QRS 2017 Preliminary Session Schedule

Tuesday, July 25, 2017		
08:00–09:00	Registration	Foyer
09:00–12:30	• T1: Data Science and Measurement in Software Reliability Engineering Pete Rotella (Cisco Systems, USA) Sunita Chulani (Cisco Systems, USA) • T3: Network Security – Securing and Breaking Secure Protocols Rudolf Blažek (Boxtrap spol. s r.o, Czech Republic) • T5: Mining Application Traces at Scale with Apache Spark Vincent Leroy (University of Grenoble, France) • IoT Workshop	
12:30–13:30	Lunch Break	Foyer
13:30–17:00	• T2: The Bugs Framework (BF) “Hands-On” Irena Bojanova (National Institute of Standards and Technology, USA) • T4: Hardware Security – Breaking Ciphers of Chip Cards Martin Novotný (Czech Technical University in Prague, Czech Republic) Jiří Buček (Czech Technical University in Prague, Czech Republic) • T6: The Correctness-by-Construction Approach to Programming Bruce Watson (Stellenbosch University, South Africa) Ina Schaefer (Technische Universität Braunschweig, Germany) • IoT Workshop	

Wednesday, July 26, 2017		
07:30–08:30	Registration	Foyer
08:30–08:40	Opening Ceremony • Steering Committee Chair: W. Eric Wong (University of Texas at Dallas, USA) • General Chairs: Mladen Vouk (North Carolina State University, USA) Irena Bojanova (National Institute of Standards and Technology, USA) • Program Chairs: Manuel Nuñez (Universidad Complutense de Madrid, Spain) Tadashi Dohi (Hiroshima University, Japan) Xiaoying Bai (Tsinghua University, China)	
08:40–09:40	• Keynote Speech I *NIST Cybersecurity Research and Development: Thoughts of the Future* Matthew Scholl National Institute of Standards and Technology, USA	
09:40–10:00	Coffee Break	Foyer
10:00–12:05	• Session I-A: Verification and Validation I • Session I-B: Fault Localization • Session I-C: Security • Session I-D: Quality by Design • Session I-E: International Contest on Software Testing	
12:05–14:00	Lunch Break Poster Session I	Foyer
14:00–15:40	• Session II-A: Industry Track I − Testing and Inspection • Session II-B: Reliability Modeling and Optimization I • Session II-C: Information Assurance I • Session II-D: Security, Reliability, and Resilience in Wireless Sensor Networks and Smart Grid I • Session II-E: International Contest on Software Testing	
15:40–16:00	Coffee Break	Foyer
16:00–17:40	• Session III-A: Industry Track II − Analysis and Modeling • Session III-B: Reliability Modeling and Optimization II • Session III-C: Testing of Cyber-Physical Systems in the Cloud • Session III-D: Security, Reliability, and Resilience in Wireless Sensor Networks and Smart Grid II • Session III-E: International Contest on Software Testing	
18:00–19:30	Conference Reception	

Thursday, July 27, 2017		
07:30–08:30	Registration	Foyer
08:30–09:30	• Keynote Speech II *IoT-Testware – an Eclipse Project* Ina Schieferdecker Fraunhofer FOKUS/Technical University Berlin, Germany	
09:30–10:00	Coffee Break	Foyer
10:00–12:05	• Session IV-A: Quality Analytics • Session IV-B: Security and Networking • Session IV-C: Verification and Validation II • Session IV-D: Security, Reliability, and Resilience in Wireless Sensor Networks and Smart Grid III • Session IV-E: Combinatorial Testing and Its Applications I	
12:05–14:00	Lunch Break Poster Session II	Foyer
14:00–15:40	• Session V-A: Panel on Conflicts and Synergies among Quality Requirements • Session V-B: Resilience Engineering and Economics • Session V-C: Information Assurance II Session V-D: Security, Reliability, and Resilience in Wireless Sensor Networks and Smart Grid IV • Session V-E: Combinatorial Testing and Its Applications II	
15:40–19:00	Conference Excursion to Old Town, Prague (Guided Tour)	
19:00–21:00	Conference Banquet, Music Performance, and Award Ceremony (Kaiserstein Palace)	

Friday, July 28, 2017		
07:30–08:30	Registration	Foyer
08:30–09:30	• Keynote Speech III *Engineering Fine-Grain Dependability Requirements* Zhi Jin Peking University, China	
09:30–10:00	Coffee Break	Foyer
10:00–12:05	• Session VI-A: Quality Prediction • Session VI-B: Measurement and Management • Session VI-C: Analysis, Design and Modeling • Session VI-D: Human and Social Aspects of Software Quality • Session VI-E: Trustworthy Computing	
12:05–14:00	Lunch Break Poster Session III	Foyer
14:00–15:40	• Session VII-A: Safety and Security in Cyber-Physical Systems I • Session VII-B: Fast Abstract I (16 minutes each) • Session VII-C: Software Engineering and Big Data I • Session VII-D: Software Engineering and Knowledge Management I • Session VII-E: Software Cybernetics	
15:40–16:00	Coffee Break	Foyer
16:00–17:40	• Session VIII-A: Safety and Security in Cyber-Physical Systems II • Session VIII-B: Fast Abstract II (16 minutes each) • Session VIII-C: Software Engineering and Big Data II • Session VIII-D: Software Engineering and Knowledge Management II	

Saturday, July 29, 2017		
09:30–11:00	QRS 2018 Planning Meeting (Open to public)	

Wednesday, July 26, 2017	
07:30–08:30	Registration (Foyer)
08:30–08:40	Opening Ceremony Room: TBA • Steering Committee Chair: W. Eric Wong (University of Texas at Dallas, USA) • General Chairs: Mladen Vouk (North Carolina State University, USA) Irena Bojanova (National Institute of Standards and Technology, USA) • Program Chairs: Manuel Nuñez (Universidad Complutense de Madrid, Spain) Tadashi Dohi (Hiroshima University, Japan) Xiaoying Bai (Tsinghua University, China)
08:40–09:40	• **Keynote Speech I** Room: TBA *NIST Cybersecurity Research and Development: Thoughts of the Future* Matthew Scholl National Institute of Standards and Technology, USA
09:40–10:00	Coffee Break (Foyer)
10:00–12:05	• Session I-A: Verification and Validation I Chair: TBA Room: TBA o *RESTful API Automated Test Case Generation* Andrea Arcuri o *Which Factor Impacts GUI Traversal-Based Test Case Generation Technique Most?* Bo Jiang, Yaoyue Zhang, W.K. Chan, and Zhenyu Zhang o *Improving Random Test Sets Using A Locally Spreading Approach* Xiangyang Huang, LiGuo Huang, Shudong Zhang, Lijuan Zhou, Minhua Wu, and Mingrui Chen o *Widget-Sensitive and Back-Stack-Aware GUI Exploration for Testing Android Apps* Jiwei Yan, Tianyong Wu, Jun Yan, and Jian Zhang o *Using Off-the-Shelf Exception Support Components in C++ Verification* Vladimír Štill, Petr Ročkai, and Jiří Barnat
10:00–12:05	• Session I-B: Fault Localization Chair: TBA Room: TBA o *Improving Spectrum-Based Fault Localization for Spreadsheet Debugging* Elisabeth Getzner, Birgit Hofer, and Franz Wotawa o *A Critical Evaluation of Spectrum-Based Fault Localization Techniques on A Large-Scale Software System* Fabian Keller, Lars Grunske, Simon Heiden, Antonio Filieri, Andre van Hoorn, and David Lo o *Statement-Oriented Mutant Reduction Strategy for Mutation Based Fault Localization* Yong Liu, Zheng Li, Linxin Wang, Zhiwen Hu, and Ruilian Zhao

	○ *Improving Faulty Interaction Localization Using Logistic Regression* Kinari Nishiura, Eun-Hye Choi, and Osamu Mizuno ○ *Can Robot Navigation Bugs Be Found in Simulation? An Exploratory Study* Thierry Sotiropoulos, Hélène Waeselynck, Jérémie Guiochet, and Félix Ingrand
10:00–12:05	• Session I-C: Security Chair: TBA Room: TBA ○ *Towards Automation in Information Security Management Systems* Michael Brunner, Christian Sillaber, and Ruth Breu ○ *HyDroid: A Hybrid Approach for Generating API Call Traces from Obfuscated Android Applications for Mobile Security* Kobra Khanmohammadi, and Abdelwahab Hamou-Lhadj ○ *Security Requirements Engineering Using Structured Object-Oriented Formal Language For M-Banking Applications* Busalire Onesmus Emeka, and Shaoying Liu ○ *Access Control in Water Distribution Networks: A Case Study* Sridhar Adepu, Gyanendra Mishra, and Aditya Mathur ○ *A Method for Developing Algorithms for Assessing Cyber-Risk Cost* Gencer Erdogan, Alejandra Gonzalez, Atle Refsdal, and Fredrik Seehusen
10:00–12:05	• Session I-D: Quality by Design Chair: TBA Room: TBA ○ *Engineering Adaptive User Interfaces Using Monitoring-Oriented Programming* Aaron John Buhagiar, Gordon J. Pace, and Jean-Paul Ebejer ○ *Are Your Classes Well-encapsulated? Encapsulation Analysis for Java* Zhenhao Tang, Juan Zhai, Bin Li, and Jianhua Zhao ○ *Intersert: Assertions on Distributed Process Interaction Sessions* Zack Newsham, Augusto Born de Oliveira, Jean-Christophe Petkovich, Ahmad Saif Ur Rehman, Guy Martin Tchamgoue, and Sebastian Fischmeister ○ *Software Reliability as User Perception* Felipe Febrero, M Angeles Moraga, and Coral Calero ○ *Modeling and Analyzing the Android Permission Framework Using High Level Petri Nets* Xudong He
10:00–12:05	• Session I-E: International Contest on Software Testing Room: TBA
12:05–14:00	Lunch Break (Foyer) Poster Session I
14:00–15:40	• Session II-A: Industry Track I (Testing and Inspection) Chair: Pete Rotella Room: TBA

	○ *Experiences in Testing and Analyzing Data Intensive Systems* Teemu Kanstrén ○ *A Journey from Manual Testing to Automated Test Generation in An Industry Project* Claus Klammer and Rudolf Ramler ○ *On Business Drivers for Firmware Test: A Wake-Up Call for Software Engineering Research?* Bernhard Peischl ○ *A Framework for Combining and Ranking Static Analysis Tool Findings Based on Tool Performance Statistics* Achilleas Xypolytos, Haiyun Xu, Barbara Vieira, and Amr M.T. Ali-Eldin ○ *Dynamic Test Selection Using Source Code Changes* Matthew Campbell, Kent Martin, Ferenc Bozóki, and Mike Atkinson
14:00–15:40	• Session II-B: Reliability Modeling and Optimization I Chair: TBA Room: TBA ○ *Stochastic Comparisons of Used Coherent System and New System of Used Components for Non-Identically Distributed and Dependent Components* Rui Fang and Xiaohu Li ○ *An Importance Based Algorithm for Reliability-Redundancy Allocation of Phased Mission Systems* Xinyang Wu and Xiaoyue Wu ○ *Criticality Analysis Method Based on Integrated Importance Measure* Shubin Si, Wenhai He, and Xianzhi Wang ○ *Reliability Analysis for A Degradation System Subject to Dependent Soft and Hard Failure Processes* Hongda Gao and Lirong Cui
14:00–15:40	• Session II-C: Information Assurance I Chair: TBA Room: TBA ○ *Context-Aware Adaptation of Mobile Applications Driven by Software Quality and User Satisfaction* Mai Abusair, Antinisca Di Marco, and Paola Inverardi ○ *Activity-based Model Synchronization and Defects Detection for Small Teams* Jakub Ondik, Martin Olejar, Karol Rastocny, and Maria Bielikova ○ *Toward Summary Extraction Method for Functional Topic* Wenpeng Li, Yingkui Cao, Junfeng Zhao, Yanzhen Zou, and Bing Xie ○ *How Domain Knowledge Accumulation Influences Software Defects: An Empirical Analysis* Peng Xiao, Bin Liu, Xiaobo Yan, and Fuqun Huang
14:00–15:40	• Session II-D: Security, Reliability, and Resilience in Wireless Sensor Networks and Smart Grid I Chair: TBA Room: TBA

	○ *Rolling Bearing Vibration Signal Analysis Based on Dual-Entropy, Holder Coefficient and Gray Relation Theory* Yulong Ying, Jingchao Li, Zhimin Chen, and Jing Li ○ *Web Service Reliability Test Method Based on Log Analysis* Xuetao Tian, Honghui Li, and Feng Liu ○ *Network Anomaly Detection Based on Dynamic Hierarchical Clustering of Cross Domain Data* Yang Liu, Hongping Xu, Hang Yi, Zhen Lin, Jian Kang, Weiqiang Xia, Qingping Shi, Youping Liao, and Yulong Ying ○ *Research on the Measurement and Transmission Network System of New Launch Vehicle Based on Cloud Computing* Yuanyi Liu, Wenming Wang, Jian Kang, Youping Liao, Yang Liu, Qingping Shi, Weiqiang Xia, and Mingyu Hu
14:00–15:40	• Session II-E: International Contest on Software Testing Room: TBA
15:40–16:00	Coffee Break (Foyer)
16:00–17:40	• Session III-A: Industry Track II (Analysis and Modeling) Chair: Tomáš Zahradnický Room: TBA ○ *Improving Trace Generation and Analysis for Medical Devices* Yoann Blein, Arnaud Clère, Fabrice Bertrand, Yves Ledru, Roland Groz, and Lydie du Bousquet ○ *An Integrated Architecture for IoT Fingerprinting* Fehmi Jaafar ○ *A Black-Box Approach to Latency and Throughput Analysis* Daniel Brahneborg, Wasif Afzal, and Adnan Causevic ○ *Security Analytics in the Big Data Era* Dušan Mondek, Rudolf B. Blažek, and Tomáš Zahradnický ○ *Software Release-Over-Release Comparisons* Pete Rotella and Sunita Chulani
16:00–17:40	• Session III-B: Reliability Modeling and Optimization II Chair: TBA Room: TBA ○ *Circuit Reliability Analysis Using Signal Reliability Correlations* Jinchen Cai and Chunhong Chen ○ *Residual Life Estimation By Fusing Few Failure Lifetime and Degradation Data from Real-Time Updating* Shiqi Liu, Hao Chen, Bo Guo, and Xiang Jia ○ *An Object-Oriented Simulation Model for Reliability of PMS with Time Redundancy* Xiaoyue Wu and Bo Guo ○ *Comparing and Goaling Releases Using Software Reliability Classes* Pete Rotella and Sunita Chulani

16:00–17:40	• Session III-C: Testing of Cyber-Physical Systems in the Cloud Chair: Heinz Schmidt Room: TBA o Invited Talk (16:00 – 16:50) Formal Analysis of Control Software for Cyber-Physical Systems Peter Herrmann and Jan Olaf Blech o Paper Presentation (16:50 – 17:15) A Candidate Architecture for Cloud-based Monitoring in Industrial Automation Ian David Peake and Jan Olaf Blech o Paper Presentation (17:15 – 17:40) A Systematic Mapping Study of Empirical Studies on Software Cloud Testing Methods Amro Al-Said Ahmad, Pearl Brereton, and Peter Andras
16:00–17:40	• Session III-D: Security, Reliability, and Resilience in Wireless Sensor Networks and Smart Grid II Chair: TBA Room: TBA o *Opportunistic Transmission Mechanism Based on SI in Mobile Crowd Sensing Networks* Bing Jia, Shuai Liu, Tao Zhou, and Zhendong Xu o *Automatic Modulation Recognition of Digital Signals Based on Fisherface* Shanshan Jin, Yun Lin, and Hui Wang o *Evaluation of Lithium Batteries Based on Continuous Hidden Markov Model* Yun Lin, Mingyu Hu, Xuhong Yin, Jian Guo, and Zhaojun Li o *A Distributed Intrusion Detection System For Cognitive Radio Networks Based On Evidence Theory* Meiyu Wang, Zhigang Li, and Yun Lin
16:00–17:40	• Session III-E: International Contest on Software Testing Room: TBA
18:00–19:30	Conference Reception Location: TBA

Thursday, July 27, 2017	
07:30–08:30	**Registration** (Foyer)
08:30–09:30	• **Keynote Speech II** Room: TBA *IoT-Testware – an Eclipse Project* Ina Schieferdecker Fraunhofer FOKUS/Technical University Berlin, Germany
09:30–10:00	Coffee Break (Foyer)
10:00–12:05	• Session IV-A: Quality Analytics Chair: TBA Room: TBA o *DURFEX: A Feature Extraction Technique for Efficient Detection of Duplicate Bug Reports* Korosh Koochekian Sabor, Abdelwahab Hamou-Lhadj, and Alf Larsson o *Towards Better Understanding of Software Quality Evolution Through Commit-Impact Analysis* Pooyan Behnamghader, Reem Alfayez, Kamonphop Srisopha, and Barry Boehm o *The Effect of Gang-of-Four Design Patterns Usage on Design Quality Attributes* Shahid Hussain, Jacky Keung, and Arif Ali Khan o *On the Analysis of Co-Occurrence of Anti-Patterns and Clones* Fehmi Jaafar, Angela Lozano, Yann-Gael Gueheneuc, and Kim Mens o *How Do Developers Toggle Breakpoints? Observational Studies* Fabio Petrillo, Hyan Mandian, Aiko Yamashita, Foutse Khomh, and Yann-Gael Gueheneuc
10:00–12:05	• Session IV-B: Security and Networking Chair: TBA Room: TBA o *FESR: A Framework for Eliciting Security Requirements based on Integration of Common Criteria and Weakness Detection Formal Model* Hongbo Li, Xiaohong Li, Jianye Hao, Guangquan Xu, Zhiyong Feng, and Xiaofei Xie o *Detecting Cross-Site Scripting Vulnerabilities through Automated Unit Testing* Mahmoud Mohammadi, Bill Chu, and Heather Richter Lipford o *Towards Optimally Hiding Protected Assets in Software Applications* Leonardo Regano, Daniele Canavese, Cataldo Basile, and Antonio Lioy o *A Game-Theoretic Based QoS-Aware Capacity Management for Real-time EdgeIoT Applications* Suleiman Onimisi Aliyu, Feng Chen, Ying He, and Hongji Yang o *Using Segment-based Alignment to Extract Packet Structures from Network Traces* Othman Esoul and Neil Walkinshaw
10:00–12:05	• Session IV-C: Verification and Validation II Chair: TBA

	Room: TBA o *Transferring Context-dependent Test Inputs* André Reichstaller and Alexander Knapp o *Towards Ex Vivo Testing of MapReduce Applications* Jesús Morán, Antonia Bertolino, Claudio de la Riva, and Javier Tuya o *A Novel Model for Software Development and Testing in Programmable Logic* Tao Zhang, Yu Su, Jianmin Wang, and Jinbo Wang o *Is Mutation Analysis Effective at Testing Android Apps?* Lin Deng, Jeff Offutt, and David Samudio o *WinHeap Explorer: Efficient and Transparent Heap-based Bug Detection in Machine Code* Maksim Shudrak
10:00–12:05	• Session IV-D: Security, Reliability, and Resilience in Wireless Sensor Networks and Smart Grid III Chair: TBA Room: TBA o *Recognition Method of Software Defined Radio Signal Based on Evidence Theory and Interval Grey Relation* Hui Wang, Lili Guo, and Yun Lin o *Portable Safety Voice Information Recording Equipment* Sen Wang and Yun Lin o *A Method for Modulation Recognition Based on Entropy Features and Random Forest* Zhen Zhang, Yibing Li, Xiaolei Zhu, and Yun Lin o *A Biological Image Restoration Method with Independently Local Dictionary Learning* Wu Qidi and Li Yibing o *Research on Physical Layer Security of Cognitive Radio Network Based on RF-DNA* Chao Wang, Yun Lin, and Zhen Zhang
10:00–12:05	• Session IV-E: Combinatorial Testing and Its Application I Chair: TBA Room: TBA o Keynote (10:00 – 10:50) TBA W. Eric Wong, University of Texas at Dallas, USA o Paper Presentation (10:50 – 11:15) Combinatorial Methods of Feature Selection for Cell Image Classification Sergiy Vilkomir, Jiabin Wang, Nam Le Thai, and Junhua Ding o Paper Presentation (11:15 – 11:40) Combinatorial and MC/DC Coverage Levels of Random Testing Sergiy Vilkomir, Aparna Alluri, D. Richard Kuhn, and Raghu N. Kacker

	○ Paper Presentation (11:40 – 12:05) On the Effectiveness of Combinatorial Interaction Testing: A Case Study Miroslav Bures, and Bestoun S. Ahmed
12:05–14:00	Lunch Break (Foyer) Poster Session II
14:00–15:40	• Session V-A: Panel *Conflicts and Synergies among Quality Requirements* Chairs: Barry Boehm and Xavier Franch Room: TBA
14:00–15:40	• Session V-B: Resilience Engineering and Economics Chair: TBA Room: TBA ○ *Resilience in Homogeneous Networks: A Strategic Network Formation Approach* Babak Heydari ○ *CsPI: A New Way to Evaluate Cybersecurity Investments* Summer Fowler and Peter P. Chen ○ *Risky Cyber Security: '7012' Regulations Federally-Driven Inhibitor to Resilience within the Defense Industrial Base: A Position Paper* Larisa Breton ○ *Resilience Mechanism for Trustworthy Workflow Management System* Qiang Han
14:00–15:40	• Session V-C: Information Assurance II Chair: TBA Room: TBA ○ *Automated Performance Deviation Detection Across Software Versions Releases* Abderrahmane Benbachir, Isnaldo Francisco De Melo jr, Michel Dagenais, and Bram Adams ○ *The Failure Behaviors of Multi-faults Programs: An Empirical Study* Yan Xiaobo, Liu Bin, and Li Jianxing ○ *Predicting Release Reliability* Pete Rotella and Sunita Chulani ○ *An Empirical Study on the Usage of SQL Execution Traces for Program Comprehension* Nesrine Noughi, Stefan Hanenberg, and Anthony Cleve
14:00–15:40	• Session V-D: Security, Reliability, and Resilience in Wireless Sensor Networks and Smart Grid IV Chair: TBA Room: TBA ○ *Modulation Recognition of Digital Signal Based On Deep Auto-Ancoder Network* Tu Ya, Yun Lin, and Hui Wang ○ *Effects of Improper Ground Truth on Target Tracking Performance Evaluation in Benchmark* Gaocheng Liu, Shuai Liu, Mengye Lu, and Zheng Pan

	○ *A Zombie Account Detection Method in Microblog Based on the Pagerank* Shaobo Li, Xuhang Li, He Yang, Guanglu Sun, and Fei Lang ○ *A New Recognition Method for M-QAM Signals IN SOFTWARE DEFINED RADIO* Yuning Zhao, Xiaodong Yang, and Yun Lin
14:00–15:40	• Session V-E: Combinatorial Testing and Its Application II Chair: TBA Room: TBA ○ *An Approach for Choosing the Best Covering Array Constructor to Use* Hanefi Mercan, Cemal Yilmaz, and Kamer Kaya ○ *A Parameter Free Choice Function Based HyperHeuristic Strategy for Pairwise Test Generation* Fakhrud Din, Abdul Rahman A. Alsewari, and Kamal Z. Zamli ○ *Can Pairwise Testing Perform Comparably to Manually Handcrafted Testing Carried Out by Industrial Engineers?* Peter Charbachi, Linus Eklund, and Eduard Enoiu ○ *Combinatorial Testing of Full Text Search in Web Applications* M S Raunak, D. Richard Kuhn, and Raghu Kacker
15:40–19:00	Conference Excursion to Old Town, Prague (Guided Tour)
19:00–21:00	Conference Banquet, Music Performance, and Award Ceremony Location: Kaiserstein Palace

Friday, July 28, 2017	
07:30–08:30	**Registration** (Foyer)
08:30–09:30	• **Keynote Speech III** Room: ~~~~~~~ *Engineering Fine-Grain Dependability Requirements* Zhi Jin Peking University, China
09:30–10:00	Coffee Break (Foyer)
10:00–12:05	• Session VI-A: Quality Prediction Chair: TBA Room: TBA o *Predicting Bugs in Software Code Changes Using Isolation Forest* Yueyang He, Xiaoyan Zhu, Guangtao Wang, Heli Sun, and Yong Wang o *Predicting Fault-Prone Classes in Object-Oriented Software: An Adaptation of An Unsupervised Hybrid SOM Algorithm* Alexandre Boucher, and Mourad Badri o *Software Defect Prediction via Convolutional Neural Network* Jian Li, Pinjia He, Jieming Zhu, and Michael R. Lyu o *Predicting the Life Expectancy of Railway Fail-safe Signaling Systems Using Dynamic Models with Censoring* Petr Novak, Martin Danhel, Rudolf B. Blazek, Martin Kohlik, and Hana Kubatova o *Investigating the Significance of Bellwether Effect to Improve Software Effort Estimation* Solomon Mensah, Jacky Keung, Stephen G. MacDonell, Michael F. Bosu, and Kwabena E. Bennin
10:00–12:05	• Session VI-B: Measurement and Management Chair: TBA Room: TBA o *How Do Coupled File Changes Influence How Developers Seek Help During Maintenance Tasks?* Jasmin Ramadani and Stefan Wagner o *Should I Bug You? Identifying Domain Experts in Software Projects Using Code Complexity Metrics* Ralf Teusner, Christoph Matthies, and Philipp Giese o *Assessing the Quality of Tabular State Machines through Metrics* Ammar Osaiweran, Jelena Marincic, and Jan Friso Groote o *Cross-Project Defect Prediction Using A Credibility Theory based Naive Bayes Classifier* Wai Nam Poon, Kwabena Ebo Bennin, Jianglin Huang, Passakorn Phannachitta, and Jacky Wai Keung o *An Empirical Analysis of Three-stage Data-Preprocessing for Analogy-Based Software Effort Estimation on the ISBSG Data* Jianglin Huang, Yan-Fu Li, Jacky Wai Keung, Yuen Tak Yu, and W.K. Chan

10:00–12:05	• Session VI-C: Analysis, Design and Modeling Chair: TBA Room: TBA o *VR City: Software Analysis in Virtual Reality Environment* Juraj Vincur, Pavol Navrat, and Ivan Polasek o *Hardware Identification via Sensor Fingerprinting in A Cyber Physical System* Chuadhry Mujeeb Ahmed and Aditya Mathur o *Model-Based Analysis of Timing and Energy Constraints in An Autonomous Vehicle System* Eun-Young Kang, Dongrui Mu, Li Huang, and Qianqing Lan o *From Design to Invariants: Detecting Attacks on Cyber Physical Systems* Sridhar Adepu and Aditya Mathur o *Modeling and Verification of User Interactions Using Constraint Programming* Mats Carlsson, Olga Grinchtein, and Justin Pearson
10:00–12:05	• Session VI-D: Human and Social Aspects of Software Quality Chair: TBA Room: TBA o *Improving MC/DC and Fault Detection Strength Using Combinatorial Testing* Dong Li, Linghuan Hu, Ruizhi Gao, W. Eric Wong, D. Richard Kuhn, and Raghu N. Kacker o *An In-Depth Study of the Efficiency of Risk Evaluation Formulas for Multi-Fault Localization* Xiaolin Ju, Xiang Chen, Yibiao Yang, Shujuan Jiang, Junyan Qian, and Baowen Xu o *Could We Predict the Result of A Continuous Integration Build? An Empirical Study* Jing Xia and Yanhui Li o *Influence of the Distance Calculation Error on the Performance of Adaptive Random Testing* Yuanchao Qi, Ziyuan Wang, and Yongming Yao o *Design and Implementation of Combinatorial Testing Tools* Yongming Yao, Yiyang Yan, Ziyuan Wang, and Chen Liu
10:00–12:05	• Session VI-E: Trustworthy Computing Chair: TBA Room: TBA o *Managing Client-Specific Customised Functions in Multi-Tenant Software-As-A-Service* Khaled M. Khan and Zhuhan Jiang o *Provenance Information-Based Trust Evaluation Using Cooperation Pattern for Self-Adaptive Systems* Hyo-Cheol Lee and Seok-Won Lee

	○ *A Model Driven Approach for Device Driver Development* Yunwei Dong, Yuanyuan He, Yin Lu, and Hong Ye ○ *Highly-Available Applications on Unreliable Infrastructure: Microservice Architectures in Practice* Daniel Richter, Marcus Konrad, Katharina Utecht, and Andreas Polze ○ *Testing the Effectiveness of Attack Detection Mechanisms in Industrial Control Systems* Gayathri Sugumar and Aditya Mathur
12:05–14:00	Lunch Break (Foyer) Poster Session III
14:00–15:40	• Session VII-A: Safety and Security in Cyber-Physical Systems I Chair: TBA Room: TBA ○ *Verification and Validation of A Cyber-Physical System in the Automotive Domain* Eun-Young Kang, Dongrui Mu, Li Huang, and Qianqing Lan ○ *Towards An Integrated Model for Safety and Security Requirements of Cyber-Physical Systems* Michael Brunner, Michael Huber, Clemens Sauerwein, and Ruth Breu ○ *WaterJam: An Experimental Case Study of Jamming Attacks on A Water Treatment System* Sridhar Adepu, Jay Prakash, and Aditya Mathur ○ *Optimizing Monitor Code Based on Patterns in Runtime Verification* Ge Zhou, Wei Dong, Wanwei Liu, Hao Shi, Chi Hu, and Liangze Yin
14:00–15:40	• Session VII-B: Fast Abstract I (16 minutes each) Chair: TBA Room: TBA ○ *Analysis of Software Service Usage in Healthcare Communication Services* Ashkan Hemmati, Chris Carlson, Maleknaz Nayebi, Guenther Ruhe, and Chad Saunders ○ *An Enhanced Handover Scheme Adopting Mobile Relays in A LTE-A Network for High-Speed Movements* Li-Wen Chen and Yu-Lun Huang ○ *Spatio-Temporal Aware Testing for Complex Systems* Huai Liu, Jan Olaf Blech, Matt Duckham, and Heinz W. Schmidt ○ *Towards Effective and Scalable Testing for Complex High-Speed Railway Signal Software* Chunfeng Hu, Jin Guo, Nan Li, Yao Li, Chang Rao, and Siqi Liu ○ *Towards Automating Integration Testing of .NET Applications Using Roslyn* Mehrdad Saadatmand ○ *A Spatial-Temporal Model for Software Fault Tolerance in Safety-Critical Applications* Tao Zhang and Jinbo Wang

14:00–15:40	• Session VII-C: Software Engineering and Big Data I Chair: TBA Room: TBA o *Use Neural Network to Improve Fault Injection Testing* Yichen Wang and Yikun Wang o *Target Signal Synchronization Transmission in Coupling Network with Uncertain Parameters* Ting Zhang and Fuke Chang o *A Method of Personalized Tag Prediction Based on Graph Structure* Huang Yuan o *Identifying Indicators of Fake Reviews Based on Spammer's Behavior Features* Pan Liu, Zhenning (Jimmy) Xu, Jun Ai, and Fei Wang
14:00–15:40	• Session VII-D: Software Engineering and Knowledge Management I Chair: TBA Room: TBA o *Automated Extraction of Feature Models from Android Based Portable Devices* Ilker Yildirim and Hasan Sozer o *The Effect of Personality on Team Performance: An Interpersonal Knowledge Interaction Perspective* Xin Yue and Yanzhong Dang o *Modeling of Hazard Affected Regions in Support of Scenario Evolution Analysis for Unconventional Emergency* Lili Rong and Zijun Qie o *An Empirical Study on How Empowering Leadership Affects the Team Creativity* Jiangning Wu, Xiangjie Ku, and Donghua Pan
14:00–15:40	• Session VII-E: Software Cybernetics Chair: TBA Room: TBA o *A Content-Based Phishing Email Detection Method* Hongming Che, Qinyun Liu, Lin Zou, Hongji Yang, Dongdai Zhou, and Feng Yu o *Emergency Travel Plan Generation Based on Cybernetics* Sicong Ma, Hongji Yang, Lu Zhang, Dongdai Zhou, and Hua Zhou o *QoS-Aware Resource Management in SDN-Based InterClouds: A Software Cybernetics Perspective* Suleiman Onimisi Aliyu, Feng Chen, and Ying He o *Compressing Uniform Test Suites Using Variational Autoencoders* Andre Reichstaller and Alexander Knapp
15:40–16:00	Coffee Break (Foyer)
16:00–17:40	• Session VIII-A: Safety and Security in Cyber-Physical Systems II Chair: TBA

	Room: TBA o *Monitor Synthesis for Parametric MTL Properties in Discrete Control Software* Hao Shi, Wei Dong, Ge Zhou, and Liangze Yin o *Optimal Test Case Generation for Simulink Models Using Slicing* Zhenying Jiang, Xiao Wu, Zeqian Dong, and Ming Mu o *Constraint-Based Consistency Checking for Multi-View Models of Cyber-Physical System* Gang Yang, Yuanyuan Lian, and Xingshe Zhou
16:00–17:40	• Session VIII-B: Fast Abstract II (16 minutes each) Chair: TBA Room: TBA o *Model Dressing for Automated Exploratory Testing* Mehmet Cagri Calpur, Sevgi Arca, Tansu Cagla Calpur, and Cemal Yilmaz o *Using Eye Tracking Technology to Analyze the Impact of Stylistic Inconsistency on Code Readability* Qing Mi, Jacky Keung, Jianglin Huang, and Yan Xiao o *Scalability of Cloud Based SCIT-MTD* Quyen L Nguyen and Arun Sood o *Quality Evaluation of Digital Soft IP Core for FPGA System* Dengyun Lei, Li-wei Wang, Jun Lin, and Yunfei En o *Malware Behavior Ontology for Digital Evidence* Jigang Liu, Rashmi Kammar, Ryoichi Sasaki, and Tetsutaro Uehara o *An Analysis of Vulnerability Trends, 2008 - 2016* D. Richard Kuhn, M S Raunak, and Raghu Kacker
16:00–17:40	• Session VIII-C: Software Engineering and Big Data II Chair: TBA Room: TBA o *Public Cultural Services Recommendation System Architecture* Shufeng Ye, Yi Yang, Weixing Huang, Jian Wang, and Guigang Zhang o *A User Profile Modeling Method Based on Word2Vec* Jianqiao Hu, Feng Jin, Guigang Zhang, Jian Wang, and Yi Yang o *A Novel Hidden Markov Model for Genome-Wide Association Studies* Junli Yang, Bo Song, Bing Yan, and Guoqiang Li
16:00–17:40	• Session VIII-D: Software Engineering and Knowledge Management II Chair: TBA Room: TBA o *An Ontology-Based Knowledge Sharing Portal for Software Testing* Shanmuganathan Vasanthapriyan, Jing Tian, Dongdong Zhao, Shengwu Xiong, and Jianwen Xiang o *Knowledge Management in Graduate Research* Jing Sun, Van-Nam Huynh, Yoshiteru Nakamori, Jianguo Wu, Jing Tian, and

	Jianwen Xiang o *A Comparative Study of Knowledge Management on Undergraduate by Questionnaire* Jianguo Wu, Dongdong Zhao, Liping Lu, Jing Tian, and Jianwen Xiang o *Process Metrics Are Not Bad Predictors of Fault Proneness* Biljana Stanic, and Wasif Afzal

Saturday, July 29, 2017	
09:30–11:00	QRS 2018 Planning Meeting (Open to public)

Poster Papers Accepted by QRS2017

- *A Mixed Poisson process and Empirical Bayes estimation based Software Reliability Growth Model and Simulation*
  Nestor Ruben Barraza

- *A Software Reliability Prediction Model Using Improved Long Short Term Memory Network*
  Fu Yangzhen, Zhang Hong, Zeng Chenchen, and Feng Chao

- *Verification Methods For Secure and Reliable SoPC Systems*
  Lu Kong and JinBo Wang

- *A Pragmatic Perspective on Regression Testing Challenges*
  DanielBrahneborg, WasifAfzal, and Adnan Causevic

- *Reliability Modeling of Two-phase Gamma Degradation Process*
  Fengjun Duan and Guanjun Wang

- *Software Fault Injection Campaign Generation for Cloud Infrastructures*
  Lena Feinbube, Lukas Pirl, Peter Tröger, and Andreas Polze

- *A New Software Reliability Model for Open Stochastic System based on NHPP*
  Qiuying Li, Chao Zhang and Hong Zhang

- *A Fault Diagnosis Expert System for Flight Control Software Based on SFMEA and SFTA*
  Yuanxun Shao, Bin Liu, Guoqi Li, and Ran Yan

- *Automated Generator for Complex and Realistic Test Data*
  Richard Lipka

- *Theoretical Feasibility of Statistical Assurance of Programmable Systems Based on Simulation Tests*
  Luping Chen and John May

- *A Software Security Case Developing Method Based on Hierarchical Argument Strategy*
  Biao Xu, Minyan Lu, and Dajian Zhang

- *Empirical Study on the Correlation between Software Structural Modifications and Its Fault-proneness*
  Fei Wang, Jun Ai, Jiaming Wang

- *Hierarchical Combination Design Method of Test Case Based on Conditional Constraints*
  Biao Xu, Minyan Lu, and Dajian Zhang