

# NIST Named Data Networking

## 2018 Community Meeting

September 19-20, 2018

### Wednesday September 19, 2018

- 08:00am Registration
- 09:00am **Opening Session**  
Chair: Lotfi Benmohamed (NIST)
- NIST Cybersecurity Programs, Kevin Stine (NIST)
  - A New Way to Support Security, Lixia Zhang (University of California, Los Angeles), Alex Afanasyev (Florida International University)
- 10:00am **Session 1- NDN support for computing**  
Chair: Beichuan Zhang (University of Arizona)
- Towards an Augmented Reality Browser using NDN, Jeff Burke (UCLA REMAP)
  - Edge Computing Over Named Data Networking, Abderrahmen Mtibaa (New Mexico State University)
  - Compute-First-Network for NDN, Asit Chakraborti (Huawei Technologies)
- 11:00am Break
- 11:15am **Session 2- IoT and Security**  
Chair: Giovanni Pau (Sorbonne University/UCLA)
- NDNofT: A Framework for Named Data of Things, Zhiyi Zhang (UCLA)
  - Blockchain-based Decentralized Public Key Management for Named Data Networking, Kan Yang (University of Memphis)
  - Distributed Ledger over NDN for A Real-world Solar System, Zhiyi Zhang (UCLA)
- 12:15pm Lunch
- 1:30pm **Panel 1: Security and Privacy in NDN: An Edge Computing Perspective**  
Chair: Jay Misra (New Mexico State University)  
Alex Afanasyev (Florida International University)  
Ken Calvert (National Science Foundation)  
Tamer Refaei (MITRE Corporation)  
Murugiah Souppaya (NIST)
- 2:30pm **Lightning Talks**  
Chair: Lotfi Benmohamed (NIST)
- 4:00pm **Posters and Demos**
- 6:00pm Day 1 Closing

## Thursday September 20, 2018

- 08:00am Registration
- 08:30am **Community Feedback**
- 09:00am **Session 3- NDN for Vehicular Networks**  
Chair: Beichuan Zhang (University of Arizona)
- Vehicular Named Data Networking, Claudio Marxer (University of Basel)
  - Connectivity and Location-aware Routing Scheme (CLRS) for Connected and Autonomous Vehicles (CAVs), Junaid Ahmed Khan (University of Memphis)
  - Data-Centric MAC for Robust Multicast in Vehicular Networks, Mohammed Elbadry (Stony Brook University)
- 10:00am **Session 4- NDN in Mobile AdHoc Networks**  
Chair: Lan Wang (University of Memphis)
- Peer-to-Peer File Sharing in Mobile Ad hoc Networks over NDN, Spyridon Mastorakis (UCLA)
  - Distributed Dataset Synchronization in Mobile Ad Hoc Networks over NDN, Tianxiang Li (UCLA)
  - Toward Multi-Hop Long-Range D2D Communication via Information Centric Ad Hoc Networks, Yaoqing Liu (Clarkson University)
- 11:00am Break
- 11:15am **Panel 2: Edge Computing: Shaping the Named Data Edge**  
Chair: Christian Tschudin (University of Basel)  
Jeff Burke (University of California, Los Angeles)  
Asit Chakraborti (Huawei Technologies)  
Martial Michel (Data Machines Corp.)  
Lan Wang (University of Memphis)
- 12:15pm Lunch
- 1:30pm **Session 5- Routing and Forwarding**  
Chair: Jeff Burke (University of California, Los Angeles)
- High-Speed NDN-DPDK Forwarder, Junxiao Shi (NIST)
  - A New Way of Traffic Engineering in NDN, Klaus Schneider (The University of Arizona)
  - NDNCONF: Network Configuration Management System for NDN based on NETCONF protocol, Rajender Kumar (Florida International University)
- 2:30pm **Session 6 -NDN support for new deployments**  
Chair: Alex Afanasyev (Florida International University)
- NDN Supporting Ultra-Dense Networks, Xiaoyan Hong (University of Alabama)
  - Automated Neighbor Discovery to Run NDN Anywhere, Arthi Padmanabhan (UCLA)
  - NDN for Data Intensive Science, Susmit Shannigrahi (Colorado State University)
- 3:30pm Closing

**Posters:**

- NDN for Public Safety Deployable Networks, Davide Pesavento (NIST)
- Bootstrapping Trust in NDN-Based Vehicular Network Using SWIFT Trust, Sanjeev Kaushik Ramani (Florida International University)
- Get an NDN certificate with NDN CERT protocol, Zhiyi Zhang (UCLA)
- Named-based Access Control, Zhiyi Zhang (UCLA)
- Upcoming Changes in NDN Protocol, Alex Afanasyev (Florida International University)
- Performance evaluation of the NDN-DPDK forwarder, Siham Khoussi (NIST)
- IoT+NDN+Wireless: Experimental Insights from Using 802.11 Infrastructure and Ad-hoc Modes, Travis Machacek (New Mexico State University)
- Leveraging Named Data Networking in Edge Computing, Byung-Seo Kim (Hongik University Sejong Campus, South Korea)
- An Overlay NDN Architecture for Application-Driven Satellite-Terrestrial Integration, Tian Song (Beijing Institute of Technology)
- Named Query Framework for Named Data Networking of Things, Byung-Seo Kim (Hongik University Sejong Campus, South Korea)
- ICE-AR Application Progress, Peter Gusev (UCLA REMAP)
- Optimal Cache Allocation under Network-Wide Capacity Constraint, Van Sy Mai (NIST)
- Distributed Network Measurement Protocol (DNMP): A Secure Role-Based Approach, Kathleen Nichols (Pollere, Inc)

**Demos:**

- ANTD NDN-IoT Testbed: Smart Building Sensing, Edward Lu (NIST)
- PSync deployment on IoT sensor testbed, Ashlesh Gawande (University of Memphis)
- Vehicular Named Data Networking, Christopher Scherb (University of Basel)
- HomeCam Browser-based Home Surveillance Camera, Junxiao Shi (NIST)
- NDN Supporting Ultra-Dense Networks, Xiaoyan Hong (University of Alabama)
- A Raspberry Pi Based Data-Centric MAC for Robust Multicast in Vehicular Networks, Mohammed Elbadry (Stony Brook University)