Software Technology Track (ST)
Co-Chairs: Gul Agha and Rick Kazman

Agile and Lean: Organizations, Products and Development
Minitrack Chair: Daniel Greening, Jeff Sutherland, John Tripp

ST 1   **Grand Ballroom 4**   **Wednesday, 8:00 - 9:30 am**

Adapting Agile in a Globally Distributed Software Development
Rajeev Kumar Gupta, Prabhulinga ManikReddy

Using Scrum in Outsourced Government Projects: An Action Research
Thatiany L. de Sousa, Elaine Venson, Rejane M. da C. Figueiredo, Ricardo A. Kosloski, Luiz C. M. Ribeiro Júnior

Transition of Software Maintenance Teams from Scrum to Kanban
Muhammad Ovais Ahmad, Pasi Kuvaja, Markku Oivo, Jouni Markkula

ST 2   **Grand Ballroom 4**   **Wednesday, 10:00 - 11:30 am**

Towards DevOps in the Embedded Systems Domain: Why is It so Hard?
Lucy Ellen Lwakatare, Teemu Karvonen, Tanja Sauvola, Pasi Kuvaja, Helena Holmström Olsson, Jan Bosch, Markku Oivo

Kaizen Cookbook: The Success Recipe for Continuous Learning and Improvements
Osama Al-Baik, James Miller

Agile Base Patterns in the Agile Canon
Daniel R Greening

ST 3   **Grand Ballroom 4**   **Wednesday, 2:00 - 3:30 pm**

Seeking Technical Debt in Critical Software Development Projects: An Exploratory Field Study
Hadi Ghanbari

Agile Big Data Analytics Development: An Architecture-Centric Approach
Hong-Mei Chen, Rick Kazman, Serge Haziyev

Pair Programming vs. Solo Programming: What Do We Know After 15 Years of Research?
Carolina Alves de Lima Salge, Nicholas Berente

ST 4   **Grand Ballroom 4**   **Wednesday, 4:00 - 5:30 pm**

**Sensemaking and Complexity in Large-Scale Lean-Agile Transformation: A Case Study from Cisco
Ken Power

Open Forum: Agile/Lean Research Challenges and Opportunities

Big Data Engineering
Minitrack Chairs: Hong-Mei Chen, Ian Gorton

ST 5   **Grand Ballroom 7**   **Thursday, 4:00 - 5:30 pm**

Big Data as a Service: A Neo-Metropolis Model Approach for Innovation
Hong-Mei Chen, Rick Kazman, Serge Haziyev, Valentyn Kropov, Dmitri Chtchourov

** Best Paper Nomination

EPIC-OSM: A Software Framework for OpenStreetMap Data Analytics
Jennings Anderson, Robert Soden, Kenneth M. Anderson, Marina Kogan, Leysia Palen

Detection and Visual Inspection of Highly Obfuscated Plagiarisms
Andreas Schmidt, Sören Bühler, Robert Senger, Steffen Scholz, Markus Dickerhof

Cybercrimes, Cyber-Physical Innovations, and Emerging Investigation Challenges
Minitrack Chairs: Brad Glisson, Raymond Choo

ST 6   **Garden Isle 1**   **Wednesday, 4:00 - 5:30 pm**

Service Set Identifier Geolocation for Forensic Purposes: Opportunities and Challenges
Maxim Chernyshev, Craig Valli, Peter Hannay

Capture the Flag as Cyber Security Introduction
Lucas McDaniel, Erik Talvi, Brian Hay

Utilizing the Cloud to Store Hijacked Camera Images
Christos Kynigos, William Bradley Glisson, Todd Andel, Todd McDonald

Cybersecurity and Software Assurance
Minitrack Chairs: Luanne Goldrich, Rick Linger, Richard George

ST 7   **Grand Ballroom 1**   **Friday, 1:00 - 2:30 pm**

Policy Generator (PG): A Heuristic-Based Fuzzer
Alejandro Felix, Andrew F. Tappenden, James Miller

A Unified Model for System Security Engineering Support
Thomas Llansó, Patrick Engebretson

Exploring a Systematic Approach to Malware Threat Assessment
Michele Maasberg, Myung Ko, Nicole L. Beebe

ST 8   **Grand Ballroom 1**   **Friday, 3:00 - 4:30 pm**

**SBoxScope: A Meta S-box Strength Evaluation Framework for Heterogeneous Confusion Boxes
Abrar Ahmad, Muddassar Farooq, Amin

Online Signature Verification Based on Biometric Features
Nan Li, Jiafen Liu, Qing Li, Xubin Luo, Jiang Duan

Using the eR&D Approach to Pilot Deployment and Assessment in DHS
AJ Risko, Luanne Goldrich, Nykia Jackson, Robert Gatlin, Brian Gattoni, Richard Linger

CyberWarfare: Offensive and Defensive Software Technologies
Minitrack Chairs: Brian Hay, Steven LaFountain

ST 9   **Grand Ballroom 5**   **Wednesday, 8:00 - 9:30 am**

**Strategic Implications of Offense and Defense in Cyberwar
Wade L. Huntley

** Best Paper Nomination

Mobile Konami Codes: Analysis of Android Malware Services Utilizing Sensor and Resource-Based State Changes
Jacob Boomgaarden, Joshua Corney, Holly Whittaker, George Dinolt, John McEachen

Defensive Cyber Operations in a Software-Defined Network
Thomas Parker, Jeremy Jones, Joshua Mayberry, Gassium Chanman, Zachary Staples, John McEachen, Murali Tummala

ST 10   **Grand Ballroom 5**   **Wednesday, 10:00 - 11:30 am**

Mitigating 0-days through Heap Techniques - An Empirical Study
Lucas McDaniel, Kara Nance

Open Forum with a panel of experts including Steven LaFountain, Richard M. (Dickie) George, and Victor Piotrowski

Digital Forensics - Education, Research, and Practice
Minitrack Chairs: Kara Nance, Matt Bishop

ST 11   **Grand Ballroom 1**   **Thursday, 8:00 - 9:30 am**

Using Multimedia Presentations to Enhance the Judiciary's Technical Understanding of Digital Forensic Concepts: An Indonesian Case Study
Niken Dwi Wahyu Cahyani, Ben Martini, Kim-Kwang Raymond Choo

An Android Social App Forensics Adversary Model
Abdullah Azfar, Kim-Kwang Raymond Choo, Lin Liu

Text-based Document Similarity Matching Using sdtext
Clay Shields

IS Risk and Decision-Making
Minitrack Chairs: Dan Port, Joe Wilf

ST 12   **Kauai 2**   **Thursday, 2:00 - 3:30 pm**

Which IT Security Investments Will Pay Off for Suppliers? Using the Kano Model to Determine Customers' Willingness to Pay
Rabea Sonnenschein, André Loske, Peter Buxmann

A User-Centered Approach to Phishing Susceptibility: The Role of a Suspicious Personality in Protecting Against Phishing
Brynne Harrison, Arun Vishwanath, Raghav Rao

Optimizing Business Processes Compliance Using an Evolvable Risk-Based Approach
Sérgio Guerreiro, Rui Pedro Marques, Khaled Gaaloul

ST 13   **Kauai 2**   **Thursday, 4:00 - 5:30 pm**

Project Risk Management Incorporating Knight, Ellsberg & Kahneman
John Prpić

Developing a Value-Based Methodology for Satisfying NASA Software Assurance Requirements
Daniel Port, Joel Wilf, Madeline Diep, Carolyn Seaman, Martin Feather

** Best Paper Nomination

Decisions and Disasters: Modeling Decisions that Contribute to Mishaps
Joel Wilf, Dan Port

Mobile App Development
Minitrack Chairs: Tim A. Majchrzak, Henning Heitkoetter

ST 14   **Garden Isle 5**   **Thursday, 8:00 - 9:30 am**

**Developing Apps for Visually Impaired People: Lessons Learned from Practice
Eduardo Ghidini, Wagner D. L. Almeida, Isabel H. Manssour, Milene S. Silveira

MAsCOT: Self-adaptive Opportunistic Offloading for Cloud-Enabled Smart Mobile Applications with Probabilistic Graphical Models at Runtime
Nayyab Zia Naqvi, Jonas Devlieghere, Davy Preuveneers, Yolande Berbers

An Investigation of Usability of Push Notifications on Mobile Devices for Novice and Expert Users
Wen Yong Chua, Klarissa T.T. Chang

ST 15   **Garden Isle 5**   **Thursday, 10:00 - 11:30 am**

Mobile Application Developers' Platform Choice Model
Abhinay Puvvala, Amitava Dutta, Rahul Roy, Priya Seetharaman

Meeting Quality Standards for Mobile Application Development in Businesses: A Framework for Cross-Platform Testing
Tor-Morten Groenli, Gheorghita Ghinea

Towards a Reference Architecture for Model-Driven Business Apps
Sören Evers, Jan Ernsting, Tim A. Majchrzak

Modern Trends in Parallel Computing
Minitrack Chairs: Peter Salhofer

ST 16   **Garden Isle 5**   **Thursday, 2:00 - 3:30 pm**

Tuning OpenCL Applications with the Periscope Tuning Framework
Enes Bajrovic, Robert Mijakovic, Jiri Dokulil, Siegfried Benkner, Michael Gerndt

OpenMP is Not as Easy as It Appears
Rogério Gonçalves, Marcos Amaris, Thiago Okada, Pedro Bruel, and Alfredo Goldman

Open Forum

Securing the Cloud and the Internet of Things
Minitrack Chairs: William J. Yeager, Jean-Henry Morin

ST 17   **Kuhio Theater**   **Friday, 1:00 - 2:30 pm**

Security in Internet of Things: Challenges, Solutions and Future Directions
Sathish Alampalayam Kumar, Tyler Vealey, Harshit Srivastava

Securing D2D Wireless Links by Continuous Authenticity with Legitimacy Patterns
Ibrahim Abualhaol, Steven Muegge

** Best Paper Nomination

Software Product Lines: Engineering, Services, and Management
Minitrack Chairs: Timo Käkölä, Andrea Leitner

ST 18   **Grand Ballroom 7**   **Friday, 1:00 - 2:30 pm**

XANA: An End User Software Product Line Framework for Smart Spaces
Vasilios Tzeremes, Hassan Gomaa

**Understanding How Social-Behavioural Science Theory Can Explain the Design of Software Websites
Arun Vishwanath, Brynne Harrison, Yu Jie Ng

Generating App Product Lines in a Model-Driven Cross-Platform Development Approach
Jan C. Dageförde, Tobias Reischmann, Tim A. Majchrzak, Jan Ernsting

ST 19   **Grand Ballroom 7**   **Friday, 3:00 - 4:30 pm**

Feature-based Variability Management for Scalable Enterprise Applications: Experiences with an E-Payment Case
Davy Preuveneers, Thomas Heyman, Yolande Berbers, Wouter Joosen

OntoSoft Process: Towards an Agile Process for Ontology-based Software
Joice B. Machado, Seiji Isotani, Ellen F. Barbosa, Judson Bandeira, Williams Alcantara, Armando Barbosa, Ig Bittencourt

Evaluation Framework for Analyzing the Applicability of Criteria Lists for the Selection of Requirements Management Tools Supporting Distributed Software Product Line Requirements Management
Maria Florencia Santillan, Timo Käkölä

Wireless Network
Minitrack Chairs: Edoardo Biagioni, John McEachen, Murali Tummala

ST 20   **Garden Isle 5**   **Thursday, 4:00 - 5:30 pm**

**Cellular Synchronization Assisted Refinement (CeSAR): A Method for Accurate Geolocation in LTE-A Networks
John D. Roth, Murali Tummala, James W. Scrofani

Cluster Head Selection in Wireless Mobile Ad Hoc Networks Using Spectral Graph Theory Techniques
Thomas Parker, John McEachen

Constructing A Shortest Path Overhearing Tree With Maximum Lifetime In WSNs
Wael Y. Alghamdi, Hui Wu, Wenguang Zheng, Salil S. Kanhere

Experimenting Broadcast Storm Mitigation Techniques in FANETs
Rayner de Melo Pires, Sergio Zumpano Arnosti, Alex Sandro Roschildt Pinto, Kalinka R L J C Branco

** Best Paper Nomination