Message from the Workshop Chairs

On behalf of IEEE ICWS/SCC/CL O U D/MS/BigData/SERVICES 2014 Committees, the IEEE Technical Committee on Services Computing, the IEEE Computer Society and workshops organizers, we would like to extend our welcome to the Workshops Program of Services 2014! Services 2014 Workshop Program features a rich selection of 13 timely workshops with almost 100 presentations! The program provides a forum for presenting novel ideas in a less formal and more focused way and a valuable opportunity to advance the subject. Papers were peer-reviewed for novelty, quality, and relevance. Accepted papers are included in the Proceedings of IEEE Services 2014 (published by IEEE Computer Society). Many of the workshops have plans for special journals issues with leading journals. The Workshops program features:

- **IEEE 2014 International Workshop on the Future of Software Engineering for/in the Cloud (FoSEC- 2014):** focuses on the interplay between technical, economics-driven considerations and shifts software engineering towards a utility-based engineering for software-, infrastructure-, data storage- and/or platform- as a services.
- **IEEE 2014 International Workshop on Personalized Web Tasking (PWT 2014):** PWT aims to develop a community who are interested in the overlap between web services (as interoperable and easily composable components) and configurable personalizable applications.
- **IEEE 2014 International Workshop on Mobile Services (EMSOS 2014):** Mobile systems are characterized with autonomous, dynamically adaptable, and heterogeneous components collaborating in open intra-organizational environments. The aim is to understand open issues in the software engineering area of services applied in mobile environments.
- **IEEE 2014 International Workshop on Security and Privacy Engineering (SPE 2014):** the emphasis is on engineering in security and privacy.
- **IEEE 2014 8th International Symposium on Scientific Workflows and Big Data Science (SWF 2014):** The theme of this year's SWF workshop is "Advances in Data and Event-Driven Workflows", recognizing the data-centric and event-driven approach of scientific and engineering workflows.
- **IEEE 2014 8th International Symposium on Scientific Workflows and Big Data Science (SCDI 2014):** Calls for novel models, methodologies, and solution patterns that address the data integration issue and fit in the service and cloud based settings.
- **IEEE 2014 International Workshop on Performance Aspects of Cloud and Service Virtualization (CloudPerf 2014):** focuses on performance aspects of existing cloud and virtualization infrastructures in science, engineering and business.
- **IEEE 2014 International Workshop on Cloud Security Auditing (CSA 2014):** focuses on increasing cloud resiliency and trustworthiness through security auditing as applied to various cloud models, layers, services, resources, and application domains.
- **IEEE 2014 International Workshop on Ubiquitous Mobile Cloud (UMC 2014):** Looks at the convergence between cloud computing technologies and the convenience of mobile devices offers improved performance of mobile systems and superior user experience.
- **IEEE 2014 SERVICES Workshop on Future Services (FS 2014):** seeks to define the next generation of services and bring together big data analysis methods, services analysis techniques, as well as models from other research areas which can be modified to the area of future services.
- **IEEE 2014 First International Workshop on Service Orchestration and Choreography for the Future Internet (OrChor 2014).**
- **IEEE 2014 International Workshop on Dependable and Secure Services (DSS 2014):** focus on dependability and security of software and services in complex, heterogeneous, dynamic software and services, which are characterized by demanding quality attributes.

We would like to thank all the organizers, authors and Program Committees of individual workshops for producing the excellent final Workshops program. We hope you enjoy the Workshop program and the conference.

Rami Bahsoon, Workshop Coordination Chair
Patrick C. K. Hung, Vice Chair of Communications of the IEEE Technical Committee on Services Computing
Welcome to FoSEC 2014, co-located with the IEEE 10th World Congress on Services (IEEE SERVICES 2014), in Anchorage, Alaska, USA!

Practitioners are very likely to beg, borrow and steal from software engineering in-the-small to benefit the case of software engineering for the large-scale and ultra-large-scale, as in the case of the cloud. Though the fundamentals of engineering software in both paradigms exhibit resemblance, software engineering for the cloud require novel approaches, which address the interplay between technical, economics-driven considerations and shifts software engineering towards utility-based engineering for software-, infrastructure-, data storage- and/or platform- as services. The paradigm has introduced new challenges and problems shaping the scientific and engineering queries and likely to shape the research landscape of software engineering for at least the next decade: cloud requirements engineering; architecting for the cloud; cloud security software engineering; service-level agreement (SLA) compliance; maintenance, testing and evolution for the cloud; virtualisation; autonomic and self-* management for scale; cloud as a market place and economics-driven software engineering for the cloud; multi-tenancy and federation; dependability and performance engineering for the cloud; allocation assignment and dynamic balancing and optimisation for resources to achieve pragmatic trade-offs between many competing technical, short-term and strategic business objectives.

The goal of this workshop is to strengthen the cross-fertilization of advances from software engineering, services and cloud computing. The workshop aims at exploring, debating and increasing our understanding of the following: (i) how advances in software engineering, with emphasis on engineering requirements software architectures, architecting dependable systems, self-adaptive software architectures, economics-driven software engineering, utility computing, risk management, security software engineering and testing, Search-based software engineering can (not) benefit the case of cloud; (ii) what are the most recent innovations, trends, experiences and concerns in the field that appraise the paradigm-shift in engineering software systems as cloud services or in support of cloud infrastructures; (iii) What are the open research challenges and promising directions for software engineering FOR the cloud? And how cloud is likely to shape the research landscape of software engineering for at least the next decade? (iv) How the paradigm will shape the future of engineering software IN the cloud, i.e. benefiting from the cloud infrastructure, virtualization and economies of scale?

We are deeply indebted to many colleagues for their help and support in organizing FoSEC 2014. First of all, we would like to thank all the authors who submitted papers. We particularly would like to thank the members of our Program Committee who reviewed the papers. We also greatly acknowledge the generous support from our host IEEE SERVICES 2014.

Enjoy FOSEC 2014 and have a wonderful time in Anchorage!

FoSEC Chairs

Rami Bahsoon
University of Birmingham, UK

Nour Ali
University of Brighton, UK

Ivan Mistrik
Germany

T.S. Mohan
Infosys, India
Welcome to PWT 2014, co-located with the IEEE 10th World Congress on Services (IEEE SERVICES 2014), in Anchorage, Alaska, USA.

The objective of the PWT workshop is to develop a community of people who are interested in the overlap between web services (as interoperable and easily composable components) and configurable, personalizable applications. On the one hand, the core web-service community focuses primarily on enabling/supporting the processes around building distributed systems using services as the basic building blocks. On the other hand, user-centric communities have long been interested in enabling end users to customize their own experience using web resources, context-aware computing, and adaptive software, among others. Our aim is to focus the discussion on the overlap between the two areas and to bring together all aspects of research relevant to this overlap.

The goal of presenters and attendees is to develop solutions that will enable the delivery of smart personalized services in healthcare, education, government and business. The workshop will be highly interactive so that participants can engage in conversation regarding the fundamental principles, state of the art, critical challenges, and future outlook of personalized web-based tasking for users. Topics of interests include, but are not limited to:

- the transparent automation of repetitive and mundane tasks;
- the automated customization of the user experience on different platforms;
- the personalization of interactions based on history and context, across devices;
- the coordination of small groups based on shared context;
- technologies for web-based application development;
- context-aware computing;
- Internet of Things; mobile computing, pervasive computing;
- semantic web; linked data;
- social computing; and
- privacy and policy implications of personalization.

Our program includes seven paper presentations: two position papers and five research technical papers. The authors represent six different countries and nine different institutions, and are from academia and industry.

We would like to thank all the authors who submitted interesting papers, our international program committee, our colleagues at IBM CAS Research in Toronto for their support of this workshop, the SERVICES Congress workshop chairs for their help and support in organizing this workshop, and the 2013 PWT organizing committee for initiating this workshop series. Please join us for this year’s workshop, and consider submitting a paper to PWT 2015!

PWT Chairs

Mike Smit, Dalhousie University, Canada
Eleni Stroulia, University of Alberta, Canada
Welcome to EMSOS 2014, the 2nd Second International Workshop on Engineering Mobile Service Oriented Systems
Anchorage, Alaska, USA
Mobile systems are characterized with autonomous, dynamically adaptable, and heterogeneous components
collaborating in open intra-organizational environments to provide solutions. Next generation phones, mobile
networks, mobile cloud computing are a few examples of mobile applications where code, users and their devices
continuously move. Evolving requirements, such as reliability, security, scalability, performance and privacy, from
fixed to mobile settings, has revealed new and important challenges. This is due to the behavioural constraints that
mobility poses, which were not faced in traditional distributed settings. The service-oriented paradigm is a
promising approach for engineering open, dynamic and distributed systems. There are a plethora of research issues
on how mobile systems can make use of service oriented engineering techniques.
The objective of EMSOS is to bring together researchers from academia and industry, as well as practitioners in the
area of engineering services in mobile environments in order to provide a forum where recent research results can be
presented and discussed. The aim is to understand open issues in the software engineering area of services applied in
mobile environments, and to build a community of researchers and practitioners willing to collaborate on these
issues.
We are deeply indebted to many colleagues for their help and support in organizing EMSOS 2014. First of all, we
would like to thank all the authors who submitted papers. We particularly would like to thank the members of our
Program Committee who reviewed the papers. We also greatly acknowledge the generous support from our host
IEEE SERVICES 2014.
Enjoy EMSOS 2014 and have a wonderful time in Anchorage!

EMSOS 2014 Chairs

Nour Ali, University of Brighton
Rami Bahsoon, University of Birmingham
Ian Gorton, Pacific Northwest National Lab
The 4th IEEE 2014 Services Workshop on Security and Privacy Engineering (SPE 2014)


The advent of service-oriented architecture (SOA) and cloud computing paradigms has fostered a new era in computer science. The ongoing trend towards outsourcing services to the cloud turned out to be of high value for both cloud service providers and adopters. However, it rapidly became obvious that the security and privacy issues surrounding cloud services are and will be of major concern to its adopters, and may even keep companies from using those services at all.

SPE 2014 aims to be a unique place to exchange ideas of engineering secure systems in the context of service computing, cloud computing, and big data analytics. The emphasis on engineering in security and privacy of services differentiates the workshop from other traditional prestigious security and privacy workshops, symposiums, and conferences. The practicality and value realization are examined by practitioners from leading industries as well as scientists from academia. The workshop focuses on approaches building secure service systems that can be applied to government procurement, digital medical records, cloud environments, social networking for business purposes, multimedia application, mobile commerce, education, and the like. It also explores new security challenges in the context of data processing security and data theft, privacy in the cloud, and cloud assurance, adopting a rigorous refereeing process but giving also the opportunity of presenting and discussing very recent work and unconventional research ideas.

The SPE 2014 program includes 9 papers. Each paper was reviewed by at least two program committee members. We want to thank all people that contributed to the workshop success and made it possible. All the members of the Program Committee, for all their hard work in reviewing the papers. All people involved in the organization: the IEEE SERVICES 2014 general chairs, Ephraim Feig and Stephen S. Yau, and workshop chairs, Rami Bahsoon and Andreas Wombacher, for their advice; Patrick Hung for his support in the workshop organization; and Fulvio Frati, for his activity as Publicity Chair. Finally, a special thanks to the keynote speaker, Bhavani Thuraisingham, for delivering the keynote talk at the workshop and, last but not least, to all authors for submitting their research papers to the workshop.

Enjoy SPE 2014 and have a wonderful time in Anchorage!
Welcome to SCDI 2014, the 2nd IEEE International Workshop on Service and Cloud Based Data Integration (http://users.sdsc.edu/~jianwu/SCDI-2014/) on June 27, 2014 in Alaska, U. S. A. SCDI 2014 is co-located with IEEE 10th World Congress on Services (IEEE SERVICES 2014).

Integration and synthesis of the diverse, heterogeneous, autonomous and large-scale data have been an essential and hard issue in enterprise computing, scientific computing and social computing. It is not always feasible to achieve effective data integration around definite schemas when there are mismatches in cross-domain integration and when such issues as compatibility, scalability, timeliness, and user manipulation are concerned. The topics of the SCDI workshop draw inspiring ideas from SOA, cloud computing, sematic web, linked data, workflow management to bring light to dealing with these hard issues.

The objective of this workshop is to bring researchers, practitioners and vendors together to discuss and share ideas and experiences. It fosters novel models, methodologies, and solution patterns that address the data integration issue and fit in the service and cloud based settings. It focuses on the use of service and/or cloud based technologies to meet the new data integration challenges that are not well served by the current approaches.

The SCDI 2014 program includes an invited keynote and eight papers. The keynote is still pending for its speaker and title. Please check the workshop website for the latest information. Each paper was reviewed by several experts in the field. We would like to express our gratitude to everyone who has contributed to the success of SCDI 2014. We thank all programme committee members involved in organizing this workshop for their hard work. Credits also go to the authors for submitting their work to this workshop, which may trigger valuable academic communications. In addition, we appreciate the valuable feedbacks from the reviewers, which can undoubtedly help authors to their works. Last but not least, we thank the IEEE SERVICES 2014 organization committee for their great support.

Enjoy SCDI 2014 and have a wonderful time in Alaska!

Yanbo Han
North China University of Technology

Jianwu Wang
University of California, San Diego

Chen Liu
North China University of Technology

SCDI Organizers
Mobile devices are now the most convenient and ubiquitous interface for accessing information services. The advanced sensing capabilities of these devices enable them to effectively observe, analyze and understand the context of the current environment and thus are used as service providers. However, the resource constraints of mobile devices limit the type and scale of functionality that can be offered by mobile applications/services. Mobile cloud promises to bridge the gap between limited resources and increasing demands of future mobile applications through an elastic resource provisioning model. Mobile ubiquitous cloud enables resource-constrained mobile devices to offload some or all of their processing and storage requirements to the cloud infrastructure, on the go. This convergence between cloud computing technologies and the convenience of mobile devices offers improved performance of mobile systems and superior user experience.

The topic of ubiquitous mobile cloud draws on inspirational ideas from many diverse domains including cloud computing, wireless technologies, context-aware computing, mobile commerce, location-based services, and vehicular networks.

The scope of the UMC 2014 extends beyond traditional cloud and mobile computing technologies to encompass emerging distributed cloud technologies and networking infrastructures. This workshop is intended to create a platform for researchers, developers, and practitioners in current mobile cloud and ubiquitous computing from academia, industry, and service providers to share and discuss their ideas, experiences, challenges, and practical implementations related to ubiquitous mobile cloud.

We are deeply indebted to many great people for their help and support in organizing UMC 2014. First and foremost, we would like to thank all the authors who submitted papers and all the participants who contributed to the UMC 2014 Workshop in Anchorage, Alaska, USA. We would like to thank the members of our Program Committee who for their dedication work in reviewing the papers. We also greatly acknowledge the generous support from our host IEEE SERVICES 2014 and, in particular, IEEE SERVICES Workshop Chairs, Rami Bahsoon and Patrick Hung. We also would like to thank Randy Bilof of IEEE Computer Society for compiling the UMC 2014 proceedings. We thank the sponsors of IEEE SERVICES 2014 for their generous support.

Wish you enjoy your stay at Anchorage, Alaska and have a superior experience with UMC 2014!

Khalid Elgazzar, Queen’s University Canada
Hanan Lutfiyya, University of Western Ontario Canada
Hamid Mcheick, University of Quebec at Chicoutimi Canada
Welcome to the 1st IEEE International Workshop on Service Orchestration and Choreography for the Future Internet – OrChor 2014!

As a first edition, OrChor has attracted considerable interest in the Service Composition community. In the future, we hope – and we will work for – that OrChor will emerge as a flagship research event for the Service Composition community. It encompasses research (both theoretical and applied) that extends the state-of-the-art in Software Engineering Methods and Practices for Service Composition, Run-time support for Service Composition, Quality of Service Composition, and last but not least Tools, Case Studies, and Use Cases in Service Composition. The general theme of OrChor 2014 is “Service Orchestration and Choreography for the Future Internet”.

The call for papers attracted 14 submissions. Each paper received three reviews. The Program Committee, decided to accept 10 papers that cover a variety of topics, including Adaptable and Evolving Choreographies, Choreographies Enactment, Cross-Organizational Business Collaboration, Service Composition Modeling and Analysis, Business Processes, QoS Estimation of Service Compositions, Dynamic Services Selection, Workflow Patterns, and Reliable and Flexible Service Compositions. We hope that the OrChor 2014 proceedings will serve as reference literature for academic researchers and practitioners working in the area of (automated) Service Composition.

OrChor 2014 is part of the IEEE 10th World Congress on Services – IEEE SERVICES 2014, June 27 - July 2, 2014, Anchorage, Alaska, USA. We thank the IEEE SERVICES Workshop Coordinating Chair Rami Bahsoon and his colleague Patrick Hung for coordinating and setting up the various IEEE SERVICES workshops. Special thanks go to the authors of the submitted papers for their valuable contributions that allowed the OrChor 2014 program committee to put in place a very exciting program. We are grateful to the program committee members that actively worked on paper reviewing and provided the authors with comments that have been useful for improving the scientific content and quality of their papers.

We hope that the OrChor 2014 program, and related proceedings, will be of interest for your research activities and work, and that your participation in the event will trigger constructive collaborations with researchers and practitioners that work within the international Service Composition community.

OrChor 2014 Chairs

Marco Autili University of L’Aquila, Italy
Alfredo Goldman University of São Paulo, Brazil
Massimo Tivoli University of L’Aquila, Italy
Welcome to 2014 IEEE 4th International Workshop on Formal Methods in Services and Cloud Computing (FM-S&C 2014) in Cooperation with SERVICE2014! The aim of FM-S&C2014 is to encourage academic researchers and industry practitioners to present and discuss all formal analysis, modeling and verification related to research and experiences in a broad spectrum of services and cloud computing.

FM-S&C 2014 received papers from the scientific community representing more than 10 different countries. Each paper was under the strictest review process. A large number of the papers were high quality. After the completion of the peer review process, 6 papers were selected for presentation at the conference. The previous series of this workshop (FM-S&C 2011, 2012, and 2013) had attracted around 55 attendants including around 25 presenters and a dozen of submissions. FM-S&C 2011 had 14 submissions with 43% acceptance. FM-S&C2012 had 17 submissions with 35% acceptance. FM-S&C2013 had 24 submissions with 33% acceptance. FM-S&C 2014 has 15 submissions with 40% acceptance.

Special thanks to the program committee members. Your hard work make this workshop excellent and fascinating in service computing field. However, some challenges are still hot issues in the academia and industry. Therefore, we invite you to attend the conference and share your experiences.

We hope you will enjoy this conference and your stay in Alaska, USA!

FM-S&C Chairs:
Guoray Cai, Penn State University, USA
Ying Li, Zhejiang University, China
Yuyu Yin, Hangzhou Dianzi University, China
Honghao Gao, Shanghai University, China
Welcome to IEEE DSS 2014, the 1st International Workshop on Dependable and Secure Services, in Anchorage, Alaska, USA. DSS 2014 is co-located with the IEEE 10th World Congress on Services (IEEE SERVICES 2014).

Services and service-based environments hold special characteristics, in particular their typically complex nature, high heterogeneity, and fast-changing dynamics. In such scenarios, infrastructure interdependencies, failure and recovery modeling and analysis, as well as accidental threats and attack modeling and evaluation, testing approaches, benchmarks, interoperability, and techniques and tools for assessing dependability and security are some of the crucial aspects that need to be addressed.

The goal of the International Workshop on Dependable and Secure Services is to bring together researchers and practitioners to present and discuss fundamental concepts, methods, techniques, and tools to improve the dependability and security of services. The DSS 2014 program includes 4 great quality papers. Each paper was reviewed by at least 3 Program Committee members.

We would like to thank the authors who submitted papers and all participants who contributed to the DSS 2014 Workshop at Anchorage. We particularly would like to thank all members of our Program Committee for accepting our invitation and for reviewing the papers. We also acknowledge the great support provided by our host IEEE SERVICES 2014, in particular to the Workshop Coordinating Chairs Rami Bahsoon and Andreas Wombacher. Finally, a word of appreciation to Patrick Hung, whose continuous support was fundamental to the success of our Workshop.

Enjoy DSS 2014 and have a great time in Anchorage!

The DSS 2014 Organizers,