Atrium level:

All sessions and tutorials take place in Garden A and B.

The Welcome Reception takes place in the Hospitality room.
Day 1 - Wed

9:00am - 5:00pm Tutorials

CCN: Practical CCNx - Protocol and Code
Ignacio Solis (PARC), Marc Mosko (PARC), Glenn Scott (PARC), Alan Walendowski (PARC)

CCNx has changed a lot in the last year and this tutorial covers all the changes, updates and new code availability.

In ICN 2014 (September) a half day CCNx tutorial presented the base architecture of CCN 1.0. Due to time constraints there was no room for a hands-on practical experience. Over 100 people attended the tutorial.

In CCNxCon 2015 (May) over 30 people had a chance to do some coding with the latest CCNx binary release. We did a successful interop test at the end with 3 compatible implementations.

A source release of CCNx was announced late May and this is a great opportunity to learn more about developing with the code.

NDN: Security & Synchronization in Named Data Networking (NDN)
Hila Ben Abraham (Washington University St. Louis), Alex Afanasyev (UCLA), Jeff Burke (UCLA), Steve DiBenedetto (Colorado State University), Jeff Thompson (UCLA), Yingdi Yu (UCLA), Lixia Zhang (UCLA)

Named Data Networking (NDN) is one of the most prominent ICN architectures and software platforms available to the research community. The NDN codebase is published under an open source license and widely used in experimentation; a 22+ node international testbed is available for research use. For several years, the NDN project team has presented tutorials to introduce the basics of the architecture and its software platform to researchers, both to promote related research and to encourage community contribution to the open source software platform. Previous tutorials have focused primarily on introductory material — in particular, Interest/Data exchange mechanisms and basic content verification. However, many of the field’s most interesting research challenges lie in areas that build on these basics. In particular, mechanisms for access control and trust verification, along with next-generation transport protocols building on Interest/Data exchange, are important areas of work for the NDN project team.

This tutorial will share important architectural concepts we are exploring in these two areas, the software we have built to do so, and open challenges faced in each. In this way, we hope to engage tutorial participants in both using deeper features of the available toolset, and in considering these critical problem spaces with us. Specifically, we will conduct a hands-on tutorial that uses the creation of a modern browser-based application, built in Javascript, to cover three such topics where the ideas have progressed such that we can build experimental libraries to work with them: 1) encryption—based access control, 2) configurable trust verification, 3) multi—party synchronization.

7:00pm - 10:00pm Welcome Reception & Presentations of Demos and Posters

7:30pm - 8:30pm Poster and Demo Presentations
Keynote: Improving the Internet with ICN
Van Jacobson

Abstract:
Efficient static content distribution is the focus of most ICN efforts. But content distribution is just one of many Internet pain points. An Information Centric approach could potentially spur major advances on most of the Internet’s most pressing problems. This talk will discuss where, why, and how ICN could make a difference on a broader scale.
Day 3 – Fri

9:00am - 10:30am Session 4: In-Network Caching
Session Chair: Luca Muscariello

On the Analysis of Caches with Pending Interest Tables
Mostafa Dehghan, Bo Jiang, Ali Dabirmoghaddam, Don Towsley

Performance and cost effectiveness of caching in the mobile access network
Salah Eddine Elayoubi, James Roberts

Object-oriented Packet Caching for ICN
Yannis Thomas, George Xylomenos, Christos Tsilopoulos, George C. Polyzos

10:30am - 11:00am Coffee Break

11:00am - 12:30pm Session 5: Content and Applications
Session Chair: Karen Sollins

Consumer / Producer communication with application level framing in Named Data Networking
Ilya Moiseenko, Lijing Wang, Lixia Zhang

Efficient content verification in Named Data Networking
Dohyung Kim, SunWook Nam, Jun Bi, Ikjun Yeom

Object-oriented Packet Caching for ICN
Yannis Thomas, George Xylomenos, Christos Tsilopoulos, George C. Polyzos

12:30pm - 2:00pm Lunch Break

2:00pm - 3:30pm Session 6: Internetworking and Access Control
Session Chair: Thomas C. Schmidt

MFTP: A Clean-Slate Transport Protocol for the Information Centric MobilityFirst Network
Kai Su, Francesco Bronzino, K. K. Ramakrishnan, Dipankar Raychaudhuri

Beyond Network Selection: Exploiting Access Network Heterogeneity with Named Data Networking
Klaus M. Schneider, Udo R. Krieger

Interest-Based Access Control for Content Centric Networks
Cesar Ghali, Marc A. Schlosberg, Gene Tsudik, Christopher A. Wood

3:30am - 4:00am Coffee Break

4:00pm - 5:30pm Session 7: Security
Session Chair: Christian Tschudin

Moderator-controlled Information Sharing by Identity-based Aggregate Signatures for ICN
Tohru Asami, Byambajav Namsraijav, Yoshihiko Kawahara, Kohei Sugiyama, Atsushi Tagami, Tomohiko Yagyu, Kenichi Nakamura, Toru Hasegawa

Catch Me If You Can: A Practical Framework to Evade Censorship in Information-Centric Networks
Reza Tourani, Satyajayant Misra, Joerg Kliwer, Scott Ortegel, Travis Mick

Schematizing and Automating Trust in Named Data Networking
Yingdi Yu, Alexander Afanasyev, David Clark, kc claffy, Van Jacobson, Lixia Zhang
Analyzing Cacheable Traffic for FTTH Users Using Hadoop
Claudio Imbrenda, Wuyang Li, Luca Muscariello

Anchor-less Producer Mobility in ICN
Jordan Augé, Giovanna Carofiglio, Giulio Grassi, Luca Muscariello, Giovanni Pau, Xuan Zeng

Partial Adaptive Name Information in ICN: PANINI Routing Limits FIB Table Sizes
Thomas C. Schmidt, Sebastian Wölke, Nora Berg, Matthias Wählisch

VDR: A Virtual Domain-based Routing Scheme for CCN
Jie Li, Jiachen Chen, Mayutan Arumaithurai, Xingwei Wang, Xiaoming Fu

Revisiting Countermeasures Against NDN Interest Flooding
Samir Al-Sheikh, Matthias Wählisch, Thomas C. Schmidt

Secure Name Configuration and Prefix Registration
Marc Mosko, Glenn Scott, Ignacio Solis, Christopher A. Wood, Christopher Wood

A Network-Agnostic Data Framework and API for CCN
Glen Scott, Christopher A. Wood

Multipath Support for Name-based Information Dissemination in Fragmented Networks
Kohei Sugiyama, Atsushi Tagami, Tomohiko Yagyu, Toru Hasegawa, Mayutan Arumaithurai, K. K. Ramakrishnan
ICN based Scalable Audio-Video Conferencing on Virtualized Edge Service Router (V瑟) Platform
Asit Chakraborti, Syed Obaid Amin, Bin Zhao, Aytac Azgin, Ravishankar Ravindran, Guoqiang Wang

Demo: Content-based Push/Pull Message Dissemination for Disaster Message Board
Tomohiko Yagyu, Kenichi Nakamura, Tohru Asami, Kohei Sugiyama, Atsushi Tagami, Toru Hasegawa, Mayutan Arumaithurai

An IP-based Manifest Architecture for ICN
Cedric Westphal, Emrecans Demirors

Using CCN for Discovery of Missing Physical Items
Cedric Westphal, Bertrand Mathieu, Obaid Amin

Experiments with the Emulated NDN Testbed in ONL
Ze’ev Lailari, Hila Ben Abraham, Ben Aronberg, Jackie Hudepohl, Haowei Yuan, John DeHart, Jyoti Parwatikar, Patrick Crowley

Enabling Smart Grid Applications with ICN
Wei Koong Chai, Konstantinos V. Katsaros, Matthias Strobbe, Paolo Romano, Chang Ge, Chris Develder, George Pavlou, Ning Wang

CCNx Packet Processing on PARC Router Platform
Dick Sillman, Eric Holmberg, Ramesh Ayyagari, Priti Goel, Mark Konezny

Demonstrating a Scalable Name Resolution System for Information-Centric Networking
Jungha Hong, Woojik Chun, Heeyoung Jung

Prototype of an Architecture for Object Resolution Services in Information-Centric Environment
Sripriya Srikant Adhatarao, Jiachen Chen, Mayutan Arumaithurai, Xiaoming Fu, K.K.Ramakrishnan

NetInf Live Video Streaming for Events with Large Crowds
Adeel Mohammad Malik, Bengt Ahlgren, Börje Ohlman
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