

**Advance Program**  
**2013 International Conference on**  
**Service-Oriented Computing**  
**(ICSOC 2013)**

**ICSOC 2013**  
**Tuesday, 3 December 2013**

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8:45 – 10:00	Session 1: Welcome and Keynote Richard Hull <b>Data-centricity and Services Interoperation</b>	
10:30 – 12:30	Session 2a <b>Service-oriented Business Process Management</b>	Session 2b <b>QoS in SOC</b>
13:30 – 15:00	Session 3a <b>Service Provisioning &amp; Delivery I</b>	Session 3b <b>Scheduling Services in the Cloud</b>
15:30 – 16:30	Session 4a <b>Service Provisioning &amp; Delivery II</b>	Session 4b <b>Services &amp; Cloud</b>
16:45 – 17:45	Session 5: Panel <b>Big Data and Services</b>	

**Tuesday, December 3, 2013**

8:45 – 10:00

**Session 1: Welcome & Keynote**

Chair: Samik Basu (Iowa State University, USA)

Richard Hull (IBM TJ Watson, USA)

*Data-centricity and Services Interoperation*

10:30 – 12:30

**Session 2a: Service-oriented Business Process Management**

Chair: TBA

REFlex: An Efficient Web Service Orchestrator for Declarative Business Processes

*Natália C. Silva, Renata M. de Carvalho, Cesar A.L. Oliveira, and Ricardo M.F. Lima* (Federal Univ. of Pernambuco, Brazil)

Batch Activities in Process Modeling and Execution

*Luise Pufahl and Mathias Weske* (Univ. of Potsdam, Germany)

Priority-Based Human Resource Allocation in Business Processes

*Cristina Cabanillas* (Vienna Univ. of Economics and Business, Austria), *José María García* (Univ. of Innsbruck, Austria), *Manuel Resinas* (Univ. of Seville, Spain), *David Ruiz* (Univ. of Seville, Spain), *Jan Mendling* (Vienna Univ. of Economics and Business, Austria), and *Antonio Ruiz-Cortés* (Univ. of Seville, Spain)

Open Source Versus Proprietary Software in Service-Oriented: The Case of BPEL Engines

*Simon Harrer, Jörg Lenhard, and Guido Wirtz* (Univ. of Bamberg, Germany)

**Session 2b: QoS in SOC**

Chair: TBA

QoS-Aware Cloud Service Composition Using Time Series

*Zhen Ye* (Univ. of Queensland, Australia), *Athman Bouguettaya* (RMIT, Australia), and *Xiaofang Zhou* (Univ. of Queensland, Australia)

Personalized Quality Prediction for Dynamic Service Management based on Invocation Patterns

*Li Zhang* (Northeastern Univ., China), *Bin Zhang* (Northeastern Univ., China), *Claus Pahl* (Dublin City Univ., Ireland), *Lei Xu* (Dublin City Univ., Ireland), and *Zhiliang Zhu* (Northeastern Univ., China)

SHORT PAPER:

QoS-aware Multi-granularity Service Composition based on Generalized Component Services

*Quanwang Wu, Qingsheng Zhu, and Xing Jian* (Chongqing University, China)

SHORT PAPER:

## An Incentive Mechanism for Game-based QoS-aware Service Selection

*Puwei Wang* and *Xiaoyong Du* (Renmin University of China, China)

SHORT PAPER:

## An Architecture to Provide Quality of Service in OGC SWE Context

*Thiago C. Tavares*, *Regina H. C. Santana*, *Marcos J. Santana*, and *Julio C. Estrella* (Inst. of Math. and Comp. Sci., Brazil)

13:30 – 15:00

### **Session 3a: Service Provisioning & Delivery I**

Chair: TBA

## Improving Interaction with Services via Probabilistic Piggybacking

*Carlo Ghezzi* (Politecnico di Milano, Italy), *Mauro Pezze* (Univ. della Svizzera Italiana, Switzerland), and *Giordano Tamburrelli* (Univ. della Svizzera Italiana, Switzerland)

## QoS-aware Service VM Provisioning in Clouds: Experiences, Models, and Cost Analysis

*Mathias Bjoerkqvist* (IBM Research Zurich, Switzerland), *Sebastiano Spicuglia* (IBM Research Zurich, Switzerland), *Lydia Chen* (IBM Research Zurich, Switzerland), and *Walter Binder* (Univ. of Lugano, Switzerland)

## Provisioning Quality-aware Social Compute Units in the Cloud

*Muhammad Z.C. Candra*, *Hong-Linh Truong*, and *Schahram Dustdar* (Vienna Univ. of Tech., Austria)

### **Session 3b: Scheduling Services in the Cloud**

Chair: TBA

## Critical Path-Based Iterative Heuristic for Workflow Scheduling in Utility and Cloud Computing

*Zhicheng Cai* (Southeast Univ., China), *Xiaoping Li* (Southeast Univ., China), and *Jatinder N. D. Gupta* (Univ. of Alabama at Huntsville, USA)

## Task Scheduling Optimization in Cloud Computing Applying Multi-Objective Particle Swarm Optimization

*Fahimeh Ramezani*, *Jie Lu*, and *Farookh Hussain* (Univ. of Tech. Sydney, Australia)

SHORT PAPER:

## Patience-aware Scheduling for Cloud Services: Freeing Users from the Chains of Boredom

*Carlos Cardonha* (IBM Research, Brazil), *Marcos D. Assunção* (IBM Research, Brazil), *Marco A. S. Netto* (IBM Research, Brazil), *Renato L. F. Cunha* (IBM Research, Brazil), and *Carlos Queiroz* (IBM Research, Australia)

15:30 – 16:30

### **Session 4a: Service Provisioning & Delivery II**

Chair: TBA

Optimal Strategy for Proactive Service Delivery Management Using Inter-KPI Influence Relationships

*Gargi B. Dasgupta, Yedendra Shrinivasan, Tapan K. Nayak, and Jayan Nallacherry* (IBM Research, India)

Does One-Size-Fit-All Suffice for Service Delivery Clients?

*Shivali Agarwal, Renuka Sindhgatta, and Gargi Dasgupta* (IBM Research, India)

**Session 4b: Services & Cloud**

Chair: TBA

SHORT PAPER:

Evaluating Cloud Services using a Multiple Criteria Decision Analysis Approach

*Pedro Costa, João Carlos Lourenço, and Miguel Mira da Silva* (Tech. Univ. of Lisbon, Portugal)

SHORT PAPER:

A Cooperative Management Model for Volunteer Infrastructure as a Service in P2P Cloud

*Jiangfeng Li and Chenxi Zhang* (Tongji Univ., China)

SHORT PAPER:

Multi-level Elasticity Control of Cloud Services

*Georgiana Copil, Daniel Moldovan, Hong-Linh Truong, and Shahram Dustdar* (Vienna Univ. of Tech., Austria)

16:45 – 17:45

**Session 5: Panel on Big Data and Services**

Chair: Mathias Weske (Univ. of Potsdam, Germany)

**ICSOC 2013**  
**Wednesday, 4 December 2013**

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9:00 – 10:30	Session 6a <b>Service Adaptation</b>	Session 6b <b>Service Composition I</b>	
11:00 – 12:00	Session 7: Tutorial 1 Manfred Reichert <b>Managing Flexibility Challenges for Composite Services: Scenarios, Technologies, Tools</b>		
12:00 – 12:30	<b>One-Minute Demo Presentations</b>		
13:30 – 15:00	Session 8a <b>Service Analysis</b>	Session 8b <b>Service Composition II</b>	Session 8c <b>Demos I</b>
15:30 – 17:30	Session 9a <b>Data-aware Business Processes</b>	Session 9b <b>Industry Track</b>	Session 9c <b>Demos II</b>

**Wednesday, December 4, 2013**

9:00 – 10:30

**Session 6a: Service Adaptation**

Chair: TBA

On-the-Fly Adaptation of Dynamic Service-based Systems: Incrementality, Reduction and Reuse

*Antonio Bucchiarone, Annapaola Marconi, Claudio Antares Mezzina, Marco Pistore, and Heorhi Raik* (Fondazione Bruno Kessler, Italy)

Runtime Evolution of Service-based Multi-tenant SaaS Applications

*Indika Kumara, Jun Han, Alan Colman, and Malinda Kapuruge* (Swinburne Univ. of Tech., Australia)

SHORT PAPER:

Goal Oriented Variability Modeling in Service-based Business Processes

*Karthikeyan Ponnalagu* (IBM Research, India & Univ. of Wollongong, Australia), *Nanjangud C. Narendra* (IBM Software Lab, India), *Aditya Ghose* (Univ. of Wollongong, Australia), *Neeraj Chiktey* (IBM Research & Int. Inst. of Info. Tech., India), and *Srikanth Tamilselvam* (IBM Research, India)

**Session 6b: Service Composition I**

Chair: TBA

Multi-Objective Service Composition Using Reinforcement Learning

*Ahmed Moustafa and Minjie Zhang* (Univ. of Wollongong, Australia)

SHORT PAPER:

An Approach for Compliance-aware Service Selection with Genetic Algorithms

*Fatih Karatas* (Univ. of Siegen, Germany) and *Dogan Kesdogan* (Univ. of Regensburg, Germany)

SHORT PAPER:

Synthesizing Cost-Minimal Partners for Services

*Jan Sürmeli and Marvin Triebel* (Humboldt-Univ. zu Berlin, Germany)

11:00 – 12:00

**Session 7: Tutorial I**

Chair: TBA

Manfred Reichert (Univ. of Ulm, Germany)

*Managing Flexibility Challenges for Composite Services: Scenarios, Technologies, Tools*

12:00 – 12:30

**One-Minute Demo Presentations**

Chair: *Marco Montali* (Free Univ. of Bozen-Bolzano, Italy)

PPINOT Tool Suite: A Performance Management Solution for Process-Oriented Organisations

*Adela del-Río-Ortega, Cristina Cabanillas, Manuel Resinas, and Antonio Ruiz-Cortés*

SYBL+MELA: Specifying, Monitoring, and Controlling Elasticity of Cloud Services

*Georgiana Copil, Daniel Moldovan, Hong-Linh Truong, and Schahram Dustdar*

Modeling and Monitoring Business Process Execution

*Piergiorgio Bertoli, Mauro Dragoni, Chiara Ghidini, Emanuele Martufi, Michele Nori,*

*Marco Pistore, and Chiara Di Francescomarino*

A Tool for Business Process Architecture Analysis

*Rami-Habib Eid-Sabbagh, Marcin Hewelt, and Mathias Weske*

OpenTOSCA – A Runtime for TOSCA-based Cloud Applications

*Tobias Binz, Uwe Breitenbücher, Florian Haupt, Oliver Kopp, Frank Leymann, Alexander*

*Nowak, and Sebastian Wagner*

iAgree Studio: A Platform to Edit and Validate WS–Agreement documents

*C. Müller, A.M. Gutiérrez, M. Resinas, P. Fernández, and A. Ruiz-Cortés*

Winery – A Modeling Tool for TOSCA-based Cloud Applications

*Oliver Kopp, Tobias Binz, Uwe Breitenbücher, and Frank Leymann*

Barcelona: A design & runtime environment for declarative artifact-centric BPM

*Fenno (Terry) Heath, III, David Boaz, Manmohan Gupta, Roman Vaculin, Yutian Sun,*

*Richard Hull, and Lior Limonad*

13:30 – 15:00

### **Session 8a: Service Analysis**

Chair: TBA

Detection of SOA Patterns

*Anthony Demange, Naouel Moha, and Guy Tremblay (Univ. du Québec à Montréal, Canada)*

SHORT PAPER:

Automatic Generation of Test Models for Web Services using WSDL and OCL

*Macías López (Univ. da Coruña, Spain), Henrique Ferreiro (Univ. da Coruña, Spain), Miguel A.*

*Francisco (Interoud Innovation SL, Spain), and Laura M. Castro (Univ. da Coruña, Spain)*

SHORT PAPER:

Extending WS-Agreement to Support Automated Conformity Check on Transport & Logistics

Service Agreements

*Antonio Manuel Gutierrez (Univ. de Sevilla, Spain), Clarissa Cassales Marquezan (Univ. of*

*Duisburg-Essen, Germany), Manuel Resinas (Univ. de Sevilla, Spain), Andreas Metzger (Univ. of*

*Duisburg-Essen, Germany), Antonio Ruiz-Cortés (Univ. de Sevilla, Spain), and Klaus Pohl (Univ. of*

*Duisburg-Essen, Germany)*

SHORT PAPER:



## A Framework for Cross Account Analysis

*Vugranam C. Sreedhar* (IBM Research, USA)

## Session 8b: Service Composition II

Chair: TBA

### Automatically Composing Services by Mining Process Knowledge from the Web

*Bipin Upadhyaya* (Queen's Univ., Canada), *Ying Zou* (Queen's Univ., Canada), *Shaohua Wang* (Queen's Univ., Canada), and *Joanna Ng* (IBM Canada Software Lab, Canada)

SHORT PAPER:

### DataSheets: A Spreadsheet-based Data-Flow Language

*Angel Lagares Lemos*, *Moshe Chai Barukh*, and *Boualem Benatallah* (Univ. of New South Wales, Australia)

SHORT PAPER:

### Automatic Composition of Form-Based Services in a Context-Aware Personal Information Space

*Rania Khéfffi* (LRI, France), *Pascal Poizat* (CNRS and Paris Ouest Nanterre La Defense University, France), and *Fatiha Saiis* (LRI, France)

SHORT PAPER:

### Automated Service Composition for On-the-Fly SOAs

*Zille Huma* (Univ. of Paderborn, Germany), *Christian Gerth* (Univ. of Paderborn, Germany), *Gregor Engels* (Univ. of Paderborn, Germany), and *Oliver Juwig* (HRS-Hotel Reservation Service, Germany)

## Session 8c: Demo I

15:30 – 17:30

## Session 9a: Data-aware Business Processes

Chair: TBA

### Runtime Enforcement of First-order LTL Properties on Data-aware Business Processes

*Riccardo De Masellis* (Sapienza Univ. of Rome, Italy) and *Jianwen Su* (UC Santa Barbara, USA)

SHORT PAPER:

### Reasoning on UML Data-Centric Business Process Models

*Montserrat Estañol*, *Maria-Ribera Sancho*, and *Ernest Teniente* (Univ. Politècnica de Catalunya, Spain)

SHORT PAPER:

### Process Refinement Validation and Explanation with Ontology Reasoning

*Yuan Ren* (Univ. of Aberdeen, UK), *Gerd Groener* (Univ. of Kobelnz-Landau, Germany), *Jens Lemcke* (SAP Research, Germany), *Tirdad Rahmani* (SAP Research, Germany), *Andreas Friesen* (SAP

Research, Germany), *Yuting Zhao* (Univ. of Aberdeen, UK), *Jeff Z. Pan* (Univ. of Aberdeen, UK), and *Steffen Staab* (Univ. of Kobelnz-Landau, Germany)

### **Session 9b: Industry Track**

Chair: TBA

#### Behavioral Analysis of Service Delivery Models

*Gargi B. Dasgupta*, *Renuka Sindhgatta*, and *Shivoli Agarwal* (IBM Research, India)

#### Decision Making in Crowdsourcing Services

*Maja Vukovic* and *Rajarshi Das* (IBM T.J. Watson, USA)

#### Towards Optimal Risk-aware Security Compliance of a Large IT System

*Daniel Coffman*, *Bhavna Agrawal*, and *Frank Schaffa* (IBM, USA)

#### SHORT PAPER:

#### A Novel Service Composition Approach for Application Migration to Cloud

*Xianzhi Wang* (IBM Research & Harbin Institute of Tech., China), *Xuejun Zhuo* (IBM Research, China), *Bo Yang* (IBM Research, China), *Fan Jing Meng* (IBM Research, China), *Pu Jin* (IBM Research, China), *Woody Huang* (IBM TJ Watson, USA), *Christopher C. Young* (IBM TJ Watson, USA), *Catherine Zhang* (IBM TJ Watson, USA), *Jing Min Xu* (IBM Research, China), and *Michael Montinarelli* (IBM Global Tech. Services, USA)

### **Session 9c: Demo II**

**ICSOC 2013**  
**Thursday, 5 December 2013**

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9:00 – 10:00	Session 10: Keynote Carlo Ghezzi <b>Surviving in a world of change: Towards evolvable and self-adaptive service-oriented systems</b>	
10:30 – 12:30	Session 11a <b>Service &amp; Process Discovery</b>	Session 11b <b>Service Selection</b>
13:30 – 14:30	Session 12: Tutorial II Jian Yang <b>A Multi-Facet Exploration of QoS in Service oriented Computing</b>	
15:00 – 16:30	Session 13a <b>QoS Prediction</b>	Session 13b <b>Artifact-Centric Systems</b>

**Thursday, December 5, 2013**

9:00 – 10:00

**Session 10: Keynote**

Chair: Cesare Pautasso (University of Lugano, Switzerland)

Carlo Ghezzi (Politecnico di Milano, Italy)

*Surviving in a world of change: Towards evolvable and self-adaptive service-oriented systems*

10:30 – 12:30

**Session 11a: Service & Process Discovery**

Chair: TBA

Service Discovery from Observed Behavior While Guaranteeing Deadlock Freedom in Collaborations

*Richard Müller* (Humboldt-Univ. zu Berlin, Germany & TU Eindhoven, Netherlands), *Christian Stahl* (TU Eindhoven, Netherlands), *Wil M.P. van der Aalst* (TU Eindhoven, Netherlands & National Research Univ., Russia), and *Michael Westergaard* (TU Eindhoven, Netherlands & National Research Univ., Russia)

Process Discovery Using Prior Knowledge

*Aubrey J. Rembert*, *Amos Omokpo*, *Pietro Mazzoleni*, and *Richard T. Goodwin* (IBM TJ Watson, USA)

SHORT PAPER:

Deriving Business Process Data Architectures from Process Model Collections

*Rami-Habib Eid-Sabbagh*, *Marcin Hewelt*, *Andreas Meyer*, and *Mathias Weske* (Univ. of Potsdam, Germany)

SHORT PAPER:

A Case Management Approach to Serve Information Needs in Knowledge Intensive Processes

*Debdoot Mukherjee* (IBM Research, India), *Jeanette Blomberg* (IBM Almaden,USA), *Rama Akkiraju* (IBM Almaden,USA), *Dinesh Raghu* (IBM Research, India), *Monika Gupta* (IBM Research, India), *Sugata Ghosal* (IBM Research, India), *Mu Qiao* (IBM Almaden,USA), and *Taiga Nakamura* (IBM Almaden,USA)

**Session 11b: Service Selection**

Chair: TBA

Mirror, Mirror, on the Web, Which is the Most Reputable Service of Them All? --- A Domain-aware and Reputation-aware Method for Service Recommendation

*Keman Huang* (Tsinghua Univ., China), *Jinhui Yao* (Univ. of Sydney, Australia), *Yushun Fan*

(Tsinghua Univ., China), *Wei Tan* (IBM TJ Watson, USA), *Surya Nepal* (CSIRO ICT Centre, Australia), *Yayu Ni* (Tsinghua Univ., China), and *Shiping Chen* (CSIRO ICT Centre, Australia)

#### WT-LDA: User Tagging Augmented LDA for Web Service Clustering

*Liang Chen* (Zhejiang Univ., China), *Yilun Wang* (Zhejiang Univ., China), *Qi Yu* (Rochester Inst. of Tech., USA), *Zibin Zheng* (Chinese Univ. of Hong Kong, HK), and *Jian Wu* (Zhejiang Univ., China)

#### SHORT PAPER:

#### Entity-Centric Search for Enterprise Services

*Marcus Roy* (SAP Research Sydney & Univ. of New South Wales, Australia), *Ingo Weber* (NICTA Sydney & Univ. of New South Wales, Australia), and *Boualem Benatallah* (Univ. of New South Wales, Australia)

#### SHORT PAPER:

#### Tactical Service Selection with Runtime Aspects

*Rene Ramacher* and *Lars Mönch* (Univ. of Hagen, Germany)

#### SHORT PAPER:

#### Decomposing Ratings in Service Compositions

*Icamaan da Silva* (City Univ. London, UK) and *Andrea Zisman* (Open Univ., UK)

13:30 – 14:30

#### **Session 12: Tutorial II**

Chair: *Liang Zhang* (Fudan University, China)

*Jian Yang* (Macquarie Univ., Australia)

*A Multi-Facet Exploration of QoS in Service oriented Computing*

15:00 – 16:30

#### **Session 13a: QoS Prediction**

Chair: TBA

#### QoS Analysis in Heterogeneous Choreography Interactions

*Ajay Kattapur*, *Nikolaos Georgantas*, and *Valerie Issarny* (INRIA, France)

#### Prediction of Remaining Service Execution Time using Stochastic Petri Nets with Arbitrary Firing Delays

*Andreas Rogge-Solti* and *Mathias Weske* (Hasso-Plattner-Institut, Germany)

#### SHORT PAPER:

#### Online Reliability Time Series Prediction for Service-Oriented System of Systems

*Lei Wang* (Southeast Univ., China), *Hongbing Wang* (Southeast Univ., China), *Qi Yu* (Rochester Inst. of Tech., USA), *Haixia Sun* (Southeast Univ., China), and *Athman Bouguettaya* (RMIT, Australia)

#### **Session 13b: Artifact-Centric Systems**

Chair: TBA

Verification of Artifact-Centric Systems: Decidability and Modeling Issues

*Dmitry Solomakhin* (Free Univ. of Bozen-Bolzano, Italy), *Marco Montali* (Free Univ. of Bozen-Bolzano, Italy), *Sergio Tessaris* (Free Univ. of Bozen-Bolzano, Italy), and *Riccardo De Masellis* (Sapienza Univ. of Rome, Italy)

SHORT PAPER:

Verification of Semantically-Enhanced Artifact Systems

*Babak Bagheri Hariri*, *Diego Calvanese*, *Marco Montali*, *Ario Santoso*, and *Dmitry Solomakhin* (Free Univ. of Bozen-Bolzano, Italy)

SHORT PAPER:

MaxInsTx: A Best-effort Failure Recovery Approach for Artifact-centric Business Processes

*Haihuan Qin*, *Guosheng Kang*, and *Lipeng Guo* (Fudan Univ., China)