

# IEEE/SERA 2016

Software Engineering Research, Management & Applications

*14<sup>th</sup> Annual Conference*



Baltimore, MD

June 8-10

**2016**



## A Message from the Conference Chair:

It is my great pleasure to extend a welcome to all of you who are participating in SERA 2016 (the 14<sup>th</sup> IEEE/ACIS International Conference on Software Engineering Research, Management & Applications) being held in Baltimore, Maryland, USA, June 8 to 10, 2016. The conference is sponsored by the IEEE Computer Society and the International Association for Computer and Information Sciences (ACIS), hosted by Towson University. The SERA 2016 conference provides an international forum where researchers, practitioners and advanced graduate students are invited to share their experience and exchange new ideas related to all aspects of software engineering research and applications. The conference particularly welcomes contributions at the junction of theory and practice, which serve to disseminate research with an immediate impact on applications. The conference is structured to cover the complete software lifecycle from design through deployment to maintenance and evolution. We will have a keynote speech by Professor Lawrence Chung, University of Texas at Dallas, who has been a well-recognized expert in Requirements Engineering, System/Software Architecture and Systems Engineering. We hope that his talk will be fruitful to all of us who are participating in SERA 2016.

I would like to thank the program chairs Dr. Yeong-tae Song and Dr. Bixin Li, and the members of the program committee for their hard work. We hope that SERA 2016 will be successful and enjoyable for all participants.

Chao Lu  
*Towson University, USA*  
*Conference Chair*

# 14<sup>th</sup> IEEE/ACIS SERA 2016 Schedule

**June 8, 2016**

Registration and Lunch ..... 7800 York Rd, 4<sup>th</sup> floor ..... 12:00pm

Opening Remarks .....YR205.....12:40pm

Keynote Speech .....YR 205 .....1:00pm

**Dr. Lawrence Chung ..... University of Texas at Dallas**

**Title: Big data: A Requirements Engineering Perspective**

**Session 1 .....YR401..... 2:00 pm ~ 3:45 pm**

**Session Chair: Bixin Li**

**Software Architecture, Enterprise Architecture**

Dominic M Mezzanotte Sr.

*“Planning Enterprise Architecture: Creating Organizational Knowledge Using the Theory of Structuration to Build Information Technology”*

Bixin Li, Li Liao, and Jingwen Si,

*“Evaluating Software Architecture Evolution Based on Maintainability and Reliability Metric”*

Ira Puspitasari,

*“Stakeholder’s Expected Value of Enterprise Architecture, An Enterprise Architecture Solution based on Stakeholder Perspective”*

Ilhem KHLIF, Mohamed HADJ KACEM, Patricia STOLF and Ahmed HADJ KACEM,

*“Software Architectures: Multi-Scale Refinement”*

**Session 2 ..... YR402 ..... Image Processing and Open Source**

**Session Chair: Chao Lu**

Soumaya Zribi, Taher Khadhraoui, Faouzi Benzarti and Hamid Amiri,

*“Automatic 3D Face Preprocessing”*

Xudong Sui, Jinfang Zhang, Xiaohui Hu and Zhang Lei,

*“Monitoring Target Through Satellite Images By Using Deep Convolutional Networks”*

Yoshinobu Tamura, Satoshi Ashida, Mitsuho Matsumoto and Shigeru Yamada,

*“Identification Method of Fault Level Based on Deep Learning for Open Source Software”*

Saleh Alnaeli, Amanda Alitaha and Tyler Timm,

*“On the Prevalence of Function side effects in General Purpose Open Source Software Systems”*

**Coffee Break ..... 7800 York Rd, 4<sup>th</sup> Floor .....3:45pm**

**Session 3 ..... YR401 ..... 4:00 pm ~ 5:50pm**

**Session Chair: Shiva Azadegan**

**Computer Networks, network security**

Sidney Smith, Kin Wong, Robert Hammell and Carlos Mateo,

*“An Experimental Exploration of the Impact of Multi-Level Packet Loss on Network Intrusion Detection”*

Ming Zhang, Weichao Gao, James Nguyen, Daniel Ku, Hanlin Zhang and Wei Yu,

*“Performance Evaluation of NETCONF Protocol in MANET Using Emulation”*

Zhijiang Chen, Hanlin Zhang, William Hatcher, James Nguyen and Wei Yu,

*“A Streaming-Based Network Monitoring and Threat Detection System”*

Nejla Rouissi, Hamza Gharsellaoui and Sadok Bouamama,

*“A Hybrid Anti-Jamming Based Approach in Wireless Sensor Networks”*

**Session 4 ..... YR402 ..... Software Business**

**Session Chair: Raza Hasan**

Arunasalam Sambhanthan and Vidyasagar Potdar,

*“A Survey of Western Australian Software Businesses”*

Raza Hasan and Mehdi Birgach,

*“Critical Success Factors behind the Sustainability of the Sharing Economy”*

Arunasalam Sambhanthan, Vidyasagar Potdar and Elizabeth Chang,

*“Business Sustainability Conceptualization”*

Arunasalam Sambhanthan and Vidyasagar Potdar,

*“Business Sustainability Frameworks - A Survey”*

**Leave for the Banquet, meet on the 1<sup>st</sup> Floor..... 6:00 pm**

**Banquet at BlueStone Restaurant ..... Timonium ..... 6:30 pm**

## **June 9, 2016**

**Registration ..... 7800 York Rd, 4<sup>th</sup> floor .....8:30 AM**

**Session 5 ..... YR401 ..... 9:00 am ~ 10:45 am**

**Session Chair: Philip Samuel**

### **Software Development**

Arunasalam Sambhathan and Vidyasagar Potdar,

*“Waste Management Strategies for Software Development Companies - An explorative text analysis of business sustainability reports”*

Sunitha E V and Philip Samuel,

*“Object Oriented Method to Implement the Hierarchical and Concurrent States in UML State chart Diagrams”*

Emna Kallel,

*“JAVA-based approach for high level OpenMP for loops synthesis”*

Brian Dillon,

*“A Case Study in Object-oriented Patterns Identified during Manual Refactoring”*

Md Rakibul Islam and Minhaz F. Zibran,

*“Towards Understanding and Exploiting Developers' Emotional Variations in Software Engineering”*

**Session 6 ..... YR402 .....Requirements and Software Testing**

**Session Chair: Huaikou Miao**

Mariem Abdouli, Wahiba Ben Abdessalem Karâa and Henda Ben Ghezala,

*“Survey of works that transform requirements into UML diagrams”*

Bingyang Wei and Harry Delugach,

*“A Framework for Requirements Knowledge Acquisition Using UML and Conceptual Graphs”*

Reza Meimandi Parizi,

*“On the Gamificatin of Human-centric Traceability Tasks in Software Tesing and Coding”*

Lucas P. Silva and Patrícia Vilain,

*“Execution and Code Reuse between Test Classes”*

**Coffee Break ..... 7800 York Rd, 4<sup>th</sup> floor ..... 10:45 am**

**Session 7..... YR401 ..... 11:00 am ~ 12:45 pm**

**Session Chair: Wei Yu**

**Social Media, Machine learning, and information assurance**

Ahmed Alsayat and Hoda El-Sayed,

*“Social Media Analysis using Optimized K-Means Clustering”*

Jinhyuck Choi, Youngsub Han and Yanggon Kim,

*“A Research for Finding Relationship between Mass Media and Social Media based on Agenda Setting Theory”*

William G. Hatcher, David Maloney and Wei Yu,

*“Machine Learning-Based Mobile Threat Monitoring and Detection”*

Andrew Fobel and Nary Subramanian,

*“Comparison of the Performance of Drools and Jena Rule-Based Systems for Event Processing on the Semantic Web”*

Allison Newcomb and Robert Hammell,

*“A Fuzzy Logic Utility Framework (FLUF) to Support Information Assurance”*

**Session 8..... YR402 ..... Knowledge Discovery, Data mining**

**Session Chair: Nadim Alkharouf**

Ahmed Alsayat and Hoda El-Sayed,

*“Efficient Genetic K-Means Clustering for Health Care Knowledge Discovery”*

Mona Tavakolan and Nadim Alkharouf,

*“Data mining of Genomic Data Generated from Soybean treated with different phytohormones”*

Imen Bouaziz Mezghanni and Faiez Gargouri,

*“Detecting hidden structures from Arabic electronic documents: Application to the legal field”*

Seongik Park and Yanggon Kim,

*“Building Thesaurus Lexicon using Dictionary-Based Approach for Sentiment Classification”*

Youngsub Han, Yanggon Kim and Ikhyeon Jang,

*“A Method for Extracting Lexicon for Sentiment Analysis based on Morphological Sentence Patterns”*

**Lunch ..... YR459 ..... 1:00pm**

**Session 9..... YR401 ..... 2:30 pm ~ 4:30 pm**

**Session Chair: Kyungeun Park**

**Cloud computing, message, cognitive behavior**

Kyungeun Park, Taesuk Kihl, Seungie Park, Min-Jae Kim and Juno Chang,

*“Narratives and Sensor Driven Cognitive Behavior Training Game Platform”*

Marcel - Titus Marginean and Chao Lu,

*“Multi-Threaded Message Dispatcher Framework for Mission Critical Applications”*

Kyle Schutt and Osman Balci,

*“Cloud Software Development Platforms: A Comparative Overview”*

Chengyang Mi, Huaikou Miao, Jinyu Kai and Honghao Gao,

*“Reliability Modeling and Verification of Bpel-based Web Services Composition by Probabilistic model Checking”*

Amirshahram Hematian, Yinan Yang, Chao Lu and Sepideh Yazdani

*“Human Motion Analysis and Classification Using Radar Micro-Doppler Signatures*

*ULTRA HIGH FREQUENCY POLYNOMIAL AND COSINE ARTIFICIAL HIGHER ORDER NEURAL NETWORKS”*

**Session 10 ..... YR402 ..... Software Process, Modeling**

**Session Chair: Josh Dehlinger**

Xiaofeng Cui,

*“Organizational and Project Process Definition: A Lightweight Framework, Supporting Tool, and Industry Experience”*

Sultan Alyahya, Manal Alqahtani and Mohammed Maddeh,

*“Evaluation and Improvements for Agile Planning Tools”*

Sven Jäger, Ralph Maschotta, Tino Jungebloud, Alexander Wichmann and Armin Zimmermann,

*“Model-Driven Development of Simulation-Based System Design Tools”*

Wafa Gabsi and Bechir Zalila,

*“EMA2AOP: From the AADL Error Model Annex to Aspect Language towards Fault Tolerant Systems”*

Jihen Maâzoun, Nadia Bouassida and Hanene Ben-Abdallah,

*“Variability modeling with a SPL-UML profile”*

**Closing meeting (Organizers) ..... 5 pm**

**June 10, 2016**

**Optional D.C. Tour ..... 7800 York Rd, 4<sup>th</sup> floor ..... 8:30 am**