Sunday September 30, 2018

Tutorial Session A 1:30pm – 3:00pm

Building Secure and Trustworthy Blockchain Applications. Chengjun Cai, Huayi Duan, Cong Wang (City University of Hong Kong)

Secure Coding Practices, Automated Assessment Tools and the SWAMP. (Part I) Barton P. Miller and Elisa Heymann (University of Wisconsin-Madison)

Secure Your Things: Secure Development of IoT Software with Frama-C. (Part I) Allan Blanchard (Inria Lille – Nord Europe, France), Nikolai Kosmatov (CEA, Software Reliability and Security Lab, France), Frédéric Loulergue (School of Informatics Computing and Cyber Systems, Northern Arizona University)

Continuous Verification of Critical Software. (Part I) Mike Dodds, Stephen Magill, Aaron Tomb (Galois, Inc.)

DeepState: Bringing Vulnerability Detection Tools into the Development Cycle. (Part I) Peter Goodman, Gustavo Grieco (Trail of Bits, Inc.), Alex Groce (School of Informatics, Computing & Cyber Systems, Northern Arizona University)

Parry and RIPOSTE: Honing Cybersecurity Skills with Challenge-Based Exercises. (Part I) Jan Werner (University of North Carolina at Chapel Hill), Fabian Monrose (University of North Carolina at Chapel Hill)

BREAK 3:00pm – 3:30pm

Tutorial Session B 3:30pm – 5:00pm

Principles and Practices of Secure Coding. Sazzadur Rahaman, Na Meng, Daphne Yao (Virginia Tech)

Secure Coding Practices, Automated Assessment Tools and the SWAMP. (Part II) Barton P. Miller and Elisa Heymann (University of Wisconsin-Madison)

Secure Your Things: Secure Development of IoT Software with Frama-C. (Part II) Allan Blanchard (Inria Lille – Nord Europe, France), Nikolai Kosmatov (CEA, Software Reliability and Security Lab, France), Frédéric Loulergue (School of Informatics Computing and Cyber Systems, Northern Arizona University)

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Reception 5:00pm-7:00pm

Poster Session 5:00pm-7:00pm

Monday October 1, 2018

Opening remarks 8:30am – 8:40am

Keynote I 8:40am – 10am
Building and Deploying Secure Systems in Practice: Lessons, Challenges and Future Directions
Dawn Song (University of California, Berkeley)
Moderator: Daphne Yao

BREAK 10am – 10:20am

Session 1 10:20am – 12pm
Session 1: Best practices of security (Chair: TBA)
BP: Formal Proofs, the Fine Print and Side Effects. Toby Murray (University of Melbourne) and Paul van Oorschot (Carleton University)
BP: DECREE: A Platform and Benchmark Corpus for Repeatable and Reproducible Security Experiments. Lok Yan (Air Force Research Laboratory), Benjamin Price (MIT Lincoln Laboratory), Michael Zhivich (MIT Lincoln Laboratory), Brian Caswell (Lunge Technology), Christopher Eagle (Naval Postgraduate School), Michael Frantzen (Kudu Dynamics), Holt Sorenson (Google Inc.), Michael Thompson (Naval Postgraduate School), Timothy Vidas (Carnegie Mellon University), Jason Wright (Thought Networks), Vernon Rivet (MIT Lincoln Laboratory), Samuel Colt VanWinkle (MIT Lincoln Laboratory), and Clark Wood (MIT Lincoln Laboratory)
BP: Security Concerns and Best Practices for Automation of Software Deployment Processes - An Industrial Case Study. Vaishnavi Mohan (Deloitte Analytics Institute), Lotfi ben Othmane (Iowa State University), and Andre Kres (IBM)

LUNCH 12pm – 1:30pm
Session 2: Data access security (Chair: TBA)

**Tyche: A Risk-Based Permission Model for Smart Homes.** Amir Rahmati (Samsung Research America/Stony Brook University), Earlence Fernandes (University of Washington), Kevin Eykholt (University of Michigan), and Atul Prakash (University of Michigan)

**Detecting leaks of sensitive data due to stale reads.** Will Snavely, William Klieber, Ryan Steele, David Svoboda, and Andrew Kotov (Software Engineering Institute - Carnegie Mellon University)

**Transforming Code to Drop Dead Privileges.** Xiaoyu Hu (BitFusion.io Inc.), Jie Zhou (University of Rochester), Spyridoula Gravani (University of Rochester), and John Criswell (University of Rochester)

BREAK 2:45pm – 3pm

Session 3: Secure coding and analysis (Chair: Toby Murray)

**Checked C: Making C Safe by Extension.** Archibald Samuel Elliott (University of Washington), Andrew Ruef (University of Maryland), Michael Hicks (University of Maryland), and David Tarditi (Microsoft Research)

**SGL: A domain-specific language for large-scale analysis of open-source code.** Darius Foo, Ang Ming Yi, Jason Yeo, and Asankhaya Sharma (SourceClear, Inc.)

**Light-touch Interventions to Improve Software Development Security.** Charles Weir (Lancaster University, UK), Lynne Blair (Lancaster University, UK), Ingolf Becker (University College London, UK), Angela Sasse (University College London, UK), and James Noble (Victoria University of Wellington, NZ)

**A Lingua Franca for Security by Design.** Alexander van den Berghe (imec-DistriNet, KU Leuven), Koen Yskout (imec-DistriNet, KU Leuven), Riccardo Scandariato (Software Engineering Division, University of Gothenburg), and Wouter Joosen (imec-DistriNet, KU Leuven).

BREAK 4:40pm-5pm

Birds of a Feather Sessions 5pm – 6pm

1. Women in Cybersecurity – led by Leslie Weignar Alger
2. Moving Target: Where to Next? – led by Hamed Okhravi, MITLL; Marco Carvalho, FIT; Andrew Gearhart, JHU APL; Rosalie McQuaid, MITRE
3. Helping Organize SecDev 2019 - led by Lee Lerner

Dinner on your own
Tuesday October 2, 2018

Breakfast 7:30am – 8:30am

IEEE Awards 8:30am – 9:45am

**General Chair Report and Awards**

**Best Papers and Best Reviewer Awards**

**The IEEE Cybersecurity Award for Practice**

**The IEEE Cybersecurity Award for Innovation**

BREAK 9:45am-10am

Keynote II 10am – 11:20am

Provably Eliminating Exploitable Bugs

Kathleen Fisher (*Tufts University, Former Program Manager of DARPA’s HACMS Program*)

Moderator: Stephen Chong

BREAK 11:20am – 11:30am

Practitioners Session A 11:30am-12:30pm

Practitioners Session A: Enterprise Threat Modeling (Chair: TBA)

**Scalable Static Analysis to Detect Security Vulnerabilities: Challenges and Solutions.** Francois Gauthier, Nathan Keynes, Nicholas Allen, Diane Corney, and Padmanabhan Krishnan (*Oracle Labs, Australia*)

**Applied Threat Driven Security Verification.** Danny Dhillon and Vishal Mishra (*Dell*)


Automating Threat Intelligence for SDL. Raghudeep Kannavara (*Intel Corp*), Jacob Vangore (*Olivet Nazarene University*), Marcus Lindholm (*Intel Corp*), and Priti Shrivastav (*Intel Corp*).

LUNCH 12:30pm – 2pm

Session 5 2pm – 3:15pm

Session 5: Vulnerability assessment (Chair: Sonja Glumich)


There’s a Hole in the Bottom of the C: On the Effectiveness of Allocation Protection. Ronald Gil (*MIT CSAIL*), Hamed Okhravi (*MIT Lincoln Laboratory*), and Howard Shrobe (*MIT CSAIL*).
BP: Profiling Vulnerabilities on the Attack Surface. Christopher Theisen, Hyunwoo Sohn, Dawson Tripp, and Laurie Williams (North Carolina State University)

BREAK 3:15pm – 3:45pm

Practitioners Session B 3:45pm – 5:15pm
Practitioners Session B: New Security Needs and Approaches (Chair: TBA)
Reducing Attack Surface via Executable Transformation. Sukarno Mertoguno, Ryan Craven, Daniel Koller, and Matthew Mickelson (ONR)
Designing Secure and Resilient Embedded Avionics Systems. Jason H. Li (Intelligent Automation Inc.), Douglas Schafer (Air Force Research Laboratories), David Whelihan (MIT Lincoln Laboratories), Stefano Lassini (GE Aviation Systems), Nicholas Evancich (Intelligent Automation Inc.), Kyung Joon Kwak (Intelligent Automation Inc.), Mike Vai (MIT Lincoln Laboratories), and Haley Whitman (MIT Lincoln Laboratories)
Data Integrity: Recovering from Ransomware and Other Destructive Events. Timothy McBride (NIST), Anne Townsend (MITRE), Michael Ekstrom (MITRE), Lauren Lusty (MITRE), and Julian Sexton (MITRE)
Securing Wireless Infusion Pumps. Andrea Arbelaez (NIST), Sue Wang (MITRE), Sallie Edwards (MITRE), Kevin Littlefield (MITRE), and Kangmin Zheng (MITRE)
Best Practice for Developing Secure and Trusted Enterprise Storage & Computing Products. Xuan Tang (Dell)
Experiment: Sizing Exposed Credentials in GitHub Public Repositories for CI/CD. Hasan Yasar (Software Engineering Institute, CMU)

Wrap up and see you at SecDev 2019!