### Detailed Conference Program

**Monday, 27 October**

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#### 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
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
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*
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*
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 Rohlfs 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

3:45pm - 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
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.**
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*

9:45am - 11:15am. Heritage C.
**ER Session 6. Data Management for Enterprise Architecture**
Chair: Colette Rolland
Detailed Conference Program

2. H. P. Sousa and J. C. S. Do Prado Leite, *Modeling Organizational Alignment*

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

Research Demos.
1. H. Kondylakis, D. Plexousakis, V. Hrgovic, R. Woitsch, M. Premm and M. Schuele, *Personal eHealth Knowledge Spaces though Models, Agents and Semantics*
2. P. Lionakis, K. Stefanidis and G. Koloniari, *SQTime: Time-enhanced Social Search Querying*

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
3. MoQ Research questions guided discussion

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

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

2:00pm - 3:30pm. Heritage C.
QoM&MoQ. Session 2. Quality of Modeling. Chair: Oscar Pastor
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

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. Chair: Keng Siau
Panel. Conceptual Modeling: Future Evolution and Revolution
Panel: Tok Wang Ling, Jeffrey Parsons, Sudha Ram

Wednesday, 29 October

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

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. Nicke, U. Guentzer and W. T. Balke, TopCrowd - Efficient Crowd-enabled Top-k Retrieval on Incomplete Data

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-Mwilu, 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
2. M. Morandini, A. Siena and A. Susi, Modelling Risk Exposure in OSS Adoption

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
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

2:00pm - 3:30pm. Heritage A.
MReBA Session 2. Chair: Eric Yu.
1. W. Engelsman and R. Wirtinga, 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

2:00pm - 3:30pm. Suwanee.
WISM. Session 1. Chair: Damir Vandic.
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.
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
3. E. Kontogiannopoulos, 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 K4OS
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. Vandic, L. Nederstigt 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