**Tuesday, June 28th**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00</td>
<td>Registration</td>
</tr>
<tr>
<td>09:00</td>
<td><strong>RSDA</strong> Workshop on Reliability and Security Data Analysis</td>
</tr>
<tr>
<td>09:00</td>
<td><strong>RADIANCE</strong> Workshop on Recent Advances in the Dependability Assessment of Complex Systems</td>
</tr>
<tr>
<td>09:00</td>
<td><strong>SSIV</strong> Workshop on Safety and Security of Intelligent Vehicles</td>
</tr>
<tr>
<td>09:00</td>
<td><strong>ReSA4CI</strong> Workshop on Reliability and Security Aspects for Critical Infrastructure</td>
</tr>
<tr>
<td>09:00</td>
<td><strong>Tutorial 1</strong> Common Safety Method for Risk Evaluation and Assessment (CSM-RA) and Hazard Analysis</td>
</tr>
<tr>
<td>09:00</td>
<td><strong>Tutorial 2</strong> Reliability and Availability Modeling in Practice</td>
</tr>
<tr>
<td>09:00</td>
<td><strong>Tutorial 3</strong> Activating Protection and Exercising Recovery Against Large-Scale Outages on the Cloud</td>
</tr>
<tr>
<td>12:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:00</td>
<td><strong>RSDA</strong> Workshop on Reliability and Security Data Analysis</td>
</tr>
<tr>
<td>14:00</td>
<td><strong>RADIANCE</strong> Workshop on Recent Advances in the Dependability Assessment of Complex Systems</td>
</tr>
<tr>
<td>14:00</td>
<td><strong>SSIV</strong> Workshop on Safety and Security of Intelligent Vehicles</td>
</tr>
<tr>
<td>14:00</td>
<td><strong>DISN</strong> Workshop on Dependability Issues on SDN and NFV</td>
</tr>
<tr>
<td>14:00</td>
<td><strong>Tutorial 1</strong> Common Safety Method for Risk Evaluation and Assessment (CSM-RA) and Hazard Analysis</td>
</tr>
<tr>
<td>14:00</td>
<td><strong>Tutorial 2</strong> Reliability and Availability Modeling in Practice</td>
</tr>
<tr>
<td>14:00</td>
<td><strong>Tutorial 3</strong> Activating Protection and Exercising Recovery Against Large-Scale Outages on the Cloud</td>
</tr>
<tr>
<td>17:30</td>
<td>Jean-Claude Laprie Special Session and Reception</td>
</tr>
</tbody>
</table>

**Wednesday, June 29th**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00</td>
<td>Registration</td>
</tr>
<tr>
<td>09:00</td>
<td><strong>Welcome</strong></td>
</tr>
<tr>
<td>09:00</td>
<td><strong>Best Paper Candidates</strong></td>
</tr>
<tr>
<td>09:00</td>
<td><strong>Coffee Break</strong></td>
</tr>
<tr>
<td>11:00</td>
<td><strong>MT1A</strong>: Models</td>
</tr>
<tr>
<td>11:30</td>
<td><strong>MT1B</strong>: Practical Experience Reports 1</td>
</tr>
<tr>
<td>11:30</td>
<td><strong>Industrial Track</strong></td>
</tr>
<tr>
<td>11:30</td>
<td><strong>IT1</strong>: Position Papers</td>
</tr>
<tr>
<td>12:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:00</td>
<td><strong>MT2A</strong>: Storage Systems</td>
</tr>
<tr>
<td>14:00</td>
<td><strong>MT2B</strong>: Software-Defined Networks</td>
</tr>
<tr>
<td>14:00</td>
<td><strong>MT2C</strong>: Anomaly Detection and Exploits</td>
</tr>
<tr>
<td>14:00</td>
<td><strong>IT2</strong>: Automotive and Aeronautics Systems Engineering</td>
</tr>
<tr>
<td>15:30</td>
<td><strong>Coffee Break</strong></td>
</tr>
<tr>
<td>16:00</td>
<td><strong>MT3A</strong>: Data Centers Dependability</td>
</tr>
<tr>
<td>16:00</td>
<td><strong>MT3B</strong>: Software Dependability</td>
</tr>
<tr>
<td>16:00</td>
<td><strong>MT3C</strong>: Privacy</td>
</tr>
<tr>
<td>16:00</td>
<td><strong>IT3</strong>: Security and Resilience</td>
</tr>
<tr>
<td>16:00</td>
<td><strong>Tutorial 4</strong>: Measuring Resiliency through Field Data</td>
</tr>
</tbody>
</table>
### Thursday, June 30th

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 - 09:00</td>
<td>Registration</td>
</tr>
</tbody>
</table>
| 09:00 - 10:30 | **Keynote:** Pascal Andrei, Airbus Group: "Aircraft Security from the Manufacturer Perspective"
| 10:30 - 11:00 | Carter Award                                                          |
| 11:00 - 12:30 | Coffee Break                                                          |
| 12:30 - 14:00 | Lunch                                                                |
| 14:00 - 15:30 | **MT4A:** Memory and Caches  **MT4B:** Cyber-physical Systems Security  **MT4C:** Malware  **IT4:** Computer Architecture and Networks  **Tutorial 5:** Building Highly-Available Distributed SDN Applications with ONOS |
| 15:30 - 16:00 | Coffee Break                                                          |
| 16:00 - ...   | Visit to Museum & Banquet                                              |

### Friday, July 1st

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 - 09:00</td>
<td>Registration</td>
</tr>
</tbody>
</table>
| 09:00 - 10:30 | **Keynote:** Nicolas Demassieux, Orange Labs, France: "Paving the Way for Dependable Software defined Infrastructures"
| 10:30 - 11:00 | IEEE ISI Award                                                        |
| 11:00 - 12:30 | Coffee Break                                                          |
| 12:30 - 14:00 | Lunch                                                                |
| 14:00 - 15:30 | **MT6A:** Clouds & Networks  **MT6B:** Practical Experience Reports II  **MT6C:** Encryption and Security vs Performance  **Best of SELSE Special Session**  **Tutorial 6:** Resilience for Scientific Computing: From Theory to Practice |
| 15:30 - 16:30 | Wrapup and TC Meeting                                                 |
# Main Track Sessions

**Welcome - Best Paper Candidates**  
Wednesday, June 29th, 2016, 09:00 – 11:00  
Chair: TBD - Room: TBD

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A Quantitative Methodology for Security Monitor Deployment</strong></td>
<td>Uttam Thakore, Gabriel A. Weaver, William H. Sanders (University of Illinois at Urbana-Champaign, US)</td>
</tr>
<tr>
<td><strong>Dynamic Scalable State Machine Replication</strong></td>
<td>Long Hoang Le, Carlos Eduardo Bezerra, Fernando Pedone (University of Lugano, CH)</td>
</tr>
<tr>
<td><strong>OSIRIS: Efficient and Consistent Recovery of Compartmentalized Operating Systems</strong></td>
<td>Koustubha Bhat, Dirk Vogt, Erik van der Kouwe, Ben Gras, Lionel Sambuc, Andrew Tanenbaum, Herbert Bos, Cristiano Giuffrida (Vrije University Amsterdam, NL)</td>
</tr>
</tbody>
</table>

**Session MT1A: Models**  
Wednesday, June 29th, 2016, 11:30 – 12:30  
Chair: TBD - Room: TBD

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean Field Approximation of Uncertain Stochastic Models</strong></td>
<td>Luca Bortolussi (University of Trieste, IT), Nicolas Gast (INRIA, FR)</td>
</tr>
<tr>
<td><strong>Uncovering Dynamic Fault Trees</strong></td>
<td>Sebastian Junges (RWTH Aachen University, DE), Dennis Guck (University of Twente, NL), Joost-Pieter Katoen (RWTH Aachen University, DE), Marielle Stoelinga (University of Twente, NL)</td>
</tr>
</tbody>
</table>

**Session MT1B: Practical Experience Reports I**  
Wednesday, June 29th, 2016, 11:30 – 12:30  
Chair: TBD - Room: TBD

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Equipping WAP with Weapons to Detect Vulnerabilities</strong></td>
<td>Ibéria Medeiros, Nuno Neves (University of Lisbon, LaSIGE, PT); Miguel Correia (University of Lisbon, INESC-ID, PT)</td>
</tr>
<tr>
<td><strong>Characterizing the Consistency of Online Services</strong></td>
<td>Filipe Freitas (ISEL &amp; NOVA LINCS &amp; FCT, UNL, PT), João Leitão (NOVA LINCS &amp; FCT, UNL, PT), Nuno Preguiça (NOVA LINCS &amp; FCT, University of Lisbon, PT), Rodrigo Rodrigues (INESC-ID &amp; IST, University of Lisbon, PT)</td>
</tr>
</tbody>
</table>

**Session MT2A: Storage Systems**  
Wednesday, June 29th, 2016, 14:00 – 15:30  
Chair: TBD - Room: TBD

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Towards a Scalable and Write-free Multi-version Checkpointing Scheme in Solid State Drives</strong></td>
<td>Hoda Aghaei Khouzani, Chengmo Yang (University of Delaware, US)</td>
</tr>
<tr>
<td><strong>Elastic Parity Logging for SSD RAID Arrays</strong></td>
<td>Yongkun Li (University of Science and Technology of China, CN); Helen H. W. Chan, Patrick P. C. Lee (The Chinese University of Hong Kong, HK), Yinlong Xu (University of Science and Technology of China, CN)</td>
</tr>
<tr>
<td><strong>OI-RAID: A Two-layer RAID Architecture Towards Fast Recovery and High Reliability</strong></td>
<td>Neng Wang, Yinlong Xu, Yongkun Li, Si Wu (University of Science and Technology of China, CN)</td>
</tr>
</tbody>
</table>

**Session MT2B: Software-Defined Networks**  
Wednesday, June 29th, 2016, 14:00 – 15:30  
Chair: TBD - Room: TBD

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>JURY: Validating Controller Actions in Software-Defined Networks</strong></td>
<td>Kshiteej Mahajan (University of Wisconsin, US), Rishabh Poddar (University of California Berkeley, US); Mohan Dhawan, Vijay Mann (IBM Research, US)</td>
</tr>
<tr>
<td><strong>SDNShield: Reconciliating Configurable Application Permissions for SDN App Markets</strong></td>
<td>Xitao Wen (Northwestern University, US), Bo Yang (Zhejiang University, CN), Yan Chen (Northwestern University, US), Chengchen Hu (Xi’an Jiaotong University, CN), Yi Wang, Bin Liu (Tsinghua University, CN), Xiaolin Chen (Chuxiong Normal University, CN)</td>
</tr>
<tr>
<td><strong>Can’t Touch This: Consistent Network Updates for Multiple Policies</strong></td>
<td>Szymon Dudycz (Uni Wroclaw, PL), Arne Ludwig (TU Berlin, DE), Stefan Schmid (TU Berlin &amp; T-Labs, DE)</td>
</tr>
</tbody>
</table>

**Session MT2C: Anomaly Detection and Exploits**  
Wednesday, June 29th, 2016, 14:00 – 15:30  
Chair: TBD - Room: TBD

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kizzle: A Signature Compiler for Detecting Exploit Kits</strong></td>
<td>Ben Stock (CISPA, Saarland University, DE); Benjamin Livshits, Benjamin Zorn (Microsoft Research, US)</td>
</tr>
<tr>
<td><strong>A Sharper Sense of Self: Probabilistic Reasoning of Program Behaviors for Anomaly Detection with Context Sensitivity</strong></td>
<td>Kui Xu, Ke Tian, Danfeng (Daphne) Yao, Barbara Ryder (Virginia Tech, US)</td>
</tr>
<tr>
<td><strong>BAYWATCH: Robust Beaconing Detection to Identify Infected Hosts in Large-Scale Enterprise Networks</strong></td>
<td>Xin Hu (Pinterest, US); Jyjong Jang, Marc Ph. Stoecklin (IBM Research, US), Ting Wang (Lehigh University, US); Douglas L. Schales, Dhilung Kirat, Josyula R. Rao (IBM Research, US)</td>
</tr>
</tbody>
</table>
### Session MT3A: Data Centers Dependability

**Wednesday, June 29th, 2016, 16:00 – 17:30**

**Chair:** TBD  -  **Room:** TBD

**Power-aware Checkpointing: Toward the Optimal Checkpointing Interval under Power Capping**

Kun Tang (Virginia Commonwealth University, US), Devesh Tiwari (Oak Ridge National Laboratory, US), Saurabh Gupta (Oak Ridge National Laboratory, US); Ping Huang, QiQi Lu (Virginia Commonwealth University, US), Christian Engelmann (Oak Ridge National Laboratory, US), Xubin He (Virginia Commonwealth University, US)

**Reconsidering Single Failure Recovery in Cluster File Systems**

Zhirong Shen, Jiwu Shu (Tsinghua University, CN), Patrick P.C. Lee (The Chinese University of Hong Kong, HK)

**Managing Data Center Tickets: Prediction and Active Sizing**

Ji Xue (College of William and Mary, US); Robert Birke, Lydia Y. Chen (IBM Research Zurich Lab, CH), Evgenia Smirni (College of William and Mary, US)

---

### Session MT3B: Software Dependability

**Wednesday, June 29th, 2016, 16:00 – 17:30**

**Chair:** TBD  -  **Room:** TBD

**HSFI: representative fault injection scalable to large code bases**

Erik van der Kouwe, Andrew S. Tanenbaum (Vrije University Amsterdam, NL)

**Making Fast Consensus Generally Faster**

Sebastiano Peluso, Alexandru Turcu, Roberto Palmieri, Giuliano Losa, Binoy Ravindran (Virginia Tech, US)

**ePVF: An Enhanced Program Vulnerability Factor Methodology for Cross-layer Resilience Analysis**

Bo Fang, Qining Lu, Karthik Pattabiraman, Matei Ripeanu (The University of British Columbia, Canada), Sudhanva Gurumurthi (IBM, US)

---

### Session MT3C: Privacy

**Wednesday, June 29th, 2016, 16:00 – 17:30**

**Chair:** TBD  -  **Room:** TBD

**A Privacy Analysis of Google and Yandex Safe Browsing**

Thomas Gerbet (Université Joseph Fourier, FR), Amit Kumar (Université Grenoble Alpes & INRIA, FR), Cédric Lauradoux (INRIA, FR)

**PuPPIeS: Transformation-Supported Personalized Privacy Preserving Partial Image Sharing**

Jianping He, Bin Liu, Deguang Kong, Xuan Bao, Na Wang, Hongxia Jin (Samsung Research America, US), George Kesidis (Penn State, US)

**Modeling Privacy and Tradeoffs in Multichannel Secret Sharing Protocols**

Devin J. Pohly, Patrick McDaniel (Penn State University, US)

---

### Keynote: Pascal Andrei, AIRBUS GROUP:

**Aircraft Security from the Manufacturer Perspective**

**Carter Award**

Thursday, June 30th, 2016, 9:00 – 10:30

**Chair:** TBD  -  **Room:** TBD

---

### Session MT4A: Memory and Caches

**Thursday, June 30th, 2016, 11:00 – 12:30**

**Chair:** TBD  -  **Room:** TBD

**Methuselah Flash: Rewriting Codes for Extra-Long Storage Lifetime**

Georgios Mappouras, Aliroze Vahid, Robert Calderbank, Daniel J. Sorin (Duke University, US)

**Enabling Deep Voltage Scaling in Delay Sensitive L1 Caches**

Chao Yan, Russ Joseph (Northwestern University, US)

**ReadDuo: Constructing Reliable MLC Phase Change Memory through Fast and Robust Readout**

Rujia Wang, Youtao Zhang, Jun Yang (University of Pittsburgh, US)

---

### Session MT4B: Cyber-Physical Systems Security

**Thursday, June 30th, 2016, 11:00 – 12:30**

**Chair:** TBD  -  **Room:** TBD

**On False Data Injection Attacks Against Railway Traction Power Systems**

Subhash Lakshminarayana, Teo Zhan Teng, Rui Tan (Advanced Digital Sciences Center, Illinois at Singapore, SG), David Yau (Singapore University of Technology and Design, SG), Pablo Arboleya (University of Oviedo, SP)

**Targeted Attacks on Teleoperated Surgical Robots: Dynamic Model-based Detection and Mitigation**

Homa Alemzadeh, Daniel Chen, Xiao Li, Thenkurussi Kesavadas, Zbigniew Kalbarczyk, Ravishankar K. Iyer (University of Illinois at Urbana-Champaign, US)

**F-DETA: A Framework for Detecting Electricity Theft Attacks in Smart Grids**

Varun Badrinath Krishna, Kiryung Lee, Gabriel A. Weaver, Ravishankar K. Iyer, William H. Sanders (University of Illinois at Urbana-Champaign, US)
Repackage-proofing Android Apps
Lannan Luo, Yu Fu, Dinghao Wu, Sencun Zhu, Peng Liu (The Pennsylvania State University, US)

Measuring the Role of Greylisting and Nolisting in Fighting Spam
Fabio Pagani, Matteo De Astis (Università degli Studi di Milano, IT); Mariano Graziano (Eurecom and Cisco Systems, Inc.), Andrea Lanzì (Università degli Studi di Milano, IT), Davide Balzarotti (Eurecom, FR)

Malware Slums: Measurement and Analysis of Malware on Traffic Exchanges
Salman Yousaf, Umar Iqbal (Lahore University of Management Sciences, PK); Shehroze Farooqi (The University of Iowa, USA), Raza Ahmad (Lahore University of Management Sciences, PK), Zubair Shafiq (The University of Iowa, US), Fareed Zaffar (Lahore University of Management Sciences, PK)

Leveraging ECC to Mitigate Read Disturbance, False Reads and Write Faults in STT-RAM
Seyed Mohammad Seyedzadeh (University of Pittsburgh, US), Rakan Maddah (Intel Corporation, US), Alex K Jones, Rami Melhem (University of Pittsburgh, US)

SuperGlue: IDL-Based, System-Level Fault Tolerance for Embedded Systems
Jiguo Song, Gedare Bloom, Gabriel Parmer (The George Washington University, US)

PARBOR: An Efficient System-Level Technique to Detect Data Dependent Failures in DRAM

Secure Identification of Actively Executed Code on a Generic Trusted Component
Bruno Vavala (Carnegie Mellon University, US & University of Lisbon, PT), Nuno Neves (University of Lisbon, PT), Peter Steenkiste (Carnegie Mellon University, US)

Secure and Efficient Multi-variant Execution Using Hardware-assisted Process Virtualization
Koen Koning, Herbert Bos, Cristiano Giumfrida (Vrije University Amsterdam, NL)

Overhaul: Input-Driven Access Control for Better Privacy on Traditional Operating Systems
Kaan Onarlioglu, William Robertson, Engin Kirpa (Northeastern University, US)

Practical, Formal Synthesis and Automatic Enforcement of Security Policies for Android
Hamid Bagheri, Alireza Sadeghi, Reyhanesh Jabbarvand, Sam Malek (University of California Irvine, US)

Don't just BYOD, Bring-Your-Own-App Tool Protection via Virtual Micro Security Perimeters
Gabriel Salles-Loustau, Luis Garcia, Saman Zonouz (Rutgers University, US); Kaustubh Joshi (AT&T Research, US)

Can we Trust the Privacy Policies of Android Apps?
Le Yu, Xiapu Luo, Xule Liu, Tao Zhang (The Hong Kong Polytechnic University, HK)

Keynote: Nicolas Demassieux, Orange Labs, FR:
Paving the way for Dependable Software Defined Infrastructures
IEEE ISI Award
Friday, July 1st, 2016, 9:00 – 10:30
Chair: TBD - Room: TBD

LegoBox: Enabling Tenant-defined Cloud Storage Middle-box Services
Hui Lu (Purdue University, US), Abhinav Srivastava (AT&T Research, US), Brendan Saltaformaggio, Dongyan Xu (Purdue University, US)

Process-Oriented Non-Intrusive Recovery for Sporadic Operations on the Cloud
Min Fu, Liming Zhu, Ingo Weber, Len Bass, Anna Liu, Kiwei Xu (NICTA, Data61 CSIRO, University of New South Wales, AU)

Network Recovery after Massive Failures
Novella Bartolini, Stefano Ciavarella (Sapienza University of Rome, IT); Tom La Porta (Penn State University, US), Simone Silvestri (Missouri S&T University, US)
ELZAR: Triple Modular Redundancy using Intel Advanced Vector Extensions
Dmitrii Kuvaiskii, Oleksii Oleksenko, Pramod Bhatotia (TU Dresden, DE); Pascal Felber (University of Neuchâtel, CH), Christof Fetzer (TU Dresden, DE)

An Evaluation Study on Log Parsing and Its Use in Unstructured Log Analysis
Pinjia He (The Chinese University of Hong Kong, HK), Shilin He (South China University of Technology, CN); Jieming Zhu, Jian Li, Michael R. Lyu (The Chinese University of Hong Kong, HK)

Reliability-centered Maintenance of the Electrically Insulated Joint via Fault Tree Analysis: A case study
Enno Ruijters, Dennis Guck (University of Twente, NL), Martijn van Noort (ProRail, NL), Marielle Stoelinga (University of Twente, NL)

Balancing Security and Performance for Agility in Dynamic Threat Environments
Michael L. Winterrose, Kevin M. Carter (MIT Lincoln Laboratory, US)

Rekeying for Encrypted Deduplication Storage
Jingwei Li, Chuan Qin, Patrick P.C. Lee (The Chinese University of Hong Kong, HK), Jin Li (Guangzhou University, CN)

Efficient Algorithm-Based Fault Tolerance for Sparse Matrix Operations
Alexander Schoell, Claus Braun, Michael A. Kochte, Hans-Joachim Wunderlich (University of Stuttgart, DE)

Formal Analysis for Dependable Supervisory Control and Data Acquisition in Smart Grids
Mohammad Ashiqur Rahman (Tennessee Tech University, US), A H M Jakaria (BUET), Ehab Al-Shaer (UNC Charlotte, US)

A Model-Based Approach to Support Safety-Related Decisions in the Petroleum Domain
Leonardo Montecchi (Università di Firenze, IT), Atle Refsdal (SINTEF, NW), Paolo Lollini, Andrea Bondavalli (Università di Firenze, IT)

Secure Point-of-Care Medical Diagnostics via Trusted Sensing and Cyto-Coded Passwords
Tuan Le, Gabriel Salles-Loustau, Pengfei Xie , Mehd Javanmard, Laleh Najafizadeh, Samar Zonouz (Rutgers University, NJ, US)

fuzzyPSM: A New Password Strength Meter Using Fuzzy Probabilistic Context-Free Grammars
Ding Wang (Peking University, CN), Debiao He (Wuhan University, CN); Haobo Cheng, Ping Wang (Peking University, CN)

DomainProfiler: Discovering Domain Names Abused in Future
Daiki Chiba, Takeshi Yagi, Mitsuaki Akiyama, Toshiki Shibahara, Takeshi Yada (NTT Secure Platform Laboratories, JP); Tatsuya Mori, Shigeaki Goto (Waseda University, JP)

FTP: The Forgotten Cloud
Drew Springall, Zakir Durumeric, J. Alex Haldeman (University of Michigan, MI, US)

A Unified Framework for Error Correction Techniques in On-Chip Memories
Fred Sala (UCLA, US), Henry Duue (UIUC, US), Lara Dolecek (UCLA, US), and Rakesh Kumar (UIUC, US)

Software-Defined Error-Correcting Codes
Mark Gottscho, Clayton Schoeny, Lara Dolecek, and Puneet Gupta (UCLA, US)

CLEAR: Cross-Layer Exploration for Architecting Resilience - Combining Hardware and Software Techniques to Tolerate Soft Errors in Processor Cores
Eric Cheng, Shahrzad Mirkiani (Stanford, US); Lukasz Szafaryn (U. Virginia, US), Chen-Yong Cher (IBM Research, US), Hyungmin Cho (Stanford, US), Kevin Skadron, Mircea Stan (U. Virginia, US); Klas Lilja (Robust Chip, US), Jacob Abraham (UT Austin, US), Pradip Bose (IBM Research, US), and Subhasish Mitra (Stanford, US)
Industrial Track Day

**Session IT1: Position Papers**  
**Welcome Address - Forewords**  
Cristian Constantinescu (AMD, USA),  
Jean-Charles Fabre (LAAS-CNRS/INPT, FR)

**PlaNet, Polylinks avionics Network: an optimized answer to a Switchless avionics communication Network**  
Paul Boivin Champeaux, David Faura, Marc-J Gatti, William Terroy, Patrice Toillon (Thales Avionics, FR)

**HARP: High Availability Registration Platform for Software Defined Infrastructure**  
Henry Zhu (CISCO, USA); Sejun Song (University of Missouri, US)

**Secure Embedded Hypervisor based Systems for Automotive**  
Stefaan Sonck Thiebaut, Antonio De Rosa, Ralph Sasse (OpenSynergy, DE)

**Software Safety Assessment and Probabilities**  
Jean-Paul Blanquart, Philippe Baufreton, Jean-Louis Boulanger, Hervé Delseny, Jean Gassino, Emmanuel Ledinot, Philippe Quéré (Embedded France, FR)

Open Discussion

**Session IT2: Automotive and Aeronautics Systems Engineering**  
**AUTOSAR for Connected and Autonomous Vehicles: The AUTOSAR Adaptive Platform**  
Simon Fürst (BMW, DE), Markus Bechter (AUTOSAR, DE)

**Evaluation of EEE Reliability Prediction Models for Space Applications**  
S. Bourbouse, JP. Blanquart, JF. Gajewski (AIRBUS D&S, FR), C. Lahorgue (ESA, NL)

**An Uncrewed Aerial Vehicle Attack Scenario and Trustworthy Repair Architecture**  
Kate Highnam, Kevin Angstadt, Kevin Leach, Westley Weimer (U. of Virginia, US), Aaron Paulos (BBN Raytheon, US),  
Patrick Hurley (Air Force Research Lab Rome, US)

**Transformation of Failure Propagation Models into Fault Trees for Safety Evaluation Purposes**  
Moomen Chaari, Wolfgang Ecker, Bogdan-Andrei Tabacaru (Infineon Technologies and TU Munich, DE), Thomas Kruse,  
Cristiano Novello (Infineon Technologies, DE)

Open Discussion

**Session IT3: Security and Resilience**  
**The Concept of a Software-free Resilience Infrastructure for Cyber-Physical Systems**  

**A System For The Security Protection Of Embedded Binary Programs**  
Jack W. Davidson (Zephyr Software LLC, USA), Jason D. Hiser, Anh Nguyen Tuong (U. of Virginia, US), Clark L. Coleman (Zephyr Software LLC, US),  
Benjamin D. Rodes, Ashlie B. Hocking (Dependable Computing LLC, US)

**Trusted Software Repair for System Resiliency**  
Westley Weimer (U. of Virginia, USA), Stephanie Forrest (U. of New Mexico, USA), Miryung Kim (UCLA, US), Claire Le Goues (CMU, US),  
Patrick Hurley (Air Force Research Lab Rome, US)

**Resiliency Challenges in Accelerating Carrier-Grade Networks with SDN**  
Catello Di Martino, Veena Mendiratta, Marina Thottan (Bell Labs – Nokia, US)

Open Discussion

**Session IT4: Computer Architecture and Networks**  
**A Triple Core Lock-Step (TCLS) ARM Cortex-R5 Microprocessor for Safety-Critical and Ultra-Reliable Applications**  
Xabier Iturbe, Balaji Venu, Emre Ozer (ARM, UK)

**Improving DRAM Fault Characterization Through Machine Learning**  
Elisabeth Baseman, Nathan DeBardeleben (Los Alamos National Lab, US), Kurt Ferreira (Sandia National Lab, US),  
Scott Levy (U. of New Mexico, US), Steven Raasch, Vilas Sridharan, Taniya Siddiqua (AMD, US), Qianguan (Los Alamos National Lab, US)

**Towards Black-Box Anomaly Detection in Virtual Network Functions**  
Carla Sauvanaud (LAAS-CNRS, FR), Kahina Lazni (Orange Labs, FR), Mohamed Kaâniche, Karama Kanoun (LAAS-CNRS, FR)

**Profiling Memory Vulnerability of Big-data Applications**  
N. Rameshan (UPC, SP and KTH RTI, SE), R. Birke (IBM Research Lab, CH), L. Navarro (UPC, Spain), V. Vlassov (KTH RTI, SE),  
B. Uragoankar, L. Y. Chen (IBM Research Lab, CH)

Open Discussion Closing Address
### Fast Abstracts Session

**Fast Abstracts**  
Thursday, June 30th, 2016, 14:00 – 15:30  
Chair: TBD, Room: TBD

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Towards Resilient Java Computational Programs</td>
<td>Quyen Nguyen, Arun Sood (George Mason University, USA)</td>
</tr>
<tr>
<td>High Performance, Low Cost, and Double Node Upset Tolerant Latch Design</td>
<td>Aibin Yan, Hong Zhong, Zhao Iv (Anhui University, CN), Xiaoxiang Yi, Xiumin Xu, Zhengfeng Huang (Hefei University of Technology, CN)</td>
</tr>
<tr>
<td>A Prototype Implementation of a Failure Database for Information Sharing with the General Public — A Case Study on Radiation Risk Information after Fukushima Nuclear Disaster</td>
<td>Koichi Bando (The University of Electro-Communications, JP), Yutaka Matsuno (Nihon University, JP); Yang Ishigaki, Kenji Tanaka (The University of Electro-Communications, JP)</td>
</tr>
<tr>
<td>A Fundamental Study on Software Rejuvenation in Time Warp Simulation</td>
<td>Satoshi Fukumoto, Mamoru Ohara (Tokyo Metropolitan Industrial Technology Research Institute, JP)</td>
</tr>
<tr>
<td>APAT: An Application of Aggregate Signatures to BGPSEC</td>
<td>Kazuma Tanaka (University of Tsukuba, JP), Naoto Yanai (Osaka University, JP), MasaYuki Okada (Japan Network Information Center, JP); Takashi Nishide, Eiji Okamoto (University of Tsukuba, JP)</td>
</tr>
<tr>
<td>Towards Scalable and Dependable Privacy-Preserving Publish/Subscribe Services</td>
<td>Emanuel Onica (Alexandru Ioan Cuza University of Iasi, RO); Pascal Felber, Hugues Mercier, Etienne Rivièrem (University of Neuchâtel, CH)</td>
</tr>
<tr>
<td>BBOBB: A Total Order Broadcast Algorithm Achieving Low Latency and High Throughput</td>
<td>Michel Simatic, Benoît Tellier (Télécom SudParis, FR)</td>
</tr>
<tr>
<td>How Secure Industrial Control Systems Need to be? An Approach to Select the &quot;Just Secure Enough&quot;.</td>
<td>Isabelle Michard (Schneider Electric, FR)</td>
</tr>
<tr>
<td>Reducing Late-Timing Failure at Scale: Straggler Root-Cause Analysis in Cloud Datacenters</td>
<td>Xue Ouyang, Peter Garraghan (University of Leeds, UK); Renyu Yang (Beihang University); Paul Townend, Jie Xu (University of Leeds, UK)</td>
</tr>
<tr>
<td>Facing Reliability Requirements for Timely Information Sharing in Future Crisis Management Systems</td>
<td>Marcello Cinque, Domenico Cotroneo, Mario Fiorentino (Consorzio Interuniversitario Nazionale per l’Informatica, IT)</td>
</tr>
<tr>
<td>Secure Architecture for VMI-based Dynamic Malware Analysis in the Cloud</td>
<td>Benjamin Taubmann, Hans P. Reiser (University of Passau, DE)</td>
</tr>
<tr>
<td>Towards Control of MapReduce Performance and Availability</td>
<td>Sophie Cerf, Mihaly Berekmeri, Bogdan Robu, Nicolas Marchand (Univ. Grenoble Alpes, FR); Sara Bouchenak (INSA, FR)</td>
</tr>
<tr>
<td>Towards Efficient and Robust BFT Protocols</td>
<td>Lucas Peronne (Univ. Grenoble Alpes, FR), Sara Bouchenak (INSA, FR)</td>
</tr>
<tr>
<td>Efficient Fault Tolerance using Intel MPX and TSX</td>
<td>Oleksii Oleksenko, Dmitrii Kuvaiskii, Pramod Bhatotia, Christof Fetzer (Technische Universität Dresden, DE); Pascal Felber (University of Neuchâtel, CH)</td>
</tr>
<tr>
<td>Cluster Workload Analytics Revisited</td>
<td>Subrata Mitra, Suhas Javagal (Purdue University, USA); Todd Gamblin, Adam Moody (Lawrence Livermore National Laboratory, USA); Stephen Harrell, Saurabh Bagchi (Purdue University, USA)</td>
</tr>
<tr>
<td>Relying on Consensus does not Make Bitcoin Safer</td>
<td>Emmanuelle Anceau (CNRS, FR), Romaric Ludinard (ENSAI, FR), Bruno Sericola (INRIA Rennes, FR)</td>
</tr>
</tbody>
</table>

### Student Forum Session

**Student Forum**  
Friday July 1st, 2016, 14:00 – 15:30  
Chair: TBD – Room: TBD

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providing Continuous Authentication and Non-Repudiation Security Services</td>
<td>Enrico Schiavone (University of Florence, IT)</td>
</tr>
<tr>
<td>Validating Unmanned Aerial Vehicle Sense and Avoid Algorithms with Evolutionary Search</td>
<td>Xueyi Zou, (University of York, UK)</td>
</tr>
<tr>
<td>Adaptive Fault Tolerance: Is ROS a Relevant Executive Support?</td>
<td>Matthieu Amy (LAAS-CNRS, Université de Toulouse, FR)</td>
</tr>
<tr>
<td>Privacy Enhancing Technologies for Ridesharing</td>
<td>Ulrich Matchi Aïvodji (LAAS-CNRS, Université de Toulouse, FR)</td>
</tr>
<tr>
<td>Integrity of Distributed Control Systems</td>
<td>Tobias Rauter (Institute for Technical Informatics, Graz University of Technology, AT)</td>
</tr>
</tbody>
</table>
### RADIANCE: Keynote
Tuesday, June 28th, 2016, 09:00 – 10:00
Chair: TBD - Room: TBD

TBD

### RADIANCE: Preliminary Works on Dependability and Security
Tuesday, June 28th, 2016, 10:00 – 10:30
Chair: TBD - Room: TBD

**Using Similarity Measures to Suggest Dupplications between User Stories**
Ricardo Barbosa, Ana Estela Antunes Silva, Regina Moraes (University of Campinas, BR)

**Code Change History and Software Vulnerabilities**
Marcus Piancó, Baldoine Fonseca (Federal University of Alagoas, BR); Nuno Antunes (University of Coimbra, PT)

### RADIANCE: Cloud and SOA Services
Tuesday, June 28th, 2016, 11:00 – 12:30
Chair: TBD - Room: TBD

**External Assessment of QoS Provisioning in Distributed Cloud Services**
Kaliappa Ravindran, Arun Adiththan (City University of New York, US); Michael Iannelli (CUNY City College, US), Mohammad Rabby (City University of New York, US)

**Hierarchical Model and Sensitivity Analysis for a Cloud-based VoD Streaming Service**
Jamilson Ramalho Dantas, Rubens Matos, Jean Araujo, Danilo Mendonça, Andre Oliveira, Paulo Maciel (Federal University of Pernambuco, BR)

**SOASales: A SOA System for Research Purposes**
Carla Machado, Cristina Areias, Joao Carlos Cunha (Instituto Superior de Engenharia de Coimbra, PT)

### RADIANCE: Analysis and Model-based Techniques
Tuesday, June 28th, 2016, 14:00 – 15:30
Chair: TBD - Room: TBD

**A Bayesian Networks Based Method for Ship Reliability Assessment**
Hongdong Wang, Xiafeng Liang, Hong Yi, Dan Li (Shanghai Jiao Tong University, CN)

**Scalable Robustness**
Thomas Jones, Dave Ackley (University of New Mexico, US)

**D-MBTD: An Approach for Reusing Test Artefacts in Evolving Systems**
Thais Harumi Ussami, Eliane Martins (University of Campinas, BR); Leonardo Montecchi (University of Florence, IT)

### RADIANCE: Panel
Tuesday, June 28th, 2016, 16:00 – 17:00
Chair: TBD - Room: TBD

TBD
## RSDA 2016 Workshop
The 3rd International Workshop on Reliability and Security Data Analysis

### RSDA: Opening and Keynote
Tuesday, June 28th, 2016, 09:00 – 10:30  
**Chair:** TBD - **Room:** TBD

**Welcome and Opening**  
Antonio Pecchi (Federico II University of Naples, IT), Olivier Thonnard (Amadeus, FR)

**RSDA 2016 Keynote: Towards a Quantitative Approach for Threat Mitigation and Response**  
Hervé Debar (Télécom SudParis, FR)

### RSDA: Internet Threats and Countermeasures
Tuesday, June 28th, 2016, 11:00 – 12:30  
**Chair:** TBD - **Room:** TBD

**Detection Capabilities of AntiVirus Products: an Empirical Study with Different Versions of Products From the Same Vendors**  
Areej Algaith, Ilir Gashi (City University London, GB), Michel Cukier, Bertrand Sobesto (University of Maryland, US); Selman Haxhijaha, Gazmend Bajrami (University for Business and Technology, KO)

**An Application of Unsupervised Fraud Detection to Passenger Name Records**  
Remi Domingues, Francesco Buonara, Romain Senesi, Olivier Thonnard (Amadeus, FR)

**mimeoDroid: Large Scale Dynamic App analysis on Cloned Devices using Machine Learning Classifiers**  
Parvez Faruki (Govt. MCA College, IN), Manoj Singh Gaur, Vijay Laxmi (Malaviya National Institute of Technology, IN); Akka Zemmari (Université de Bordeaux, FR)

### RSDA: Error and Failure Detection
Tuesday, June 28th, 2016, 14:00 – 15:30  
**Chair:** TBD - **Room:** TBD

**Error Monitoring for Legacy Mission-Critical Systems**  
Marcello Cinque, Raffaele Della Corte, Stefano Russo (Università degli studi di Napoli Federico II, IT)

**SDC is in the Eye of the Beholder: A Survey and Preliminary Study**  
Bo Fang (University of British Columbia, CA), Panruo Wu (University of California Riverside, US), Qiang Guan, Nathan Debardeleben, Laura Monroe, Sean Blanchard (Los Alamos National Laboratory, US); Zhizong Chen (University of California Riverside, US); Karthik Pattabiraman, Matei Ripeanu (University of British Columbia, CA)

**Open Discussion: Reliability and Security Data Analysis: Challenges and Future Research Directions**

### RSDA: Virtualization and Cloud
Tuesday, June 28th, 2016, 16:00 – 17:30  
**Chair:** TBD - **Room:** TBD

**Classifying Virtual Machine Managers by Overhead**  
Colin Murray (Air Force Research Laboratory, FR)

**Hunting Killer Tasks for Cloud System Through Behavior Pattern Learning**  
Hongyan Tang, Ying Li, Tong Jia (Peking University, CN)

**Closing Remarks and Announcements**
**DISN 2016 Workshop**
The 2nd International Workshop on Dependability Issues on SDN and NFV

**DISN: Fault-Tolerant Software Defined Networks**
Tuesday, June 28th, 2016, 13:30 – 15:00
**Chair:** TBD - **Room:** TBD

**Ground Control to Major Faults: Towards Fault Tolerant and Adaptive SDN Control Network**
Liron Schiff (Tel Aviv University, IL), Stefan Schmid (Aalborg University, DK), Marco Canini (Universite Catholique de Louvain, BE)

**Experience with 3 SDN Controllers in an Enterprise Setting**
Zhiyuan Teo, Ken Birman, Robbert van Renesse (Cornell University, US)

**Availability Modelling of Software-Defined Backbone Networks**
Gianfranco Nencioni, Bjørne Helvik (Norwegian University of Science and Technology), NO; Andres Gonzalez (Telenor Research, NO), Poul Heegaard (Norwegian University of Science and Technology, NO), Andrzej Kaminski (AGH University of Science and Technology, PL)

**DISN: Keynote**
Tuesday, June 28th, 2016, 15:00 – 15:30
**Chair:** TBD - **Room:** TBD

**A Data-centric Approach for Scalability and Fault-tolerance of SDN Controllers**
Alysson Bessani (University of Lisbon, OT)

**DISN: Dependable Routing in Software Defined Networks**
Tuesday, June 28th, 2016, 16:00 – 17:30
**Chair:** TBD - **Room:** TBD

**Routing-Verification-as-a-Service (RVaaS): Trustworthy Routing Despite Insecure Providers**
Liron Schiff (Tel Aviv University, IL), Stefan Schmid (Aalborg University, DK)

**KAR: Key-for-Any-Route, a Resilient Routing System**
Rodolfo R. Gomes, Alextian B. Liberato, Cristina K. Dominicini, Moises R. N. Ribeiro, Magnos Martinello (Federal University of Espirito Santo, BR)

**NetCo: Reliable Routing With Unreliable Routers**
Anja Feldmann, Philipp Heyder (TU Berlin, DE), Michael Kreutzer (Fraunhofer SIT, DE), Stefan Schmid (Aalborg University, DK & TU Berlin, DE), Jean-Pierre Seifert (TU Berlin & T-Labs Berlin, DE), Haya Shulman (Fraunhofer SIT, DE), Kashyap Thimmaraju (TU Berlin & T-Labs Berlin, DE), Michael Waldner (Fraunhofer SIT, DE), Jens Sieberg (BSI, DE)

**ReSA4CI 2016 Workshop**
The 3rd International Workshop on Reliability and Security Aspects for Critical Infrastructure

**RES4CI: Critical Infrastructure Protection**
Tuesday, June 28th, 2016, 09:00 – 10:30
**Chair:** TBD - **Room:** TBD

**Keynote: Thwarting Cyber Attacks: from Deterring to Adapting**
Roberto Baldoni (“La Sapienza” University of Rome, IT)

**An Architecture for Semi-Automatic Collaborative Malware Analysis for CIs**
Giuseppe Laurenza, Leonardo Aniello, Roberto Baldoni, Daniele Ucci (“La Sapienza” University of Rome, IT)

**Res4CI: Quantification and Analysis of Complex Systems**
Tuesday, June 28th, 2016, 11:00 – 12:30
**Chair:** TBD - **Room:** TBD

**Diverse Compiling for Software-Based Recovery of Permanent Faults in COTS Processors**
Andrea Höller, Bernhard Spitzer, Tobias Rauter, Johannes Iber, Christian Kreiner (Graz University of Technology, AT)

**Quantification and Analysis of Interdependency in Cyber-Physical Systems**
Koosh Marashi, Sahra Sedigh Sarvestani, Ali R. Hurson (Missouri University of Science & Technology, US)

Mikel Iturbe (Mondragon University, SP); José Camacho (University of Granada, SP); İňaki Garitano, Urko Zurutuza, Roberto Uribeetxeberria (Mondragon University, SP)
SSIV 2016 Workshop
The 2nd International Workshop on Safety and Security of Intelligent Vehicles

SSIV: Challenges and Architectural Solutions
Tuesday, June 28th, 2016, 09:00 – 10:30
Chair: TBD - Room: TBD

Welcome

Challenges in Autonomous Vehicle Testing and Deployment
Phil Koopman (CMU, US)

In Vehicle Real-Time Fog Computing
Hermann Kopetz (TU Wien, AT), Stefan Poledna (TTTech, AT)

SSIV: Communication Safety and Security
Tuesday, June 28th, 2016, 11:00 – 12:30
Chair: TBD - Room: TBD

An Effective Two-Level Redundancy Approach for FlexRay Network Systems
Yung-Yuan Chen, Kuen-Long Leu (National Taipei University, TW)

Designing Security for in-vehicle Networks: a Body Control Module (BCM) Centered Viewpoint
Bogdan Groza, Horatiu-Eugen Gurban, Pal-Stefan Murvay (Politehnica University of Timisoara, RO)

EEE 802.11n vs. IEEE 802.15.4: a study on Communication Quality of Service to provide Safe FANETs
Emerson Marconato (ICMC/USP, BR), Jean Aimé Maxa (ENAC, FR), Daniel F. Pigatto (ICMC/USP, BR), Alex Pinto (UFSC, BR), Nicolas Larrieu (ENAC, FR), Kalinka Branco (ICMC/USP, BR)

SSIV: Design and Validation
Tuesday, June 28th, 2016, 14:00 – 15:30
Chair: TBD - Room: TBD

Keynote: Model Driven Development of a Secure Routing Protocol for UAANET
Nicolas Larrieu (ENAC, FR)

On the Validation of a UAV Collision Avoidance System Developed by Model-Based Optimization: Challenges and a Tentative Partial Solution
Xueyi Zou, Rob Alexander, John McDermid (University of York, UK)

Safety Engineering for Autonomous Vehicles
Rasmus Adler, Patrik Feth, Daniel Schneider (Fraunhofer IESE, DE)

SSIV: Panel
Tuesday, June 28th, 2016, 16:00 – 17:30
Chair: TBD - Room: TBD

Current Solutions and Research Directions Towards Safety and Security of Intelligent Vehicles
Phil Koopman (CMU, US), Nicolas Larrieu (ENAC, FR), Hermann Kopetz (TU Wien, AT), Marco Vieira (Univ. Coimbra, PT - Chair)