

Detailed Conference Program

Monday, 27 October

8:00am - 8:30am. Heritage Room. Plenary: Conference Welcome.

8:30am - 9:30am. Plenary.

Keynote. Vasant Dhar. Data Science and Prediction

9:45am - 11:15am. Heritage A.

SCBC Session 1. Software Models & Knowledge Representations

Chair: Peter Chen

1. B. Minnery, *Knowledge Representation in Neural Systems*
2. P. Ng, *Software Engineering Models*
3. C. Woody, *Security Engineering Risk Analysis (SERA) Overview*
4. D. Smith, *Testing Pitfalls & OPEN Modeling Languages*
5. H. C. Mayr, *Generating domain specific modeling languages based on a metamodeling platform*

9:45am - 11:15am. Suwanee.

ER Session 1. Data on the Web. Chair: Sebastian Link

1. A. Tort and A. Olivž, *A Computer-Guided Approach to Website Schema.org Design*
2. K. Stefanidis, I. Chrysakis and G. Flouris, *On Designing Archiving Policies for Evolving RDF Datasets on the Web*
3. S. Li, J. Wang and X. Wang, *Ontology-Based Spelling Suggestion for RDF Keyword Search*

9:45am - 11:15am. Heritage C.

ER Session 2. Unstructured Data. Chair: Xavier Franch

1. T. N. Le, Z. Bao and T. W. Ling, *Schema-Independence in XML Keyword Search*
2. P. Janga and K. Davis, *Mapping Heterogeneous XML Document Collections to Relational Databases*
3. E. G. Barros, A. Laender, M. M. Moro and A. S. Da Silva, *MKStream: An Efficient Algorithm for Processing Multiple Keyword Queries over XML Streams*

9:45am - 11:15am. Augusta.

Tutorial: K. Karlapalem and R. Pisipati, *Meta-models and Meta-execution Models*
(continues at 11:30am)

11:30am - 12:45pm. Heritage A.

SCBC Session 2. Cyber and Big Data. Chair: Peter Chen

1. M. Hsu, *Advanced visual analytics interfaces for adverse event detection*
2. J. McCurley, *Quantifying Uncertainty in Early Lifecycle Cost Estimation (QUELCE)*
3. I. Gorton, *QuABase: A Dynamic Software Engineering Knowledgebase for Building Big Data Systems*
4. H. Yasar, *High-Volume Data Collection and Real-Time Analytics Using Redis*
5. E. Triantaphyllou, Topic to be decided. (Tentative)

11:30am - 12:45pm. Suwanee.

ENMO. Session 1. Invited Talks

1. W. E. McCarthy, *ER or ERP, Which came first?*
2. G. Guizzardi, *What's in a Service?: An Ontological Perspective*

Detailed Conference Program

11:30 - 12:45. Heritage C.

SeCoGIS. Session 1. Invited Talk. S. Guhathakurta. *Leveraging GeoSpatial Technologies in Planning for Sustainable Urban Futures.*

11:30am - 12:45pm. Augusta.

Tutorial: K. Karlapalem and R. Pisipati. *Meta-models and Meta-execution Models* (continued from the previous session)

12:45pm - 2:00pm. Plenary. Buckhead Ballroom

Plenary: Luncheon Debate. Grand Challenges for ER: Then and Now. Ephraim McLean, Stuart Madnick and Peter Chen. (Referee: Sandeep Purao)

2:00pm - 3:30pm. Heritage A.

SCBC Session 3. Cyber Security. Chair: Peter Chen

1. M. Collins, *System Dynamic Models of Inside Threats*
2. J. Haller, *Resilience Models in Cybersecurity and Critical Infrastructure Protection*
3. N. Multari, *Asymmetric Resilience Cyber Security Models*
4. T.C. Ting, *Representing semantics of Cyber Security policies by ER Models*

2:00pm - 3:30pm. Suwanee.

ENMO. Session 2. Chair: Sergio de Cesare and Guido Geerts

1. V. Kulkarni, T. Clark, S. Barat and B. Barn, *Model Based Enterprise Simulation and Analysis: A pragmatic approach reducing the burden on experts*
2. M. Verdonck, F. Gailly and G. Poels, *3D vs. 4D ontologies in Enterprise Modeling*
3. V. A. Pinto, C. L. de Rezende Rohlf's and F. S. Parreiras, *Applications of Ontologies in Enterprise Modelling: A Systematic Mapping Study*

2:00pm - 3:30pm. Heritage C.

Educational Symposium. Session 1. Chair: Lois Delcambre

Participants/ Panelists:

Karen Davis, Giancarlo Guizzardi, Nenad Jukic, Shamkant Navathe

2:00pm - 3:30pm. Augusta.

Doctoral Consortium Session 1. Chair: Carson Woo

1. Invited Talk: I.Y. Song, *Tips for Developing your Brand and Research Career*
2. Panel: Stephen Liddle, Shamkant Navathe, Sudha Ram, Il-Yeol Song
3. G. Zhang, Ph.D. Candidate, Penn State University. *Conflict Management in Organizations: A Conceptual Model*

3:45pm - 5:15pm. Heritage A.

ER Session 3. City & Urban Informatics.

(Sponsored by Singapore Management University)

1. K. Fleming and K. Weldemariam, *From Needs to Services: Delivering Personalized Water Assurance Services in Urban Africa*
2. Y. Tian and G. Cai, *Modeling Claim-making Process in Democratic Deliberation*

Detailed Conference Program

3. O. Akhigbe, M. Alhaj, D. Amyot, O. Badreddin, E. Braun, N. Cartwright, G. Richards and G. Mussbacher, *Creating Quantitative Goal Models: Governmental Experience*

3:45pm - 5:15pm. Suwanee.

Panel. Conceptual Modeling for Extreme Events. Chair: Raj Sharman

3:45pm - 5:15pm. Heritage C.

ER Session 4. Database Design. Chair: Veda Storey

1. J. Hu and M. Liu, *A New Approach for N-ary Relationships in Object Databases*
2. F. Bugiotti, L. Cabibbo, P. Atzeni and R. Torlone, *Database Design for NoSQL Systems*
3. X. Oriol, E. Teniente and A. Tort, *Fixing up Non-executable Operations in UML/OCL Conceptual Schemas*

3:45pm - 5:15pm. Augusta.

Doctoral Consortium Session 2.

1. M. Verdonck, Ph.D. Candidate, Ghent University. *Providing Guidance for Conceptual Modelling Using Core Ontologies.*
2. Dippy Aggarwal, Ph.D. Candidate, University of Cincinnati. *Building Metadata Bridges from the Enterprise World to the Cloud Platforms*
3. Kunal Malhotra, Ph.D. Candidate, Georgia Institute of Technology. *A Personalized Decision Support System for Medical Treatment Planning*

Tuesday, 28 October

8:30am - 9:30am. Plenary. Heritage Room

Keynote. Antonio Furtado. A Semiotic Approach to Conceptual Modeling.
Peter Chen Award Recipient.

9:45am - 11:15am. Heritage A.

ER Session 5. Graphs and Networks. Chair: Mengchi Liu

1. Q. Wang, *Analytical ER Model: Towards a Conceptual View of Network Analysis*
2. R. De Virgilio, A. Maccioni and R. Torlone, *Model-driven design of graph databases*
3. S. Britell, L. Delcambre and P. Atzeni, *Generic Data Manipulation in a Mixed Global/Local Conceptual Model*

9:45am - 11:15am. Suwanee.

SeCoGIS. Session 2. Chair: Andrea Ballatore

1. J. Wu, C. Claramunt and M. Deng, *Towards a Qualitative Representation of Movement*
2. V. M.V. Gunturi and S. Shekhar, *Lagrangian Xgraphs: A logical data-model for Spatio-temporal Network Data: A Summary*
3. G. Zárate, J. Lisboa-Filho and C. Sperber, *Using the Model-Driven Architecture Approach for Geospatial Databases Design of Ecological Niches and Potential Distributions*

9:45am - 11:15am. Heritage C.

ER Session 6. Data Management for Enterprise Architecture

Chair: Colette Rolland

Detailed Conference Program

1. O. Akhigbe, D. Amyot and G. Richards, *A Framework for a Business Intelligence-Enabled Adaptive Enterprise Architecture*
2. H. P. Sousa and J. C. S. Do Prado Leite, *Modeling Organizational Alignment*
3. S. Ghavnavati, L. Humphreys, G. Boella, L. Di Caro and L. Robaldo, *Business Process Compliance with Multiple Regulations*
4. M. A. Teruel, R. Tard'o, E. Navarro, A. Matž, P. Gonzalez, J. Trujillo and R. Munoz Terol, *CSRMLABI: A Goal-Oriented Requirements Approach for Collaborative Business Intelligence*

11:30am - 12:45am. **Outside Heritage.**

Research Demos.

1. H. Kondylakis, D. Plexousakis, V. Hrgovcic, R. Woitsch, M. Premm and M. Schuele, *Personal eHealth Knowledge Spaces through Models, Agents and Semantics*
2. P. Lionakis, K. Stefanidis and G. Koloniari, *SQTime: Time-enhanced Social Search Querying*
3. G. Sedrakyan, M. Snoeck, *Lightweight semantic prototyper for conceptual modeling.*

11:30am - 12:45am. **Suwanee.**

SeCoGIS. Session 3. Chair: Andrea Ballatore

1. L. E. O. Lizardo and C. A. Davis Jr., *OMT-G Designer: A web tool for modeling geographic databases in OMT-G*
2. A. T. Hlaing, H. Htoo and Y. Ohsawa, *Efficient Reverse kNN Query Algorithm on Road Network Distances Using Partitioned Subgraphs*
3. L. Maughan, M. Mckenney and Z. Benchley, *A Model of Aggregate Operations for Data Analytics over Spatiotemporal Objects*

11:30am - 12:45pm. **Heritage C.**

QoM&MoQ. Session 1. Modeling of Quality. Chair: Samira Si-Said Cherfi

1. D. W. Embley, S. Liddle and S. N. Woodfield, *A Superstructure for Models of Quality*
2. M. Owonibi and B. Koenig-Ries, *A Quality Management Workflow Proposal for a Biodiversity Data Repository*
3. MoQ Research questions guided discussion

12:45pm - 2:00pm. **Plenary.** Buckhead Ballroom

Luncheon Speaker. Sam Holcman. Enterprise Architecture: State of the Art.

2:00pm - 3:30pm. **Heritage A.**

ER Session 7 New Modeling Languages – I. Chair: Carson Woo

1. J. Horkoff, F. B. Aydemir, F. Li, T. Li and J. Mylopoulos, *Evaluating Modeling Languages: An Example from the Requirements Domain*
2. S. Ingolfo, I. Jureta, A. Siena, A. Perini and A. Susi, *Nomos 3: A Language for Legal Compliance of Roles and Requirements*
3. B. Livieri, M. Bochicchio and M. Zappatore, *Towards an "XBRL Ontology" Extension for Management Accounting*

2:00pm - 3:30pm. **Suwanee.**

Tutorial. Session 1 of 2.

Detailed Conference Program

I. Jureta. *How to make requirements modeling languages?* (continues at 3:45pm)

2:00pm - 3:30pm. Heritage C.

QoM&MoQ. Session 2. Quality of Modeling. Chair: Oscar Pastor

1. M. C. V. Corrado, D. Vallespir, A. Marotta and J. I. Panach. *Applying a Data Quality Model to Experiments in Software Engineering*
2. A. Assila, K. M. De Oliveira and H. Ezzedine, *Towards indicators for HCI quality evaluation support*
3. QoM Research questions guided discussion

3:45pm – 5:15pm. Heritage A.

ER Session 8 New Modeling Languages – II. Chair: Heinrich C. Mayr

1. M. Liu, J. Hu and L. Chen, *A Conceptual Modeling Language for Complex Database Applications*
2. I. Morales Ramirez, A. Perini and R. Guizzardi, *Providing Foundation for User Feedback Concepts by Extending a Communication Ontology*
3. S. Trullemans and B. Signer, *Towards a Conceptual Framework and Metamodel for Context-Aware Personal Cross-Media Information Management Systems*

3:45pm – 5:15pm. Suwanee.

Tutorial. Session 2 of 2.

I. Jureta. *How to make requirements modeling languages?* (continued from 230pm)

3:45pm – 5:15pm. Heritage C.

Panel. Conceptual Modeling: Future Evolution and Revolution

Panel: Tok Wang Ling, Jeffrey Parsons, Sudha Ram

Wednesday, 29 October

8:30am - 9:30am. Plenary.

Keynote. Giancarlo Guizzardi. Ontological Patterns, Anti-Patterns and Pattern Languages for Next-Generation Conceptual Modeling.

9:45am - 11:15am. Heritage A.

ER Session 9. Uncertain and Incomplete Data. Chair: John Mylopoulos

1. H. Koehler and S. Link, *Cardinality Constraints for Uncertain Data*
2. C. Nieke, U. Guentzer and W. T. Balke, *TopCrowd - Efficient Crowd-enabled Top-k Retrieval on Incomplete Data*
3. S. Amdouni, M. Barhamgi, D. Benslimane, R. Faiz and K. Ytongnon, *Web Services Composition in the Presence of Uncertainty*

9:45am - 11:15am. Suwanee.

MoBiD. Session 1. Big Data Values and Challenges.

1. Invited Talk: Sudha Ram, *Extracting Value from Big Data*
2. M. A. Aufaure and R. Chiky, *From Business Intelligence to Semantic data stream management*
3. O. Sangupamba-Mwili, N. Prat and I. Comyn-Wattiau, *Business Intelligence and Big Data in the Cloud: Opportunities for Design-Science Researchers*

Detailed Conference Program

9:45am - 11:15am. Heritage C.

ER Session 10. New Modeling Languages – III. Chair: Panos Vassiliadis

1. C. Jayapandian, C. H. Chen, A. Dabir, G. Q. Zhang, S. Lhatoo and S. Sahoo, *Domain Ontology As Conceptual Model for Big Data Management: Application in Biomedical Informatics*
2. M. Morandini, A. Siena and A. Susi, *Modelling Risk Exposure in OSS Adoption*
3. L. Lopez, D. Costal, C. P. Ayala, X. Franch, R. Glott and K. Haaland, *Modelling and Applying OSS Business Strategies*

11:30am - 12:45pm. Heritage A.

MReBA. Session 1. Chair: Jennifer Horkoff

Invited Talk: Bill Robinson, *Creating Process Models*

11:30am - 12:45pm. Suwanee.

MoBiD. Session 2. Big Data Quality and Applications.

1. I. Caballero, M. Piattini and M. Serrano, *A Quality in Use Model for Big Data*
2. S. Hong, J. Lee, J. Chang and D. H. Choi, *A Semi-Clustering Scheme for High Performance PageRank on Hadoop*
3. J. Peral, A. Ferrández, R. Tardío, A. Maté and E. De Gregorio, *Energy consumption prediction by using an integrated multidimensional modeling approach and data mining techniques with Big Data*
4. K. K. Gadiraju, K. C. Davis, P. G. Talaga, *Benchmarking Performance for Migrating a Relational Application to a Parallel Implementation*

11:30am - 12:45pm. Heritage C. Chair: Jeff Parsons.

Octavian Panel. Old Wine and New Blood - Perspectives on Conceptual Modeling from New Entrants to the Field.

12:45pm - 2:00pm. Plenary. Buckhead Ballroom

Luncheon Event. Best Paper Awards, Announcement of ER 2015.

2:00pm - 3:30pm. Heritage A.

MReBA Session 2. Chair: Eric Yu.

1. W. Engelsman and R. Wieringa, *Understandability of Goal-Oriented Requirements Engineering Concepts by Requirements Engineering experts*
2. C. Burnay, J. Gillain, I. Jureta and S. Faulkner, *On the Definition of Self-Service Systems*
3. Y. Gou, A. Ghose, H. K. Dam and E. Morrison, *Semantic monitoring and compensation in socio-technical processes*

2:00pm - 3:30pm. Suwanee.

WISM. Session 1. Chair: Damir Vandić.

1. D. S. Suarez and C. Jimenez-Guarin, *Natural Language Processing for Linking Online News and Open Government Data* (invited talk)
2. V. A. Pinto and F. S. Parreiras, *Enterprise Linked Data: A Systematic Mapping Study*

2:00pm - 3:30pm. Heritage C.

Detailed Conference Program

ER Session 11. Patterns and Narratives. Chair: Lois Delcambre

1. G. Guizzardi and T. P. Salles, *Detection, Simulation and Elimination of Semantic Anti-patterns in Ontology-Driven Conceptual Models*
2. W. Maass and V. Storey, *Recall of Concepts and Relationships Learned by Conceptual Models: The Impact of Narratives, General-Purpose, and Pattern-based Conceptual Grammars*
3. E. Kontogiannopoulou, P. Manousis and P. Vassiliadis, *Visual Maps for Data-Intensive Ecosystems*

3:45pm - 5:15pm. Heritage A.

MReBa Session 3. Chair: Renata Guizzardi

1. S. Ingolfo, A. Siena and J. Mylopoulos, *Modeling Regulatory Compliance in Requirements Engineering*
2. J. Nwokeji, T. Clark, B. Barn and V. Kulkarni, *Automated Completeness Check in KAOS*
3. S. Sunkle, H. Rathod and V. Kulkarni, *Practical Goal Modeling for Enterprise Change Context: A Problem Statement*
4. Discussion and Interactive Session

3:45pm - 5:15pm. Suwanee.

WISM. Session 2. Domain Ontologies and Web Services.

Chair: Claudia Jimenez-Guarin

1. D. Vadic, L. Niderstigt and S. Aanen, *Ontology Population from Web Product Information*
2. G. Cao, Q. Tan, X. Xue, W. Zhou and Y. Dai, *Service Adaptability Analysis across Semantics and Behavior Levels based on Model Transformation*
3. H. Becha and S. Sellami, *Prioritizing Consumer-Centric NFPs in Service Selection*

3:45pm - 5:15pm. Heritage C.

ER Session 12. Applying Conceptual Models. Chair: Juan Trujillo

1. X. Wang, N. Guarino, G. Guizzardi and J. Mylopoulos, *Software as a Social Artifact: a Management and Evolution Perspective*
2. M. Bjekovi, H. Proper and J. Sottet, *Embracing Pragmatics*
3. X. He, *Utility-Friendly Heterogenous Generalization in Privacy Preserving Data Publishing*
4. Y. Luo, M. Van Den Brand, L. Engelen and M. Klabbers, *From Conceptual Models to Safety Assurance*

