MoMM 2017... Thank You for your participation... we sincerely hope you enjoy the conference.

iiWAS2017 and MoMM2017 are supported by :



**STADT : SALZBURG**



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SALZBURG**



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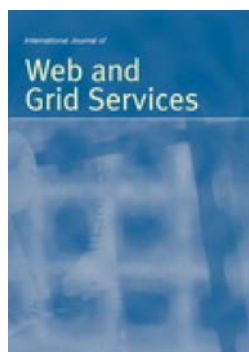
## Yusuke Gotoh

Okayama University, Japan

## Journal Special Issues



International Journal of Web Information Systems (IJWIS)



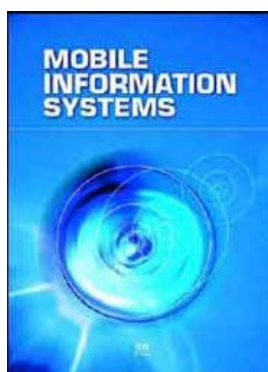
International Journal of Web and Grid Services (IJWGS)



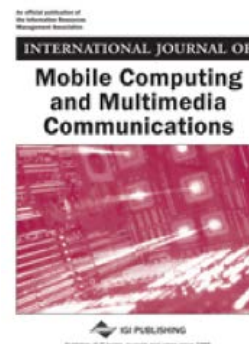
Journal of Mobile Multimedia



International Journal of Pervasive Computing and Communications



International Journal of Mobile Information Systems (IJMIS)



International Journal of Mobile Computing & Multimedia Communications (IJMCMC)



### Registration Desk

The Registration Desk is located at the Foyer of the Conference's Room Saal Salzburg, Wyndham Grand Salzburg Conference Center. All conference participants shall present themselves at the registration desk for conference check in and collect the participant's packages.

Opening hours:

Sun, 3 Dec; 17.00 – 19.00

Tue, 5 Dec; 08.30 – 16.00

Mon, 4 Dec; 08.00 – 16.00



### Coffee Breaks & Lunches

Coffee Break will be served at the Foyer of the main room "Saal Salzburg 1" during the conference days. Morning Coffee Break at 10.00 – 10.30 and Afternoon Coffee Break at 15.00 – 15.30

Lunch will be served at the Foyer of the main room "Saal Salzburg 1" during the conference days start at around 12.00 – 13.00.

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



### Smoking Policy

Wyndham Grand Salzburg Conference Center is a smoking free place. Smoking only permitted in the respected area and outside the building.



### Mobile Phone Courtesy

iiWAS2017&MoMM2017 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 their own laptop for presentation including any adaptors required, otherwise please inform the organizer earlier/prior the presentation is scheduled.



### WLAN Access

For hotel guests, free WiFi is available in the entire hotel premises. For those who are not staying in Wyndham Grand Salzburg Conference Center hotel, please contact registration desk for WiFi connection & availability in the main meeting room.



### Electricity Supply

Electricity in Austria 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.



**Dr. Andreas Uhl**

University of Salzburg, Austria

### **“How does Human Ageing affect Biometric Recognition ?”**

#### **Abstract**

In many biometric systems the time of enrollment can be substantially separated from an actual authentication attempt (e.g., data as stored in e-passports remains valid for 10 years). Therefore, ageing might affect all parties involved in such an authentication process. While for some biometric modalities like face and speech such effects have been clearly demonstrated and techniques are established how to cope with these, the debate about these issues is quite controversial for iris and fingerprint recognition systems. We will discuss some recent results for iris and fingerprint template ageing and will show how to isolate certain reasons for observed time-span induced accuracy degradations.

#### **Biography**

Andreas Uhl is a professor for Computer Science at the University of Salzburg where he leads the Multimedia Signal Processing and Security Lab. His main research interests are in vision-based topics often closely related to security, e.g. multimedia security (e.g. visual data encryption, watermarking) and forensics, as well as biometrics. In the latter field he focuses on questions of biometric system robustness and security mainly considering the fingerprint, iris, and vein modalities. Besides conducting national projects, Andreas Uhl is currently involved in two biometrics-oriented Horizon 2020 projects, i.e. Pervasive and User Focused BiomeTrics BordEr ProjeCT (PROTECT) and Computer Vision Enabled Multimedia Forensics and People Identification (IDENTITY). In the academic field, Andreas Uhl was area chair for ocular biometrics @ International Conference on Biometrics (ICB'16) and is Program co-Chair of the annual International Conference of the Biometrics Special Interest Group (BIOSIG) since 2015.



**Dr. Thomas Natschläger**

Scientific Head

Software Competence Center Hagenberg, Austria

### **“ Data Analytics and the Digital Transformation in Manufacturing “**

#### **Abstract**

Since many years there is the picture of data as the oil of the 21. century. However, looking at the spread of practical data mining applications or applications with integrated machine learning algorithms in the area of machine and plant engineering and construction it seems as if the oil boom has been missed by this industry. As there are many diverse optimization and prediction problems in developing and operating machines and plants there are plenty of opportunities to leverage the power of machine learning. In this talk we discuss practical, technical, methodological and organizational issues which may hinder the widespread of machine learning in manufacturing exemplified by successful applications.

### Biography

Dr. Thomas Natschläger is scientific head of the “Data Analysis Systems” group at the Software Competence Center Hagenberg where his research is directed towards the advancement of methods for the analysis and modelling of complex and massive sensor data in its (industrial) application context. He studied Telematik at the University of Technology in Graz with a focus on theoretical informatics and machine learning. He got his PhD in 1999 at the same university in the area of computational neuroscience. From 1999 to 2003 he was with the Institute for Theoretical computer science (TU Graz) as an assistant professor where he did research and teaching in the areas of computational neuroscience, computational intelligence and machine learning and published over 40 scientific papers. Dr. Thomas Natschläger has international acknowledged expertise and proper international network of leading researchers in the area of neural networks (especially reservoir computing). He is also frequently working as a reviewer in this area for several journals.



### Dr. Ioana Manolescu

Senior Researcher

Inria Saclay and Ecole Polytechnique, France

### “Data integration for journalism: goals, tools, and architectures”

#### Abstract

Very soon after getting the first electronic databases, we wanted to get more of them, and digital Babel happened. Integration of data sources independently produced, into a single harmonious system, is an old goal which the scientific community keeps attacking from many angles. In recent years, I have considered the need for content management tools which could be used in newsrooms to give back to society the information we produce, own, and then ignore. The talk will explore paths toward making such a goal come true.

### Biography

Ioana Manolescu is a senior researcher at Inria Saclay and Ecole Polytechnique. She is the lead of the CEDAR INRIA team focusing on rich data analytics at cloud scale. She is a member of the PVLDB Endowment Board of Trustees, of the ACM SIGMOD Jim Gray PhD dissertation committee, and an associate editor for PVLDB. Recently, she has been the program chair of the Scientific and Statistical Data Management Conference 2016, and she is a co-chair of the upcoming IEEE ICDE conference in 2018. She has co-authored more than 130 articles in international journals and conferences, and contributed recently to a book on “Web Data Management” by S. Abiteboul, I. Manolescu, P. Rigaux, M.-C. Rousset and P. Senellart. Her main research interests algebraic and storage optimizations for semistructured data and in particular data models for the Semantic Web, novel data models and languages for complex data management, data models and algorithms for fact-checking, and distributed architectures for complex large data.



### **Panel**

**Moderator: Karin Anna Hummel, Johannes Kepler University Linz  
Austria**

### **“Cognitive Internet of Things - a New Era of Computing and Networking ?”**

Employing “cognitive” systems in smart homes/buildings/cities, autonomous vehicles, and production tools and processes is a recent trend. Cyber-physical systems are enhanced with abilities to learn and reason about the physical environment, human and machine behavior, cooperation strategies, and may take actions accordingly. This development may transform the way we employ “things” and may have a tremendous impact on society. Standing on the shoulders of giants such as artificial intelligence, robotics, self-organization, real-time systems, ubiquitous and pervasive computing, and control systems, what makes “cognitive systems” something special? What can we expect from cognitive things and cognitive networks in the next five, ten, 20 years - how will they learn, what will they know, and how will they act? What does human society need to know and understand about cognitive networked things and tools to stay in control? Panelists will talk about trends in their specific domains, their experiences with cognitive networked systems, challenges they see for a cognitive IoT, and directions to follow both for industry and academia.

### **Biography**

Karin Anna Hummel is an Associate Professor at Johannes Kepler University Linz (JKU Linz) working on mobile networked systems. She received her Ph.D. in 2005 from the Vienna University of Technology with distinction and was awarded a Marie Curie Fellowship in 2011. After starting her professional career at Siemens Austria AG/PSE, she joined the University of Vienna as a researcher and lecturer, followed by a position as a senior researcher at ETH Zurich before joining JKU Linz in 2015. Karin Anna Hummel has long-term expertise in mobile computing, human mobility characterization, networked systems, and wireless networking focusing on the areas of energy-efficient wireless networking, mobility-aware network protocols, and networks of unmanned aerial vehicles. She has been co-operating in many international research projects, leading projects and sub-groups in joint projects, and is author of more than 80 papers.

# Conference Program & Schedule

Sunday, 3 December 2017

17.00-19.00 **Early Registration**  
@ Wyndham Grand Salzburg Conference Centre Hotel

Monday, 4 December 2017

08.00-16.00 **Registration**

09.00-12.00 **Conference Plenary**

09.00 **Welcome and Conference Opening** Salzburg 1 Room  
@Ground fl.

09.15 **Keynote I** Salzburg 1 Room  
**How does Human Ageing affect Biometric Recognition?** @Ground fl.  
**Andreas Uhl**, University of Salzburg

10.00 **Coffee Break**

10.30 **Keynote II** Salzburg 1 Room  
**Data Analytics and the Digital Transformation in Manufacturing** @Ground fl.  
**Thomas Natschläger**, Software Competence Center Hagenberg

11.15 **Panel** Salzburg 1 Room  
**Cognitive Internet of Things - a New Era of Computing and Networking** @Ground fl.  
**Karin-Anna Hummel**, Johannes Kepler University Linz

12.00 **Lunch** Foyer Salzburg 1

13.00-13.45 **Conference Plenary**

13.00 **Keynote III** Salzburg 1 Room  
**Data integration for journalism: goals, tools, and architectures** @Ground fl.  
**Ioana Manolescu**, Inria Saclay and Ecole Polytechnique

13.45 **Group Photo & Coffee Break** Foyer Salzburg 1

14.30-17.00 **Papers Presentations**

**Session iiWAS – I A : Learning and Analytics I** Salzburg 1 Room  
@Ground fl.

**Combining Aspects of Genetic Algorithms with Weighted Recommender Hybridization**  
**Juergen Mueller**  
*Germany*

**Group Rotation Management in Real-Time Crowdsourcing**  
**Katsumi Kumai, Jianwei Zhang, Yuhki Shiraishi, Daisuke Wakatsuki, Hiroyuki Kitagawa, Atsuyuki Morishima**  
*Japan*

**Automatic Recommendation of Prognosis Measures for Mechanical Components based on Massive Text Mining**  
**Jorge Martinez-Gil, Bernhard Freudenthaler, Thomas Natschläger**  
*Austria*



14.30-17.00

Papers Presentations

## **Cluster Analysis of Scientific Citation Context**

Tetsuya Nakatoh, Kenta Nagatani, Kumiko Kanekawa, Takahiro Suzuki, Sachio Hirokawa  
*Japan*

## **Medical Documents Processing for Summary Generation and Keywords Highlighting Based on Natural Language Processing and Ontology Graph Descriptor Approach**

Alexander Dudko, Tatiana Endrjukaite, Yasushi Kiyoki  
*Japan, Latvia*

## **Searching Cooking Recipes by Focusing on Common Ingredients**

Kazuma Kusu, Hyuk-In Choi, Tomoya Kambara, Taiki Kinoshita, Takamitsu Shioi, Kenji Hatano  
*Japan*

## **Session iiWAS – I B : Security I**

Pinzgau Room  
@1st fl.

## **Towards a Security and Privacy Protection Model for Semantic Query Engines**

Abdelkader Magdy, A. Baith Mohamed, Gerald Quirchmayr, Erich Schikuta,  
*Austria*

## **Modeling Trust for Service E-Marketplaces. Case Study in the Manufacturing Domain.**

Wolfgang Bauer, Jürgen Dorn  
*Austria*

## **Visualizing and Analyzing Street Crimes Using Personalized Security Information Service PRISM**

Takuhiro Kagawa, Sachio Saiki, and Masahide Nakamura  
*Japan*

## **An Index-based Secure Query Processing Scheme for Outsourced Databases**

Kento Akiyama, Chisato Shinozuka, Chiemi Watanabe, Toshiyuki Amagasa, Hiroyuki Kitagawa  
*Japan*

## **Secure Similarity Joins Using Fully Homomorphic Encryption**

Mateus S. H. Cruz, Toshiyuki Amagasa, Chiemi Watanabe, Wenjie Lu, Hiroyuki Kitagawa  
*Japan*

## **E-Mail Monitoring and Management with MS Social Bots**

Manuela Pollak, Gabriele Anderst-Kotsis  
*Austria*

## **Session iiWAS – I C : Data Systems**

Flachgau Room  
@1st fl.

## **CROISSANT: Centralized Relational Interface for Web-scale SPARQL Endpoints**

Takahiro Komamizu, Toshiyuki Amagasa, Hiroyuki Kitagawa  
*Japan*

14.30-17.00

### Papers Presentations

**P2P Deductive Databases: A System Prototype** Luciano Caroprese, Ester Zumpano  
*Italy*

**Multi-Version Indexing and modern Hardware Technologies - A Survey of present Indexing Approaches**  
Christian Riegger, Ilia Petrov, Tobias Vinçon  
*Germany*

**Write-Optimized Indexing with Partitioned B-Trees**  
Christian Riegger, Ilia Petrov, Tobias Vinçon  
*Germany*

**Improving Performance in a DBaaS Environment through the use of Resource Reservation**  
Vinicius da S. Segalin, Carina F. Dorneles, Mario A. R. Dantas  
*Brazil*

**Korea's Software Education Initiative**  
Won Kim, Ahyoung Choi, Jaehyuk Choi, Ok-Ran Jeong, Yong Ju Jung, Sangwoo Kang, Joohyung Lee, Sang-Woong Lee, Woong-Kee Loh, Joon Yoo, Seongcheol Chung, Hyungchul Lee, Sungmi Chon, YoungCheol Jeon, Han Sook Kim, Jin Whan Kim, Jung-Hun Lee, Youna Min, Geun Sil Song, Sun Ok Yang  
*Korea*

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### Session MoMM – I A : Mobile Services and Applications

Wolfgangsee Room  
@Ground fl.

**Bayesian Network Model for Estimating User Satisfaction of Multimedia Cloud Services**  
Aleksandar Karadimce, Danco Davcev  
*Macedonia*

**Urban Mobility Model Generation with Public Taxi Transportation Data**  
Dabin You, Ha Yoon Song,  
*Korea*

**One tap owner authentication on smartphones**  
Minori Inoue, Takefumi Ogawa  
*Japan*

**Proactive Damage Assessment of Cyber Attacks Using Mobile Observer Agents**  
Yosra Lakhdhar, Slim Rekhis, Noureddine Boudriga  
*Tunisia*

**Integrating Mobile and Sensory Technologies in Mathematics Education**  
Melanie Tomaschko, Markus Hohenwarter  
*Austria*

**Introducing Global and Regional Mainstreaminess for Improving Personalized Music Recommendation**  
Markus Schedl, Christine Bauer  
*Austria*

# Conference Program & Schedule

14.30-17.00

Papers Presentations

## On Optimal Robot Displacement for Efficient Coverage In WSN

Nadia Belguerche, Nouredine Lasla, Mahfoud Benchaiba, Algeria

19.00-22.00

Welcome Reception

**Salzburger Residenz** (Residenzplatz 1, 5020 Salzburg, Austria)

How to go to Salzburg Fortress:

From Wyndham Grand Salzburg To Festungsbahn (base station, Festungsgasse 4)

- 35 minutes walking distance (2,7 km), group departure from Wyndham at 6pm
- 25 minutes by taxi (depending on traffic)
- 10+10 minutes by public transport & short walk. Take buses 160 or 170 from train station to Salzburg Rathaus, then 10 minutes walking to Festungsbahn (Fortress Cable-cart station). Take the Festungsbahn up to Mönchsberg (trip included in your dinner ticket).

Tuesday, 5 December 2017

08.30-16.00

Registration

09.00-10.30

Papers Presentations

## Session iiWAS – II A : Learning and Analytics II

Salzburg 1 Room  
@Ground fl.

### A Variable-Length Motifs Discovery Method in Time Series using Hybrid Approach

Chaw Thet Zan, Hayato Yamana

*Japan*

### Emotion-based Method for Latent Followee Recommendation in Twitter

Kazuhiro Akiyama, Tadahiko Kumamoto, Akiyo Nadamoto

*Japan*

### Approach for Retrieving Similar Stock Price Patterns Using Dynamic Programming Method

Yoshihisa Udagawa

*Japan*

### Managing Uncertain Location with Probability by Integrating Absolute and Relative Location Information

Ryoma Tabata, Sachio Saiki, Masahide Nakamura

*Japan*

## Session iiWAS – II B : Distributed and IoT systems I

Pinzgau Room  
@1st fl.

### The JRC Multidisciplinary Research Data Infrastructure

Anders Friis-Christensen, Andrea Perego, Chrisa Tsinaraki, Lorenzino Vaccari,  
*Europe*

09.00-10.30

## Papers Presentations

### **Human Urban Mobility Classification in AAL Deployments using Mobile Devices**

Martin Kodyš, Pau Oliver, Joaquim Bellmunt, Mounir Mokhtari  
*Singapore*

### **Pattern-Based Semantic Composition of Optimal Process Service Plans with ODERU**

Luca Mazzola, Patrick Kapahnke, Matthias Klusch  
*Germany*

### **Session iiWAS – II C : Applications I**

Flachgau Room  
@1st fl.

### **Ex-situ Technology Appropriation of an e-Deliberation Platform in an Art Gallery**

Anna Maria Al Zubaidi-Polli, Nervo Verdezoto, Nawfal Al Zubaidi R-Smith, Gabriele Anderst-Kotsis  
*Austria, UK, Czech Republic*

### **The importance of task compatibility for web-enabled Business Intelligence success in e-government**

Rikke Gaardboe, Niels Sandalgaard, Frantisek Sudzina  
*Denmark*

### **Health Monitoring of Large Amounts of Photovoltaic Systems – A Case Study**

Alexander Kogler, Patrick Traxler  
*Austria*

### **Session MoMM – II A : Vision and Image Processing**

Wolfgangsee Room  
@Ground fl.

### **Transformational Approach for Alignment-free Image Matching Applications**

Komal Komal, Nandita Bhattacharjee, David Albrecht, Bala Srinivasan  
*Australia*

### **Efficient Content-based Image Retrieval for Position Estimation on GPU**

Yuta Kusamura, Toshiyuki Amagasa, Hiroyuki Kitagawa, Yusuke Kozawa  
*Japan*

### **Bandwidth and Resource Allocation Optimization Through a Probabilistic Algorithm for Mobile TV**

Samira Sadeghi, Ivan Mizera  
*Canada*

10.30

Coffee Break

Foyer Salzburg 1

11.00-12.00

## Papers Presentations

### **Session iiWAS – II D : Learning and Analytics III**

Salzburg 1 Room  
@Ground fl.

### **A Customizable Recommender System for Mashup Platforms**

Carsten Radeck, Klaus Meißner  
*Germany*

# Conference Program & Schedule

11.00-12.00

## Papers Presentations

### **A New Knowledge Capitalization Framework in Big Data Context**

Badr Hirchoua, Brahim Ouhbi, Bouchra Frikh  
*Morocco*

Salzburg 1 Room  
@Ground fl.

### **Extraction of Commentary tweets about news articles**

Keiichi Mizuka, Yu Suzuki, Akiyo Nadamoto  
*Japan*

### **Session iiWAS – II E : Distributed and IoT systems II**

Pinzgau Room  
@1st fl.

#### **Generic Driver Injection for Automated IoT Application Deployments**

Karoline Saatkamp, Uwe Breitenbücher, Frank Leymann, Michael Wurster  
*Germany*

#### **Integrating Environmental Sensing and BLE-based location for Improving Daily Activity Recognition in OPH**

Long Niu, Sachio Saiki, Masahide Nakamura  
*Japan*

### **Session iiWAS – II F : Applications II**

Flachgau Room  
@1st fl.

#### **IVOLUNTEER - A Digital Ecosystem for Life-long Volunteering**

Elisabeth Kapsammer, Werner Retschitzegger, Wieland Schwinger,  
Eugen Kimmerstorfer, Birgit Pröll, Johannes Schönböck, Nikolaus Dürk, Gustavo  
Rossi, Silvia Gordillo  
*Austria, Argentina*

#### **The Free-to-play Business Model**

Robert Flunger, Andreas Mladenow, Christine Strauss  
*Austria*

### **Session MoMM – II B : Recommendation Systems**

Wolfgangsee Room  
@Ground fl.

#### **Web of Social Things: Socially-Influenced Interaction Modeling**

Kashif Zia, Dinesh Kumar Saini, Umar farooq, Alois Ferscha  
*Oman, Pakistan, Austria*

#### **Context-Aware Recommendations Using Mobile P2P**

María del Carmen Rodríguez-Hernández, Sergio Ilarri, Ramón Hermoso,  
*Spain*

12.00

## Lunch

Foyer Salzburg 1

13.00-15.00

## Papers Presentations

### **Session iiWAS – II G : Learning and Analytics IV**

Salzburg 1 Room  
@Ground fl.

#### **Robust Vehicle Detection from Noisy Acceleration Signal for Bridge Monitoring Systems**

Tung Doan, Atsuhiko Takasu  
*Japan*

13.00-15.00

## Papers Presentations

### **QSMatching: an Approach to Calculate Similarity Between Questionnaires**

Richard Henrique de Souza, Carina Friedrich Dorneles  
Brazil

Salzburg 1 Room  
@Ground fl.

### **Category Reformation using Purchase Logs**

Kouga Kobayashi, Yuri Nozaki, Takayasu Fushimi, Tetsuji Satoh  
Japan

### **Public/Private Tweet Classification Method to Prevent Posting to Wrong Accounts**

Yuri Nozaki, Tetsuji Satoh  
Japan

### **Finding Similar Users Based on Their Preferences against Cosmetic Item Clusters**

Asami Okuda, Yuki Matsunami, Mayumi Ueda, Shinsuke Nakajima  
Japan

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## **Session iiWAS – II H : Web and Ontology I**

Pinzgau Room  
@1st fl.

### **LinkedPipes ETL in Use: Practical Publication and Consumption of Linked Data**

Jakub Klímek, Petr Škoda  
Czech Republic

### **Platform for Automated Previews of Linked Data**

Martin Nečaský, Jiří Helmich, Jakub Klímek  
Czech Republic

### **Recency-based Candidate Selection for Efficient Entity Linking**

Saki Nagaki, Hiroyuki Kitagawa  
Japan

### **DLP: A Web-based Facility for Exploration and Basic Modification of Ontologies by Domain Experts**

Luca Mazzola, Patrick Kapahnke  
Germany

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## **Session iiWAS – II I : Software Engineering and Services I**

Flachgau Room  
@1st fl.

### **A Simulation Environment for WS-Agreement Negotiation Compliant Strategies**

Werner Mach  
Austria

### **A Data-Oriented Architecture for Loosely Coupled Real-Time Information Systems**

Christian Vorhemus, Erich Schikuta  
Austria

### **JSReX: An Efficient JavaScript-based Middleware for Multi-platform Mobile Peer-to-Peer Networks**

Minh Le, Stephen W. Clyde  
USA



## Conference Program & Schedule

13.00-15.00

### Papers Presentations

#### **A Web Based Belief Rule Based Expert System for Assessing Flood Risk**

Md Rafiul Sabbir Hridoy, Raihan UI Islam, Mohammad Shahadat Hossain, Karl Andersson  
*Sweden, Bangladesh*

#### **Session MoMM – II C : Mobile Multimedia**

Wolfgangsee Room  
@Ground fl.

#### **A Method to Reduce Waiting Time for Heterogeneous Clients Considering Division Ratios of Video Data**

Yusuke Inoue, Yusuke Gotoh  
*Japan*

Towards Automatic Recognition of Narcolepsy with Cataplexy

Ilaria Bartolini, Andrea Di Luzio  
*Italy*

#### **Height Estimation based on Sensor Data on Smartphone**

Yusuke Sato, Shun Kurihara, Shoki Fukuda, Masato Oguchi, Saneyasu Yamaguchi,  
*Japan*

15.00

Coffee Break

Foyer Salzburg 1

15.30-17.00

### Papers Presentations

#### **Session iiWAS – II J : Learning and Analytics V**

Salzburg 1 Room  
@Ground fl.

#### **Management of Accurate Profile Matching using Multi-cloud Service Interaction**

Andreea Buga, Bernhard Freudenthaler, Jorge Martinez-Gil, Sorana Tania Nemes, Lorena Paoletti  
*Austria*

#### **Tag Recommendation Method for a Cosmetics Review Recommender System**

Yuki Matsunami, Mayumi Ueda, Shinsuke Nakajima  
*Japan*

#### **Ukiyo-e Recommender System Using Restricted Boltzmann Machine**

Jiayun Wang, Kyoji Kawagoe  
*Japan*

#### **ComicQA: Contextual Navigation Aid by Hyper-Comic Representation**

Yasuyuki Sumi  
*Japan*

#### **Session iiWAS – II K : Web and Ontology II**

Pinzgau Room  
@1st fl.

#### **Why the mapping process in ontology integration deserves Attention**

Samira Babalou, Alsayed Algergawy, Birger Lantow, Birgitta König-Ries  
*Germany*

#### **An Ontology Alignment Framework for Data-driven Microservices**

Ivan Salvadori, Bruno C. N. Oliveira, Alexis Huf, Eduardo C. Inacio, Frank Siqueira  
*Brazil*

15.30-17.00

Papers Presentations

**Context-Based Ontology for Urban Data Integration**

Michal Med, Petr Kremen  
Czech Republic

Pinzgau Room  
@1st fl.

**Automatic Semantic Enrichment of Data Services**

Bruno C. N. Oliveira, Alexis Huf, Ivan Salvadori, Frank Siqueira  
Brazil

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**Session iiWAS – II L : Software Engineering and Services II**

Flachgau Room  
@1st fl.

**Analyzing Data-Flow Implementations for Distributed Execution of Inter-Organizational Processes**

Julius Köpke, Marco Franceschetti, Johann Eder  
Austria

**Treatment Pathways as Petri Nets in Patient Workflow Management**

Svetlana Boudko, Wolfgang Leister  
Norway

**Developing, Deploying, and Operating Twelve-Factor Applications with TOSCA**

Michael Wurster, Uwe Breitenbücher, Michael Falkenthal, Frank Leymann  
Germany

**Application of Mobile Agent Technology to MicroService Architecture**

Masayuki Higashino  
Japan

**Measuring Opacity in Web Services**

Amina Bourouis, Kais Klai, Nejib Ben Hadj-Alouane  
Tunisia, France

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**Session MoMM – II D : Crowd and P2P Interactions**

Wolfgangsee Room  
@Ground fl.

**Smartphone tuning for accurate ambient noise assessment**

Willian Zamora, Carlos T. Calafate, Juan-Carlos Cano, Pietro Manzoni  
Spain

**A programming framework for Spatial Crowdsourcing**

André Sales Fonteles, Sylvain Bouveret, Jérôme Gensel  
France

**A New Approach to Mining Work in Blockchain Technologies**

Yuki Kano, Tatsuo Nakajima  
Japan

## Conference Program & Schedule

19.00-22.00

Conference Gala Dinner

**Salzburger Residenz** at Residenzplatz 1, 5020 Salzburg; is not too far from Wyndham Grand Salzburg Conference Centre.

Options on how to go from Wyndham Grand Salzburg to Residenz

- 30 minutes Walking Distance (2,2 km), group departure from Wyndham at 6:15
- 10 minutes by taxi (call +43 662 2284 or +43 662 8111, taxi hosts 4 passengers max)
- 20 minutes by public transport and short walk. Take buses 120,130,131 from train station to Mirabell Platz and walk from Mirabell Platz to Residenz (10 min walk) OR buses 160,170 from train station to Salzburg Rathaus and walk from Rathaus to Residenz (5 min walk)

Wednesday, 6 December 2017

09.00-10.30

Papers Presentations

### Session iiWAS – III A : Learning and Analytics VI

Salzburg 1 Room  
@Ground fl.

#### Characterizing Mention Mismatching Problems for Improving Recognition Results

Jean Carlos Oliveira de Abreu, Renato Fileto, Axel-Cyrille Ngonga Ngomo,  
Michael Röder, Matthias Wittwer, Horacio Saggion  
*Brazil, Germany, Spain*

#### Non-procedural Generation of Web Pages with Nested Infinite-Scrolls in SuperSQL

Masahiro Tajima, Kento Goto, Motomichi Toyama  
*Japan*

### Session iiWAS – III B : Applications III

Pinzgau Room  
@1st fl.

#### Graph Generation Method Based on Relative Value of Neighbor Edges

Kazufumi Inafuku, Takayasu Fushimi, Tetsuji Satoh  
*Japan*

#### Understanding Elderly Care: A Field-Study for Designing Future Homes

Hanna-Leena Huttunen, Simonklagegg, Nils Van Berkel, Aku Visuri, Denzil Ferreira, Raija Halonen  
*Finland*

### Session iiWAS – III C : Education I

Flachgau Room  
@1st fl.

#### KANGAROO – the Kanji Game Room

Werner Winiwarter  
*Austria*

#### Gamification in Mobile and Workplace Integrated MicroLearning

Bernhard Göschlberger, Peter A. Bruck  
*Austria*

# Conference Program & Schedule

09.00-10.30

## Papers Presentations

### Session MoMM – III A : Gamification

Wolfgangsee Room  
@Ground fl.

#### **Pervasive HoloMol: A Mobile Pervasive Game with Mixed Reality Enhanced Method of Loci**

Keisuke Irie, Mohammed Al Sada, Yuki Yamada, Kota Gushima, Tatsuo Nakajima  
Japan, Qatar

#### **Islander - Informing Leverage Points for Design of a Location-based Mobile Game promoting Physical Activity**

Peter Fikar, Michael Habiger, Hilda Tellioğlu  
Austria

#### **Game Authentication Based on Behavior Pattern**

Noureldin Ali, Yanyan Yang  
UK

10.30

Coffee Break

Foyer Salzburg 1

11.00-12.00

## Papers Presentations

### Session iiWAS – III D : Learning and Analytics VII

Salzburg 1 Room  
@Ground fl.

#### **Finding Missing Tweets using Topic Structure and Browsing time**

Yu Suzuki, Hiromitsu Ohara, Akiyo Nadamoto  
Japan

#### **Quantifying Integration Quality Using Feedback on Mapping Results**

Fernando R. S. Serrano, Alvaro A. A. Fernandes, Klitos Christodoulou  
UK, Cyprus

### Session iiWAS – III E : Learning and Analytics VIII

Pinzgau Room  
@1st fl.

#### **An extraction and unification methodology for social networks data: an application to public security**

Amal Abid, Hanen Ameer, Atika Mbarek, Amal Rekik, Salma Jamoussi, Abdelmajid Ben Hamadou  
Tunisia

#### **A rule-based DSS for transforming Automatically-generated Alignments into Information Integration Alignments**

Alexandre Gouveia, Nuno Silva, Paulo Martins  
Portugal

#### **Generating 3D virtual museum using SuperSQL**

Misato Kotani, Kento Goto, Motomichi Toyama  
Japan

# Conference Program & Schedule

11.00-12.00

Papers Presentations

## Session iiWAS – III F : Education II

Flachgau Room  
@1st fl.

### ELSABET – Enhanced Linguistic Semantic Augmented Browsing Educational Technologies

Werner Winiwarter  
*Austria*

### Web Applications and Web Services support Therapists in a Multi-Sensor Platform for Therapeutic Gaming

Rui Neves Madeira, André Antunes, Octavian Postolache  
*Portugal*

## Session Show III A

Wolfgangsee Room  
@Ground fl.

### Discovering Work Transference Networks on Workflows

Kyoungsook Kim, Minhyuck Jin, Hyun Ahn, Kwanghoon Pio Kim  
*South Korea*

### Structural Analysis of Procedural Texts for Generating Flow Graphs

Shihono Karikome, Noriko Kando, Tetsuji Satoh  
*Japan*

### Exploring Alternative Security Warning Dialog for Attracting User Attention: Evaluation of “Kawaii” effect and its Additional Stimulus Combination

Ryo Minakawa, Tetsuji Takada  
*Japan*

### Sentence Boundary Disambiguation for Indonesian Language

Syopiansyah Jaya Putra, Muhamad Nur Gunawan, Ismail Khalil, Teddy Mantoro  
*Indonesia, Austria*

12.00

Lunch

Foyer Salzburg 1

13.00-15.00

Papers Presentations

## Session Show III B

Salzburg 1 Room  
@Ground fl.

### Intelligent Film Assistant for Personalized Video Creation on Mobile Devices

Dominik Schörkhuber, Florian Seitner, Benedikt Salzbrunn, Margrit Gelautz, Georg Braun  
*Austria*

### Music Playlist Recommendation Using Acoustic-Feature Transition Inside the Songs

Shobu Ikeda, Kenta Oku, Kyoji Kawagoe  
*Japan*

### Development of a Smart Sensor System using OPC UA

SeongJoon Lee, ChunKyung Kim, JaeDuck Lee  
*South Korea*

# Conference Program & Schedule

13.00-15.00

Papers Presentations

## **Mobile Apps to improve ThErapy - The Health Practitioner in your pocket knows you**

Rui Neves Madeira, Patrícia Macedo, Carla Pereira, Helena Germano, João Ferreira  
Portugal

## **Session iiWAS – III J : Learning and Analytics IX**

### **Global Learning Network Analytics to Enhance PLN Understanding**

Bernhard Göschlberger, Matthias Steinbauer  
Austria

Pinzgau Room  
@1st fl.

### **What Do We Really Talk About When We Talk About Context in Pervasive Computing: A Review and Exploratory Analysis**

Alexander Novotny, Christine Bauer  
Austria

## **Session MoMM – III B : Mobile Networks**

### **The design of a Game-theoretic Based Multiple Access scheme for 5G Millimeter Wave Communication Networks**

Maroua Gharam, Walid Abdallah, Nouredine Boudriga  
Tunisia

Flachgau Room  
@1st fl.

### **WSN-based Border Surveillance Systems Using Estimated Known Crossing Paths**

Imen Arfaoui, Nouredine Boudriga, Khalifa Trimeche, Walid Abdallah  
Tunisia

## **Session MoMM – III C : Mobile/Web Standards and Applications**

### **Web-Enabled Discovery and Launch**

Michał Dębski, Jakub Janusz Koperwas  
Poland

Wolfgangsee Room  
@Ground fl.

### **Noise-Sensing Using Smartphones: Determining the Right Time to Sample**

Willian Zamora, Carlos T. Calafate, Juan-Carlos Cano, Pietro Manzoni  
Spain

### **Phases and Success Criteria of Collaboration in the Ubiquity Era**

Thomas Neumayr, Mirjam Augstein, Hans-Christian Jetter  
Austria

### **The OCEAN-Model for Location Based Services**

Andreas Mladenow, Niina Maarit Novak, Christine Strauss  
Austria

15.00

Coffee Break

Foyer Salzburg 1

15.30

Closing

**Best Papers Award @WAS Awards**

Salzburg 1 Room @  
Ground fl.



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.

@WAS had endorsed many conferences like the International Conference on Telematics Systems, Services and Applications (TSSA), the International Conference on Wireless Systems, Services and Applications (WSSA) organized by Bandung Institute of Technology which were held in Bandung, Indonesia in 2006 and 2007 and EATIS Conference (Euro American Conference on Telematics and Information Systems), which took place in Santa Martha, Columbia in 2006, in Portugal in 2007 and in Aracaju, Brazil in 2008. The aim of the latest was to actively promote academic collaboration between European and American universities.

In 2006, iiWAS/MoMM have expanded to run five in-conjunction workshops, SIIC2006 (Semantic Information Integration on Knowledge Discovery), MoMIR2006 (Mobile Multimedia Information Retrieval), BWCCA2006 (Broadband and Wireless Computing, Communication and Applications), SoC2006 (Systems-On-Chips), and TwUC2006 (Trustworthy Ubiquitous Computing), Emerging Research and Projects Applications Symposium, and a Master and Doctoral Colloquium.

In 2007, iiWAS/MoMM have three in-conjunction workshops, MoMIR-2007 (Mobile Multimedia Information Retrieval), BWCCA-2007 (Broadband and Wireless Computing, Communication and Applications), and TwUC2007 (Trustworthy Ubiquitous Computing), Emerging Research and Projects Applications Symposium (ERPAS-2007), and a Master and Doctoral Colloquium. These workshops are dedicated to foster emerging work and applications as well as the work of young researchers. They aim at giving their participants an interactive forum of presentation and discussion.

In 2008, iiWAS celebrates its tenth anniversary. iiWAS2008 is hosted by the Johannes Kepler University Linz. There have been a number of important achievements to mark the tenth anniversary of iiWAS. iiWAS, was for the first time, endorsed by the ACM SIGWEB and MoMM endorsed by ACM SIGMM. The proceedings of both conferences were published by the ACM and are available in its Digital Library.

In 2009 & 2010, a number of reputable international journals have also agreed to publish special issues of iiWAS and MoMM. The conferences were also endorsed by ACM SIGMM and SIGMOBILE.

In 2011, both conferences were successfully held in Ho Chi Minh City, Vietnam, hosted and organized by International University, Vietnam. Total presentation was 218 papers. In 2012, the conference is brought back to Bali, Indonesia to commemorate the 10 years of MoMM conference which took place in Indonesia when it first held by @WAS in 2003. The 15th years of iiWAS was held back in Austria, this time was in Vienna, as well as MoMM2013. It successfully organized. Endorsed by the Austrian Computer Society (OCG) and took place at University of Applied Sciences Technikum Wien.

In 2014, iiWAS and MoMM were held separately. iiWAS held in Hanoi, Vietnam in conjunction with the 5th Symposium on Information and Communication Technology (SoICT 2014) and the 8th IFIP International Conference on Research and Practical Issues of Enterprise Information Systems (CONFENIS 2014). While MoMM2014 was held in Kaohsiung, Taiwan a week later.

iiWAS2015/MoMM2015 were held in Brussel Belgium. These conferences faced a hard time when within 2 weeks before the event date terrorist actions attacked Brussel. It had almost postponed the event, but eventually this attack did not discourage loyal and committed participants to come and show the terrorist that “we never surrender” to their coward actions.

Last year, iiWAS2016 & MoMM2016 are brought back to Asia, to Singapore.

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





iiWAS2017 & MoMM2017 will be held at Wyndham Grand Salzburg Conference Centre Hotel, the modern hotel and congress house in Salzburg that is situated centrally, close to the top attractions of the Austrian “Mozart City”, the Messe Salzburg trade fair centre and Central and a few minutes-drive from the airport.

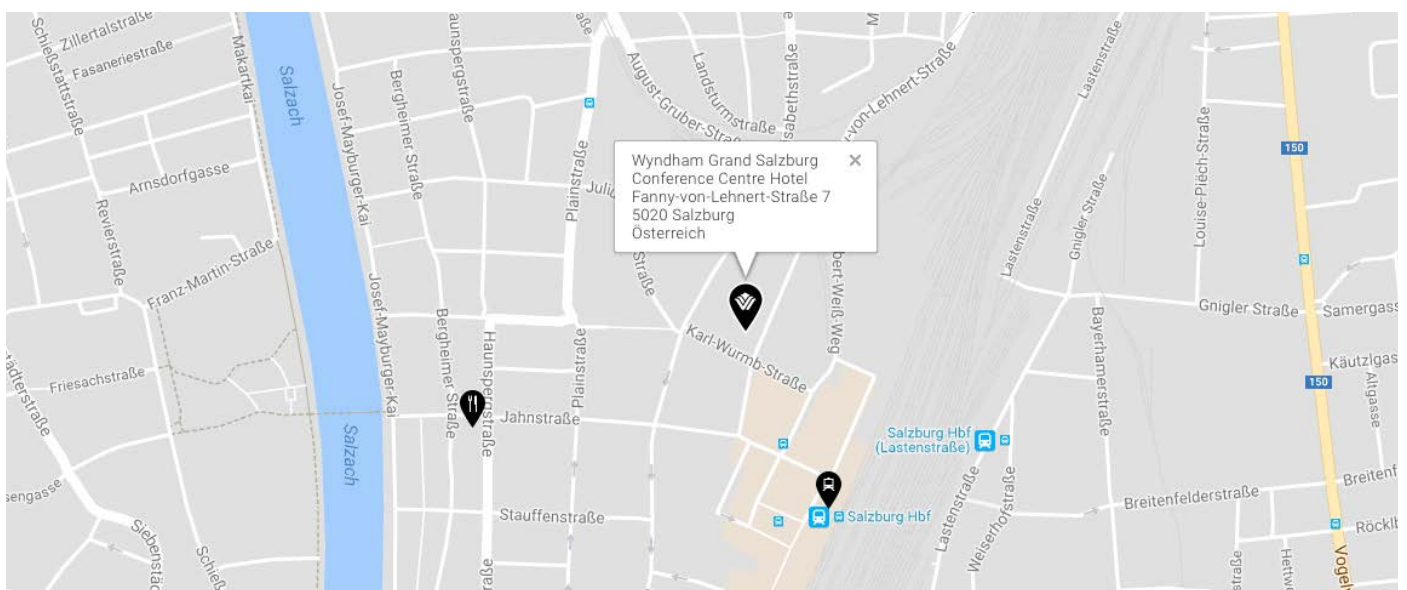


The new commercial center around the hotel provides a cinema, shops, cafés and restaurants. The historical city center of Salzburg and the famous attractions of the Austrian “Mozart city” are around 15 to 20 minutes away on foot. A lovely stroll along the Salzach River which is next to the hotel, will takes you directly to the historical old city.

### Contact Information

Wyndham Grand Salzburg Conference Centre Hotel  
Fanny-von-Lehnert-Straße 7, 5020 Salzburg, Austria  
Phone: +43 0662 46880  
Email: [info@wyndhamgrandsalzburg.com](mailto:info@wyndhamgrandsalzburg.com)  
Website: <https://www.wyndhamgrandsalzburg.com/en>

### Location :



### Welcome Reception

Will be held on the evening of the 1st day taking place at the Salzburg Residence (The City Center, Residenzplatz 1 ). Hosted by the Major of Salzburg and the Governor of Salzburg, the reception will start at 19:00 with a performance of a Chamber Concert, afterwards we will offer some finger-food and drinks.



**Salzburger Residenz** (Residenzplatz 1, 5020 Salzburg, Austria)

How to go to Salzburg Fortress:

From Wyndham Grand Salzburg To Festungsbahn (base station, Festungsgasse 4)

- 35 minutes walking distance (2,7 km), group departure from Wyndham at 6pm
- 25 minutes by taxi (depending on traffic)
- 10+10 minutes by public transport & short walk. Take buses 160 or 170 from train station to Salzburg Rathaus, then 10 minutes walking to Festungsbahn (Fortress Cable-cart station). Take the Festungsbahn up to Mönchsberg (trip included in your dinner ticket).

### Conference Gala Dinner

On the evening of the 2nd day evening, A Gala Dinner will be held at ‘der Festung Hohensalzburg’ (The Salzburg Fortress). A historical old Fortress that is sitting in the centre of Salzburg. Overlooking the city in the winter, we will see that the Christmas Seasons has started.



The Gala Dinner of “Christmas Party” will took place on one of the panoramic terraces at the fortress with its lookout views to the city of Salzburg, combined with hot chestnuts and plums wrapped up in bacon and a mug of mulled wine or red wine “punch” guarantees moments of great surprise which will remain unforgettable.



**Salzburger Residenz** at Residenzplatz 1, 5020 Salzburg; is not too far from Wyndham Grand Salzburg Conference Centre.

Options on how to go from Wyndham Grand Salzburg to Residenz

- 30 minutes Walking Distance (2,2 km), group departure from Wyndham at 6:15
- 10 minutes by taxi (call +43 662 2284 or +43 662 8111, taxi hosts 4 passengers max)
- 20 minutes by public transport and short walk. Take buses 120,130,131 from train station to Mirabell Platz and walk from Mirabell Platz to Residenz (10 min walk) OR buses 160,170 from train station to Salzburg Rathaus and walk from Rathaus to Residenz (5 min walk)



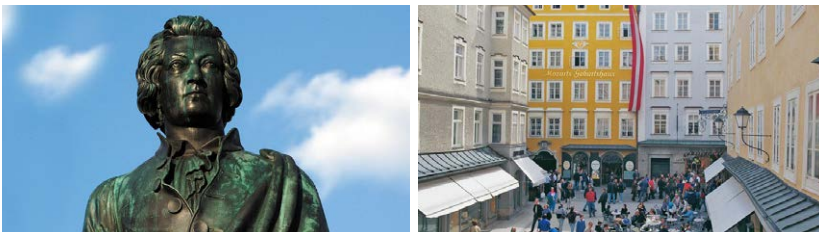
### Exploring Salzburg

Salzburg is the most beautiful city in Austria. The harmony of its landscape and architecture, as well as traditional and modern art and culture adds the special charm of this place.

### City of Mozart

Wolfgang Amadeus Mozart the Composer - was born and grew up in this city, Salzburg can fairly claim the title of City of Mozart. Mozart chocolates, Mozart rubber ducks, Mozart ice cream: There is practically nothing that doesn't sport the likeness of this city's greatest son.

Mozart fans? Some you may do: Mozart Tour, exploring and visiting Mozart life footsteps; Mozart residence, Mozart Museum, Mozart concerts, Mozart Monument even last Mozart widow's apartment which are now currently occupied by today's Café.



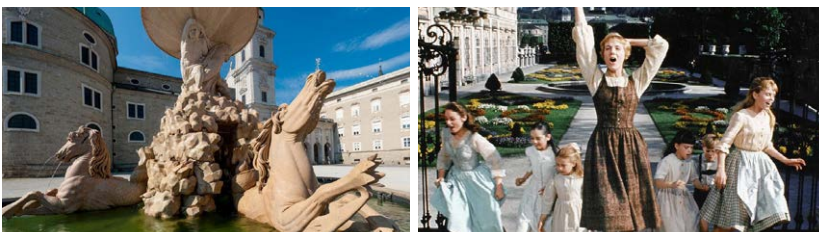
### The Sound of Music

The shooting location for the classic & famous Film "The Sound of Music" as well as the landmarks in the actual life of the Trapp family that take top reason to visit Salzburg. From Mirabell Gardens to the Felsenreitschule and Schloss Leopoldskron: Salzburg is practically teeming with "Sound of Music" locations.

Some of "Sound of Music" Experiences",

- The Sound of Music tour – by Gray Line - Salzburg Sightseeing Tours, Guided tours of the actual von Trapp family home
- The Sound of Music Musical
- The Sound of Music Puppet show at Marionete Theatre
- Fräulein Maria's Apple Strudel cooking lessons

More info check this out <https://www.salzburg.info/en/salzburg/the-sound-of-music>





## Salzburg Festival

Throughout the year almost every night there are event in entire city, that is why Slazburg also has named as the stage of the world. During winter, the Christmas market is one of the top. Some places and landmark convert into a Christmas Market. Salzburg Christmas Market, Christmas Market at Mirabellplatz, Stern Advent market & winter market, Hellbrunn Advent Market. Beside Christmas Market, enjoy the evening with many of concerts performances.

Check the date for the event you prefer at <https://www.salzburg.info/en/events/events-calendar>



## UNESCO World Heritage City

Its landscape as a baroque city have taken their deserved place on the UNESCO World Heritage List. Salzburg was very much a melting pot for the cultures and arts of northern and southern Europe. Many of the baroque buildings were created by Italian architects such as Vincenzo Scamozzi and Santino Solari. There is very good reason why Salzburg is known as the “Rome of the North”.

The vibrant flair and special charm of Salzburg can best be experienced by taking a leisurely stroll through the historical downtown district. The River Salzach actually divides it into two halves: the right side, including the Linzergasse, Platzl and Steingasse. The left side, the older section of the city, which is on the UNESCO World Heritage List, also incorporating the Kaiviertel district as well as Festungsberg and Mönchsberg mountains. Enthroned on the Festungsberg, high above Salzburg, is the emblem of this city, Hohensalzburg Fortress, built in the year 1077. You can either make your way up there on foot, or simply take a comfortable ride on the funicular.



## The Salzburg Card

It is recommended to obtain the Salzburg Card. It is very convenience, provides you with free or discounted admission to numerous sightseeing attractions, along with free use of public transportation.

You can book your Salzburg Card online or pick one up at your hotel reception, at any tourist information office around the city, at ticket bureaus or at the airport. Additional information is available from [cards@salzburg.info](mailto:cards@salzburg.info) or simply phone +43662 88987-0.



