

MDM 2011 - The 12th International Conference on Mobile Data Management
Luleå, Sweden
June 6-9, 2011

<http://www.mdmconferences.org/mdm2011/>

Conference Program

Program Monday June 6

7.30-8.30AM	Conference Registration, Alfa Foyer	
8.30-9.00AM	Workshop Opening – HIMoA, A109	Workshop Opening – SODM, A117
9:00 – 10.00AM	HIMoA, A109	SODM, A117
10.00-10.30AM	Tea Break, Alfa Foyer	
10.30AM-12PM	HIMoA, A109	SODM, A117
12.00-1.30PM	Lunch, Alfa Foyer	
1.30-3.30PM	HIMoA, A109	Ph.D. Colloquium Session 1, A117 Co-chairs: Goce Trajcevski, Jukka Riekki
3.30 – 4.00PM	Tea Break, Alfa Foyer	
4.00-5.30PM	HIMoA, A109	Ph.D. Colloquium Session 2 + Panel (“Directions in Mobility-related Research”), A117 Co-chairs: Goce Trajcevski, Jukka Riekki
6PM onwards	Welcome Reception, Alfa Foyer Short Presentation on MDM 2012, Anupam Joshi	

Program Tuesday June 7

7.30-8.30AM	Conference Registration, Alfa Foyer	
8.30-9.00AM	Opening Ceremony, A117	
9:00 – 10.00AM	Keynote Talk 1: Dr. Ton Engbersen, Member IBM Academy of Technology - Vice President EMEA, IBM Research, Switzerland. <i>“Mobile Data – Essential part of a Smarter Planet”, A117</i> Chair: Dipanjan Chakraborty	
10.00-10.30AM	Tea Break, Alfa Foyer	
10.30AM-12PM	Research Session 1: Location-based Services and Query Optimization, A117 Chair: Karl Aberer	Advanced Seminar 1: Mobile Sensor Databases Dr. Hoyoung Jeung, EPFL, Switzerland, A110 Chair: Jari Veijalainen
12.00-1.30PM	Lunch, Centrum restaurant (B building)	
1.30-3.30PM	Research Session 2: Moving Objects and Trajectories, A117 Chair: Ralf Hartmut Güting	Industry Session, A110 Chair: Chatschik Bisdikian
3.30 – 4.00PM	Tea Break, Alfa Foyer + Poster Displays	
4.00-5.30PM	Research Session 3: Mobility, A117 Chair: Anupam Joshi	Poster Session, A110 Chair: Daniela Nicklas
6PM - ~2AM	Mid Night Sun Trip (light dinner, sight seeing to sami culture center, museum visit..). Buses depart from Teknikens Hus 6.00pm	

Program

Wednesday June 8

8.00-9.00AM	Conference Registration, Alfa Foyer	
9:00 – 10.00AM	Keynote 2: Fosca Giannotti, National Research Council at Pisa, Italy. <i>“Mobility, Data Mining and Privacy Understanding Human Movement Patterns from Trajectory Data”, A117</i> Chair: Vana Kalogeraki	
10.00-10.30AM	Tea Break, Alfa Foyer	
10.30AM-12PM	Research Session 4: Personalization and Privacy, A117 Chair: Shonali Krishnaswamy	Advanced Seminar 2 (Part 1): Participatory Sensing: Crowdsourcing Data from Mobile Smartphones in Urban Spaces Dr. Salil Kanhere, University of New South Wales, Australia, A110 Chair: Karl Aberer
12.00-1.30PM	Lunch, Centrum restaurant (B building)	
1.30-3.00PM	Research Session 5: Applications, A117 Chair: Hua Lu	Advanced Seminar 2 (Part 2): Participatory Sensing: Crowdsourcing Data from Mobile Smartphones in Urban Spaces Dr. Salil Kanhere, University of New South Wales, Australia, A110 Chair: Karl Aberer
3.00-4.30PM	Research Session 6: Vehicular and Mobile Networks, A117 Chair: Sanjay Madria	Demo Session, Alfa Foyer Hui Lei, Claudia Roncancio
6PM onwards	Conference Dinner and Boat Trip, Buses depart from university Teknikens Hus at 4.45pm <i>Announcement of Best Paper Awards</i>	

Program

Thursday June 9

8.00-8.30AM	Conference Registration, Alfa Foyer	
8.30-10.00AM	Research Session 7: Wireless Networks, A117 Chair: Demetris Zeinalipour-Yazti	Advanced Seminar 3: Advanced Car Navigation Services Mika Luimala (RFMedia Laboratory, Finland), Joni Jämsä (RFMedia Laboratory, Finland), A110 Chair: Hoyoung Jeung
10.00-10.30AM	Tea Break, Alfa Foyer	
10.30-12.00PM	Panel : Challenges for mobile data management in the era of cloud and social computing. Panelists: <i>Chatschik Bisdikian (IBM T. J. Watson Research Center, USA), Bernhard Mitschang (University of Stuttgart, Germany), Fosca Giannotti, CNR Pisa, Italy, Vincent S. Tseng (National Cheng Kung University, Taiwan)</i> Panel moderator: <i>Claudio Bettini (University of Milan, Italy and EveryWare Technologies, Italy), A117</i>	
12.00-1.30PM	Lunch, Centrum restaurant (B building)	
1.30-3.00PM	Research Session 8.1: Pervasive Computing, A117 Chair: Kåre Synnes	
3.00-3.30PM	Tea Break, Alfa Foyer	
3.30PM-4.30PM	Research Session 8.2: Pervasive Computing, A117 Chair: Claudio Bettini	
4.30PM-5.30PM	Closing Keynote 3: Michael J. Franklin, University of California, Berkeley, USA. <i>"Mobile Data Management – A Dozen Years Later", A117</i> Chair: Mohamed Mokbel	
5.30PM	Closing Ceremony, A117	

HIMoA Workshop papers

Using Continua Health Alliance Standards - Implementation and Experiences of IEEE 11073. *Marian Benner (University of Duisburg Essen, Germany), Lothar Schöpe (Fraunhofer Institut Software- und Systemtechnik, Germany)*

Managing health information flows with a reconfigurable component-based middleware. *Jatinder Singh (University of Cambridge, UK), Jean Bacon (University of Cambridge, UK)*

APHR: Annotated Personal Health Record for Enabling Pervasive Healthcare, *Mihaela Brut (Institut de Recherche en Informatique de Toulouse, France), Dana Al-Kukhun (Institut de Recherche en Informatique de Toulouse, France), André Peninou (Institut de Recherche en Informatique de Toulouse, France), Marie-Françoise Canut (Institut de Recherche en Informatique de Toulouse, France), Florence Sèdes (Institut de Recherche en Informatique de Toulouse, France)*

Architectural choices for mHealth services in Finland and Cameroon, *Jari Veijalainen (University of Jyväskylä, Finland), Veikko Hara (University of Jyväskylä, Finland), Bisong Holmes (University of Jyväskylä, Finland)*

Mobile Emergency System and integration, *Samir El-Masri (King Saud University, Kingdom of Saudi Arabia), Baseema Saddik (King Saud Bin AbdulAziz University for Health Sciences, Kingdom of Saudi Arabia)*

Your Floor Knows Where You Are: Sensing and Acquisition of Movement Data, *Philipp Leusmann (RWTH Aachen University, Germany), Christian Möllering (RWTH Aachen University, Germany), Martina Ziefle (RWTH Aachen University, Germany), Lars Klack (RWTH Aachen University, Germany), Kai Kasugai (RWTH Aachen University, Germany), Bernhard Rumpe (RWTH Aachen University, Germany)*

Towards a Mobile Health Context Prediction: Sequential Pattern Mining in Multiple Streams, *Marwan Hassani (RWTH Aachen University, Germany), Thomas Seidl (RWTH Aachen University, Germany)*

A Universal Tool for Mobile Long-Time Recording, Monitoring and Analysis of Bio-Signals, *Christoph Rasim (RWTH Aachen University, Germany), Sandra Geisler (RWTH Aachen University, Germany), Jiri Silny (RWTH Aachen University, Germany)*

Complete Program at: <http://www.dbis.rwth-aachen.de/HIMoA2011/>

SODM Workshop papers

A Framework for Query Processing over Compressed Knowledge Bases, *Floriano Scioscia (Politecnico di Bari, Italy), Eufemia Tinelli (Università di Bari, Italy)*

Enabling Structured Queries over Unstructured Documents, *Christoph Quix (RWTH Aachen University, Germany), Fisnik Kastrati (RWTH Aachen University, Germany), Xiang Li (RWTH Aachen University, Germany), Mohammadreza Khelghati (RWTH Aachen University, Germany)*

Learning and sharing technology in informal contexts: *Domenico Camarda (Technical University of Bari, Italy), Dino Borri (Technical University of Bari, Italy), Laura Grassini (Technical University of Bari, Italy)*

Framework and Implementation of a Knowledge Management System for Aerospace Collaborative Working Environments, *Hossam Faris (University of Salento, Italy), Salvatore Totaro (University of Salento, Italy), Angelo Corallo (University of Salento, Italy)*

Complete Program at: <http://pamir.dia.uniroma3.it:8080/SODM2011/>

Ph.D. Colloquium Session 1

Co-chairs: Goce Trajcevski, Jukka Riekk

Data Types and Operations for Spatio-Temporal Data Streams. *Kresimir Krizanovic (University of Zagreb, Croatia), Zdravko Galic (University of Zagreb, Croatia), Mitra Baranovic (University of Zagreb, Croatia)*

Managing Moving Objects in Spatio-Temporal Data Streams. *Emir Meskovic (University of Tuzla, Bosnia and Herzegovina), Zdravko Galic (University of Zagreb, Croatia), Mitra Baranovic (University of Zagreb, Croatia)*

Inferring Multiple Activities of Mobile Users with Activity Algebra. *Saguna Saguna (Monash University, Australia)*

Mobility Prediction based on Machine Learning. *Theodoros Anagnostopoulos (University of Athens, Greece), Christos Anagnostopoulos (University of Athens, Greece), Stathes Hadjiefthymiades (University of Athens, Greece)*

Enhancement of Semantic Business Processes with Information Profiles Application of Mobile Context Information. *Jacek Szymanski (Poznań University of Economics, Poland)*

Towards a Safe Realization of Privacy-Preserving Data Publishing Mechanisms. *Tristan Allard (INRIA, France)*

Ph.D. Colloquium Session 2

Co-chairs: Goce Trajcevski, Jukka Riekk

Dynamic Indexing System for Spatio Temporal Queries in Wireless Sensor Networks. *Mohamed M. Ali Mohamed (University of Illinois-Chicago, USA), Ashfaq Kohkhar (University of Illinois-Chicago, USA)*

Energy Efficient, Adaptive and Collaborative Data Sampling in Wireless Sensor Networks. *Tommy Szalapski (Missouri S&T, USA), Sanjay Madria (Missouri S&T, USA)*

Research 1: Location-based services and Query Optimization

Chair: Karl Aberer

31. MD-HBase: A Scalable Multi-dimensional Data Infrastructure for Location Aware Services, *Shoji Nishimura (NEC Corporation, Japan), Sudipto Das (UC Santa Barbara, USA), Divyakant Agrawal (UC Santa Barbara, USA), Amr El Abbadi (UC Santa Barbara, USA)*
38. DiSCO: A Distributed Semantic Cache Overlay for Location-based Services, *Carlos Lübbe (University of Stuttgart, Germany), Andreas Brodt (University of Stuttgart, Germany), Nazario Cipriani (University of Stuttgart, Germany), Matthias Großmann (University of Stuttgart, Germany), Bernhard Mitschang (University of Stuttgart, Germany)*
30. Multi-Objective Query Optimization in Smartphone Social Networks, *Andreas Konstantinidis (University of Cyprus, Cyprus), Demetrios Zeinalipour-Yazti (University of Cyprus, Cyprus), Panayiotis Andreou (University of Cyprus, Cyprus), George Samaras (University of Cyprus, Cyprus)* (short)
63. Towards Online Multi-Model Approximation of Time Series, *Thanasis Papaioannou (EPFL, Switzerland), Mehdi Riahi (EPFL, Switzerland), Karl Aberer (EPFL, Switzerland)* (short)

Research 2: Moving Objects and Trajectories

Chair: Ralf Hartmut Güting

9. Finding Regions of Interest from Trajectory Data, *Md Uddin (UC Riverside, USA), Chinya Ravishankar (UC Riverside, USA), Vassilis Tsotras (UC Riverside, USA)*
46. Efficient Online Algorithms for the Polygonal Approximation of Trajectory Data, *Alexander Kolesnikov (University of Eastern Finland, Finland)*
73. Exploring Spatial-Temporal Trajectory Model for Location Prediction, *Wen-Chih Peng (National Chiao Tung University, Taiwan)*
115. DIME: Disposable Index for Moving Objects, *Jing Dai (IBM T. J. Watson Research Center, USA), Chang-Tien Lu (Virginia Tech, USA)*

Research 3: Mobility

Chair: Anupam Joshi

- 28. Disclosure-free GPS Trace Search in Smartphone Networks, *Demetrios Zeinalipour-Yazti (University of Cyprus, Cyprus), Christos Laoudias (University of Cyprus, Cyprus), Maria Andreou (Open University of Cyprus, Cyprus), Dimitrios Gunopulos (University of Athens, Greece)*
- 52. Optimizing Sensor Data Acquisition for Energy-Efficient Smartphone-based Continuous Event Processing, *Lipyeow Lim (University of Hawaii-Manoa, USA), Archan Misra (Singapore Management University, Singapore)*
- 112. Optimizing the Energy consumption of Continuous Query processing with Mobile Clients, *Panayiotis Neophytou (University of Pittsburgh, USA), Jesse Szwedko (University of Pittsburgh, USA), Panos Chrysanthis (University of Pittsburgh, USA), Alexandros Labrinidis (University of Pittsburgh, USA), Mohamed Sharaf (The University of Queensland, Australia)* (short)
- 87. A Multi-tiered Architecture for Content Retrieval in Mobile Peer-to-Peer Networks, *Sriram Chellappan (Missouri S&T, USA), Neelanjana Dutta (Missouri S&T, USA), Abhinav Saxena (Missouri S&T, USA), Raghavendra Kotikalapudi (Missouri S&T, USA)* (short)

Research 4: Personalization and Privacy

Chair: Shonali Krishnaswamy

- 72. Personalizing Mobile Web Search for Location Sensitive Queries, *Ourdia Boudghaghen (IRIT-University Paul Sabatier, France), Lynda Tamine (IRIT-University Paul Sabatier, France), Mohand Boughanem (IRIT-University Paul Sabatier, France)*
- 83. Effective Privacy-Preserving Online Route Planning, *Carmen Ruiz Vicente (Aalborg University, Denmark), Ira Assent (Aarhus University, Denmark), Christian Jensen (Aarhus University, Denmark)*
- 75. Context-Aware User's Interests for Personalizing Mobile Search, *Ourdia Boudghaghen Ourdia Boudghaghen (IRIT-University Paul Sabatier, France), Lynda Tamine (IRIT-University Paul Sabatier, France), Mohand Boughanem (IRIT-University Paul Sabatier, France)* (short)
- 79. Integrating Identity, Location, and Absence Privacy in Context-aware Retrieval of Points of Interest, *Daniele Riboni (Università degli Studi di Milano, Italy), Linda Pareschi (Università degli Studi di Milano, Italy), Claudio Bettini (Università degli Studi di Milano, Italy)* (short)

Research 5: Applications

Chair: Hua Lu

- 49. Reaching Available Public Parking Spaces in Urban Environments using Ad-hoc Networking, *Vasilis Verroios (University of Athens, Greece), Alexis Delis (University of Athens, Greece), Vasilis Efstathiou (University of Athens, Greece)*
- 50. Trip-Mine: An Efficient Trip Planning Approach with Travel Time Constraints, *Eric Hsueh-Chan Lu (National Cheng Kung University, Taiwan), Chih-Yuan Lin (National Cheng Kung University, Taiwan), Vincent S. Tseng (National Cheng Kung University, Taiwan)*
- 16. Message-Based Patient Guidance in Day-Hospital, *Patrick Lamber (Free University of Bozen-Bolzano, Italy), Bernd Ludwig (Free University of Bozen-Bolzano, Italy), Francesco Ricci (Free University of Bozen-Bolzano, Italy), Floriano Zini (Free University of Bozen-Bolzano, Italy), Manfred Mitterer (Franz Tappeiner Hospital, Italy)* (short)
- 86. A Mobile Data Management Architecture for Interoperability of Resource and Context Data, *Andreas Brodt (University of Stuttgart, Germany), Bernhard Mitschang (University of Stuttgart, Germany)* (short)

Research 6: Vehicular and Mobile Networks

Chair: Sanjay Madria

- 65. Decentralized pull-based information gathering in vehicular networks using GeoVanet, *Thierry Delot (University of Valenciennes, France), Nathalie Mitton (INRIA, France), Sergio Ilarri (University of Zaragoza, Spain), Thomas Hien (University of Valenciennes, France)*
- 111. A time/space efficient XML filtering system for mobile environment, *Xiaochuan Yu (The Hong Kong Polytechnic University, China), Alvin Toong Shoon Chan (The Hong Kong Polytechnic University, China)*
- 66. Collaborative Editing of Structured Data on Mobile Devices, *Nicholas Palmer (Vrije Universiteit, The Netherlands), Henri Bal (Vrije Universiteit, The Netherlands), Roelof Kemp (Vrije Universiteit, The Netherlands), Thilo Kielmann (Vrije Universiteit, The Netherlands), Emilian Miron (Vrije Universiteit, The Netherlands)* (short)
- 74. Selecting Relevant Sensor Providers for Meeting “Your” Quality Information Needs, *Georgios Tychogiorgos (Imperial College London, UK), Chatschik Bisdikian (IBM Research, USA)* (short)

Research 7: Wireless Networks

Chair: Demetris Zeinalipour-Yazti

4. Context Compression: using Principal Component Analysis for Efficient Wireless Communications, *Christos Anagnostopoulos (University of Athens, Greece), Stathes Hadjiefthymiades (University of Athens, Greece)*
67. Online Clustering of Distributed Streaming Data using Belief Propagation Techniques, *Maria Halkidi (University of Piraeus, Greece), Jordanis Koutsopoulos (University of Thessaly and CERTH, Greece)*
106. Decentralized Change Detection in Wireless Sensor Network Using DFT-based Synopsis, *Dang-Hoan Tran (Ilmenau University of Technology, Germany), Jin Yang (Ilmenau University of Technology, Germany), Kai-Uwe Sattler (Ilmenau University of Technology, Germany)*

Research 8.1: Pervasive Computing

Chair: Kåre Synnes

96. Energy-efficient Real-Time Data Compression in Wireless Sensor Networks, *Thomas Szalapski (Missouri S&T, USA), Sanjay Madria (Missouri S&T, USA)*
56. Improving Wi-Fi Based Indoor Positioning with Bluetooth Add-ons, *Dovydas Sabonis (Aalborg University, Denmark), Christian Jensen (Aarhus University, Denmark), Hua Lu (Aalborg University, Denmark)*
61. Contextual grouping: discovering real-life interaction types from longitudinal Bluetooth data, *Trinh Minh Tri Do (Idiap Research Institute, Switzerland), Daniel Perez (Idiap Research Institute, Switzerland)*

Research 8.2: Pervasive Computing

Chair: Claudio Bettini

36. A flexible context aware reasoning approach for IoT applications, *Cristina Barbero (Reply S.p.A., Italy), Paola Dal Zovo (Reply S.p.A., Italy), Barbara Gobbi (Reply S.p.A., Italy)*
80. Acquisition and Presentation of Diverse Spatial Context Data for Blind Navigation, *Bernhard Schmitz (University of Stuttgart, Germany), Susanne Becker (University of Stuttgart, Germany), André Blessing (University of Stuttgart, Germany), Matthias Großmann (University of Stuttgart, Germany)*

Demo Session

Hui Lei, Claudia Roncancio

Infrastructures for Research on Multimodal Moving Objects, *Jianqiu Xu (Fern University, Germany), Ralf Guting (Fern University, Germany)*

vHike – A Dynamic Ride-sharing Service for Smartphones, *Christoph Stach (University of Stuttgart, Germany), Andreas Brodt (University of Stuttgart, Germany)*

Visualization of Energy Consumption of Continuous Query Processing with Mobile Clients, *Jesse Szwedko (University of Pittsburgh, USA), Panayiotis Neophytou (University of Pittsburgh, USA), Panos Chrysanthis (University of Pittsburgh, USA), Alexandros Labrinidis (University of Pittsburgh, USA), Mohamed Sharaf (The University of Queensland, Australia)*

Deploying In-Network Data Analysis Techniques in Sensor Networks, *George Valkanas (University of Athens, Greece), Alexis Kotsifakos (University of Athens, Greece), Dimitrios Gunopulos (University of Athens, Greece), Ixent Galpin (University of Manchester, UK), Alasdair Gray (University of Manchester, UK), Alvaro Fernandes (University of Manchester, UK), Norman Paton (University of Manchester, UK)*

Hand-OLAP: Semantics-aware Compression of Data Cubes for Effective and Efficient OLAP in Mobile Environments, *Alfredo Cuzzocrea (ICAR-CNR & University of Calabria, Italy), Domenico Sacca (ICAR-CNR & University of Calabria, Italy)*

Poster Session

Chair: Daniela Nicklas

Efficient Algorithms for Top-k Keyword Queries on Spatial Databases, *Ting Wang (Tsinghua University, China), Guoliang Li (Tsinghua University, China)*

A kNN Query Processing Method in Mobile Ad Hoc Networks, *Yuka Komai (Osaka University, Japan), Yuya Sasaki (Osaka University, Japan), Takahiro Hara (Osaka University, Japan), Shojiro Nishio (Osaka University, Japan)*

RA-SAX: Resource-Aware Symbolic Aggregate approXimation for Mobile ECG Analysis, *Hossein Tayebi (Monash University, Australia), Shonali Krishnaswamy (Monash University, Australia), Agustinus Waluyo (Monash University, Australia), Abhijat Sinha (Monash University, Australia), Mohamed Gaber (University of Portsmouth, UK)*

ATM: Automated Trust Management for Mobile Ad-hoc Networks Using Support Vector Machine, *Wenjia Li (University of Maryland-Baltimore County, USA), Anupam Joshi (University of Maryland-Baltimore County, USA), Tim Finin (University of Maryland-Baltimore County, USA)*

Towards Multicore Processing of Spatio-Temporal Range Queries, *Goce Trajcevski (Northwestern University, USA), Anan Yaagoub (Northwestern University, USA), Peter Scheuermann (Northwestern University, USA)*

Adaptive Information Delivery in Data-Intensive Sensor Networks, *Divyasheel Sharma (ABB Corporate Research Center, India), Vladimir Zadorozhny (University of Pittsburgh, USA)*

Towards a Robust Concurrent and Interleaved Activity Recognition, *Saguna Saguna (Monash University, Australia), Arkady Zaslavsky (Lulea University of Technology, Sweden), Dipanjan Chakraborty (IBM Research, India)*

Industry Session

Chair: Chatschik Bisdikian

On the Fly Proxy Generation for Home Devices Interoperability, *Charbel EL KAED, (France Telecom R&D, Grenoble University, France), Yves DENNEULIN (Grenoble University, France)*

COSMOS: A Platform for Seamless Mobile Services in the Cloud, *Jagan Sankaranarayanan (NEC Laboratories America, USA), Hakan Hacigumus (NEC Laboratories America, USA), Junichi Tatemura (NEC Laboratories America, USA)*

Data Stream Processing on Real-time Mobile Advertisement. Ericsson Research Approach, *Manuel Couceiro (Ericsson Research Madrid Branch, Spain), David Suarez (Ericsson Research Madrid Branch, Spain), David Manzano (Ericsson Research Madrid Branch, Spain), Luis Lafuente (Ericsson Research Madrid Branch, Spain)*

A Method for providing Content and Service Recommendations using Social Information from Telecommunications Networks, *Mattias Lidström (Ericsson Research AB, Sweden), Michel Shahan (Royal Institute of Technology, Denmark), Martin Svensson (Ericsson Research AB, Sweden)*