2018 IEEE International Conference on Industrial Internet (ICII)

October 21-23, 2018

Bellevue, WA, USA

Hyatt Regency Bellevue on Seattle's Eastside

Technically Sponsored by IEEE, IEEE Computer Society, IEEE Computer Society Technical Committee on the Internet

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IEEE ICII 2018 Program at a Glance

Time/Day	Sunday (Oct 21)	Monday (Oct 22)	Tuesday (Oct 23)
07:30 - 08:00		Breakfast	Breakfast
08:15 - 08:30		Opening	
08:30 - 09:30		Keynote I	Keynote II
09:30 - 10:00		Coffee Break	Coffee Break
10:00 - 11:30		TS I: Applications	TS IV: Control Systems
11:30 - 13:00	Lunch	Lunch	Lunch
13:00 - 13:15	Opening	TS II: Data Processing and Analytics	TS V: Scheduling and Frameworks
13:15 - 15:00	Workshop IoT/CPS Security		
15:00 - 15:30	Coffee Break	Coffee Break	Coffee Break
15:30 - 17:00		TS III: Security and Platforms (Short Papers)	Distinguished Industry Session
17:00 - 17:15		Reception and Poster/Demo	Conclusion
17:15 - 20:00			

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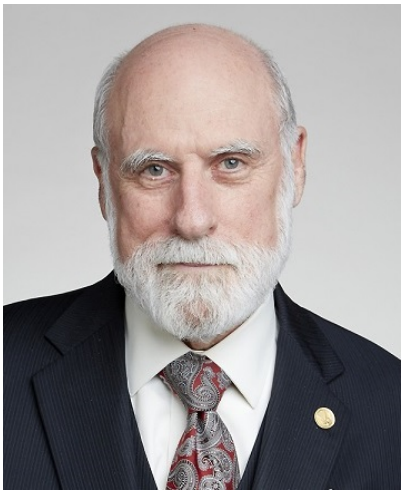
Keynote I

Dr. Vinton G. Cerf, Vice President and Chief Internet Evangelist, Google, USA



Vinton G. Cerf has served as vice president and chief Internet evangelist for Google since October 2005. In this role, he contributes to global policy development, standardization and continued spread of the Internet. Cerf is the former senior vice president of Technology Strategy for MCI. In this role, Cerf was responsible for helping to guide corporate strategy development from the technical perspective. Previously, Cerf served as MCI's senior vice president of Architecture and Technology, leading a team of architects and engineers to design advanced networking frameworks including Internet-based solutions for delivering a combination of data, information, voice and video services for business and consumer use. Widely known as one of the "Fathers of the Internet," Cerf is the co-designer of the TCP/IP protocols and the architecture of the Internet. He is a recipient of numerous awards and commendations in connection with his work on the Internet.

Title: Musings on the Industrial Internet

Abstract: The Industrial Internet is a concept that I think could be represented by a major manufacturing plant filled with Internet of Things (IoT) devices, robots, and other programmable systems all communicating over the Internet or an internet. One could add to that picture, a global supply chain system that uses the Internet to order, track, pay for and possibly manage or control devices used in Industrial settings. The magnitude of the access control and end-to-end authentication process should not be underestimated. Nor should the role of standards in achieving interoperability among the devices and systems of the Industrial Internet ecosystem. The challenges found in the residential IoT are simply magnified in an industrial setting especially with a wide-ranging mixture of devices made by different manufacturers. These are stakeholders in the multi-national, multi-vendor system that needs global interoperabililty.

Keynote II

Dr. Renwei Li, Chief Scientist and Vice President of the Future Networks, Huawei, USA

Dr. Renwei Li (Richard) is Chief Scientist and Vice-President of the Future Networks at Huawei USA, where he leads a group of senior research scientists, architects and engineers to design and develop next-generation network architectures, technologies, protocols, solutions, and software. An area of his particular focus is on Industrial Internet. In his career with Huawei, Richard has worked as Vice-President and Head of the Internet Technology Lab of Huawei USA, and spearheaded the technology innovation and software development in the area of Routing and MPLS, Cloud and Virtualization, SDN, and Orchestration. Prior to joining Huawei, he worked with Cisco and Ericsson in his various capacities, being a major contributor to their networking technologies, standards, solutions and operating systems. Richard also serves as Vice Chair of ETSI ISG NGP, an industrial specification group on next-generation protocols within European Telecommunications Standards Institute (ETSI). He also works to bridge between scientific, academic and industrial research and cultures.

Title: What if We Reimagine a New Internet?

Abstract: The Internet is one of the most successful technical achievements of our time. However, it is reaching the limits of what it can support in the face of emerging applications and services such as massive machine type communications (mMTC), ultra-reliable low-latency communications (URLLC), and tactile internet, which often require, for example, precisely guaranteed low latency and high throughput instead of best-effort routing and forwarding. Now it becomes imminent to reimagine and redesign the next-generation internet. This talk analyzes the current Internet's constraints, identifies new underlying design principles, and outlines a new framework and a new protocol, called New IP. New IP extends IP in order to evolve an essentially best-effort Internet to a best-guarantee Internet that will power the next wave of future networking applications including Industrial Internet.

Sunday October 21 {Day 1}

11:30 am – 13:00 pm	**Lunch (Juniper)**	
13:00 pm – 13:15 pm	**Opening (Larch)**	**1. Glenn Fink (Pacific Northwest National Laboratory, USA)**
13:15 pm – 15:00 pm	**Workshop – IoT/CPS Security (Larch)**	***1.*** **IoT Cameras and DVRs as DDoS Reflectors: Pros and Cons from Hacker's Perspective** Natalija Vlajic (York University, Canada) ***2.*** **Helping IT and OT Defenders Collaborate** Glenn Fink (Pacific Northwest National Laboratory USA); Yana Shulga (Columbia Basin College, USA) *3.* **Cybersecurity Issues in Internet of Things and Countermeasures** Hoda Al Ghadeer (Embry-Riddle Aeronautical University, USA) ***4.*** **Challenges with Current Cyber Security in ICS** Animesh Pattanayak (Pacific Northwest National Laboratory, USA); Jess Smith (Pacific Northwest National Laboratory, USA); Matthew Kirkland (Pacific Northwest National Laboratory, USA)
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Monday October 22 {Day 2}

07:30 am – 08:00 am	**Breakfast (Foyer)**	
08:15 am – 08:30 am	**Opening (Auditorium/Maple)**	
08:30 am – 09:30 am	**Keynote I (Auditorium/Maple)** **Session Chair** Chenyang Lu (Washington University in St. Louis, USA)	1. **Musings on the Industrial Internet** Dr. Vinton G. Cerf (Vice President and Chief Internet Evangelist, Google)
09:30 am – 10:00 am	**Coffee Break (Foyer)**	
10:00 am – 11:30 am	**TS I: Applications (Auditorium/Maple)** **Session Chair** Abusayeedv Saifullah (Wayne State University, USA)	1. ***(Invited Paper)*** **Low-Power Wide-Area Wireless Networks for Industrial Sensing Applications** Philipp Sommer (ABB Corporate Research, Switzerland); Yannick Maret (ABB Corporate Research, Switzerland); Dacfey Dzung (ABB Corporate Research, Switzerland) 2. **Indoor Multi-Sensory Self-Supervised Autonomous Mobile Robotic Navigation** Junhong Xu (Ball State Univesity, USA); Hanqing Guo (Ball State Univesity, USA); Saeed Alqarni (Ball State Univesity, USA); Shaoen Wu (Ball State Univesity, USA) 3. **TagLeak: Non-intrusive and Battery-free Liquid Leakage Detection with Backscattered Signals** Junchen Guo (Tsinghua University, P.R. China); Ting Wang (Tsinghua University, P.R. China); Meng Jin (Northwest University, P.R. China); Songzhen Yang (Tsinghua University, P.R. China); Chengkun Jiang (Tsinghua University, P.R. China); Long Liu (Tsinghua University, P.R. China); Yuan He (Tsinghua University, P.R. China)
11:30 am – 13:00 pm	**Lunch Break (Foyer)**	
13:00 pm – 15:00 pm	**TS II: Data Processing and Analytics (Auditorium/Maple)** **Session Chair** Kim-Kwang Raymond Choo (University of Texas at San Antonio, USA)	1. ***(Invited Paper)*** **On the Impact of WiFi on 2.4 GHz Industrial IoT Networks** Fabian Rincon Vija (Inria Paris, France); Yasuyuki Tanaka (Inria Paris, France); Thomas Watteyne (Inria Paris, France) 2. **RT-DAP: A Real-Time Data Analytics Platform for Large-scale Industrial Process Monitoring and Control** Song Han (University of Connecticut, USA); Tao Gong (University of Connecticut, USA); Mark Nixon (Emerson Automation Solutions, USA); Eric Rotvold (Emerson Automation Solutions, USA); Kam-Yiu Lam (City

		University of Hong Kong, Hong Kong); Krithi Ramamritham (IIT Bombay, India) 3. **An Energy-image based Multi-unit Power Load Forecasting System** Chengpei Tang (Sun Yat-sen University, P.R. China); Shanqing Wang (Sun Yat-sen University, P.R. China); Chancheng Zhou (Sun Yat-sen University, P.R. China); Xiaolong Zheng (Tsinghua University, P.R. China) 4. **Integrated Analytics for IIoT Predictive Maintenance using IoT Big Data Cloud Systems** Hong-Linh Truong (Vienna University of Technology, Austria)
15:00 pm – 15:30 pm	**Coffee Break (Foyer)**	
15:30 pm – 17:00 pm	**TS III: Security and Platforms (Auditorium/Maple)** **Session Chair** Glenn Fink (Northwest National Laboratory, USA)	1. ***(short paper)*** **A New Efficient Scheme for Securely Growing WBAN Nodes** Zhouzhou Li (University of Massachusetts Dartmouth, USA); Hua Fang (University of Massachusetts Dartmouth, USA); Honggang Wang(University of Massachusetts Dartmouth, USA); Mahmoud Daneshmand (Stevens Institute of Technology, USA) 2. ***(short paper)*** **Synergistic Security for the Industrial Internet of Things: Integrating Redundancy, Diversity, and Hardening** Aron Laszka (University of Houston, USA); Waseem Abbas (Information Technology University, Pakistan); Yevgeniy Vorobeychik (Vanderbilt University, USA); Xenofon Koutsoukos (Vanderbilt University, USA) 3. ***(short paper)*** **Towards Automation of Vulnerability and Exploitation Identification in IIoT Networks** Nour Moustafa (University of New South Wales at ADFA, Australia); Benjamin Turnbull (University of New South Wales at ADFA, Australia); Kim-Kwang Raymond Choo (The University of Texas at San Antonio, USA) 4. ***(short paper)*** **Brightics-IoT: Towards Effective Industrial IoT Platforms for Connected Smart Factories** Hyokeun Choi (Samsung SDS, South Korea); Jaeseung Song (Department of Computer and Information Security Sejong University, South Korea); Kyuyull Yi (Samsung SDS, South Korea)
17:00 pm – 20:00 pm	**Reception and Poster/Demo (Eques)**	1. ***(Poster)*** **QoS-Aware IIoT Microservices Architecture** Eyhab Al-Masri (University of Washington Tacoma, USA) 2. ***(Poster)*** **A Focused Crawler Model Based on Mutation Improving Particle Swarm Optimization Algorithm** Guangxia Xu, Peng Jiang, Chuang Ma and Mahmoud Daneshmand 3. ***(Poster)*** **4G Network for Air-Ground Data Transmission: A Drone based Experiment**

Liqi Chen (Xi'an Jiaotong-Liverpool University, China); Zheng Huang (Xi'an Jiaotong-Liverpool University, China); Zhenbang Liu (Xi'an Jiaotong-Liverpool University, China); Dawei Liu (Xi'an Jiaotong-Liverpool University, China); Xin Huang (Xi'an Jiaotong-Liverpool University, China)

4. ***(Poster)*** **A Reconfigurable SoC for Softcast Wireless Video Transmission**
   Fengxiang Gao (Tongji University, China); Haoqi Ren (Tongji University, China); Jun Wu (Tongji University, China)

5. ***(Poster)*** **A Serverless IoT Architecture for Smart Waste Management Systems**
   Eyhab Al-Masri (University of Washington Tacoma, USA); Ibrahim Diabate (University of Washington Tacoma, USA); Richa Jain (University of Washington Tacoma, USA); Ming Hoi Lam (University of Washington Tacoma, USA); Swetha Reddy Nathala (University of Washington Tacoma, USA)

6. ***(Demo)*** **IoT Based Positioning Service Platform** Soumya Kanti Datta (EURECOM, France); Jerome Haerri (EURECOM, France); Christian Bonnet (EURECOM, France)

7. ***(Demo)*** **Brightics-IoT: Key Attractive Features of Enterprise Targeted IoT Platform**
   Hyokeun Choi (Samsung SDS, South Korea)

8. ***(Demo)*** **Blockchain Enabled Internet-of-Things Service Platform for Industrial Domain**
   Chanhyung Lee (Sejong University, South Korea); Nakmyoung Sung (Korean Electronics Technology Institute, South Korea); Lewis Nkenyereye (Sejong University, South Korea); Jaeseung Song (Sejong University, South Korea)

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Tuesday October 23 {Day 3}

07:30 am – 08:30 am	**Breakfast (Foyer)**	
08:30 am – 09:30 am	**Keynote II (Auditorium/Maple)**	1. **What if We Reimagine a New Internet?** Dr. Renwei Li (Chief Scientist and Vice President of the Future Networks, Huawei)
09:30 am – 10:00 am	**Coffee Break (Foyer)**	
10:00 am – 11:30 am	**TS IV: Control Systems (Auditorium/Maple)** **Session Chair** Xenofon Koutsoukos (Vanderbilt University, USA)	1. ***(Invited paper)*** **Deterministic Timing for the Industrial Internet of Things** Chadlia Jerad (University of Manouba, Tunisia); Edward A. Lee (UC Berkeley, USA) 2. **A Flexible Retransmission Policy for Industrial Wireless Sensor Actuator Networks** Ryan Brummet (University of Iowa, USA); Dolvara Gunatilaka (Washington University in St. Louis, USA); Dhruv Vyas (University of Iowa, USA); Octav Chipara (University of Iowa, USA); Chenyang Lu (Washington University in St. Louis, USA) 3. **Efficient Holistic Control over Industrial Wireless Sensor-Actuator Networks** Yehan Ma (Washington University in St. Louis, USA); Chenyang Lu (Washington University in St. Louis, USA)
11:30 am – 13:00 pm	**Lunch Break (Foyer)**	
13:00 pm – 15:00 pm	**TS V: Scheduling and Frameworks (Auditorium/Maple)** **Session Chair** Octav Chipara (University of Iowa, USA)	*1.* ***(Invited Paper)*** **A Modular and Adaptive Architecture for Building Applications with Connected Devices** Pat Pannuto (UC Berkeley, USA); Prabal Dutta (UC Berkeley, USA); Wenpeng Wang (University of Virginia, USA); Bradford Campbell (University of Virginia, USA) *2.* **An Edge Computing Framework for Real-Time Monitoring in Smart Grid** Yutao Huang (Simon Fraser University, Canada); Yuhe Lu (Simon Fraser University, Canada); Feng Wang (The University of Mississippi, USA); Xiaoyi Fan (The University of British Columbia, Canada); Jiangchuan Liu (Simon Fraser University, Canada); Victor Leung (The University of British Columbia, Canada) *3.* **A Utilization Based Approach for Schedulability Analysis in Wireless Control Systems** Venkata Prashant Modekurthy (Wayne State University, USA); Dali Ismail (Wayne State University, USA); Mahbubur Rahman (Wayne State University, USA); Abusayeed Saifullah (Wayne State University, USA)

		4. **Unified Scheduling for Predictable Communication Reliability in Industrial Cellular Networks** Yuwei Xie (Iowa State University, USA); Hongwei Zhang (Iowa State University, USA); Pengfei Ren (Wayne State University, USA)
15:00 pm – 15:30 pm	**Coffee Break (Foyer)**	
15:30pm – 17:00 pm	**Distinguished Industry Session (Auditorium/Maple)** **Session Chair** Philipp Sommer (ABB, Switzerland)	**1. Get Stuck in Big Data? High-throughput Data Processing Based on GPU Computing** Hanyu Jiang (Philips, USA) **2. Application behaviors Driven Self-Organizing Network for 4G LTE networks** Zhongyuan (Thomas) Li (Verizon Wireless, USA) **3. Bridging Machine Learning and Controls for Smart Buildings** Achin Jain (Flexergy.AI, USA) **4. Big Data System Quality Measurement** Libin Shen (Splunk, USA)
17:00 pm – 17:15 pm	**Conclusion (Auditorium/Maple)**	
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