



# IFIP Networking 2017

## Conference and Workshops

June 12 to 15, 2017, Stockholm, Sweden



Technically Co-Sponsored by



## **Welcome to IFIP Networking 2017!**

It is our great pleasure to welcome you to Stockholm, Sweden, and to IFIP Networking 2017!

The IFIP Networking 2017 Conference is the 16th event of the series, sponsored by the IFIP Technical Committee on Communication Systems (TC6) and technically co-sponsored by IEEE Computer Society. This year's conference offers an inspiring technical program including 43 carefully selected full-length papers, 3 renowned keynote speakers, 6 demos, 7 posters and 2 workshops.

While we are sure that the technical sessions will bring many new insights in the broad and quickly evolving fields of computer and communication networks, we also know that many of the most interesting discussions and most rewarding experiences will happen outside of the technical sessions. We hope that you will take the opportunity to meet with both old colleagues and new friends from the networking community and to enjoy the beautiful city of Stockholm together. The conference social program offers a reception at the City Hall (the location of the Nobel Prize banquet) and a conference dinner at renowned restaurant of the Fotografiska Museum (with access also to the photography shows of the museum).

Organizing a conference such as IFIP Networking requires the dedication and effort of many volunteers. We are grateful to an outstanding group of colleagues for serving on the organization team and for generously contributing their time and energy. We thank Tilman Wolf, Viktoria Fodor and Hongbo Jiang for leading the technical program committee; Bengt Ahlgren and Yang Chen for managing the workshops; Karin Anna Hummel and Vincenzo Mancuso for organizing the posters and demos; Peter Danielis for managing EDAS and all publication matters; Naeem Khademi for managing the web site; David Hausheer and Deke Guo for promoting the conference; György Dán for coordinating the local arrangements; and Peter Sjödin and Markus Hidell for managing the finances. We also thank the whole steering committee, and in particular Jordi Domingo-Pascual, for their advice and support throughout the entire period of conference organization. We also thank our sponsors Stockholms stad, .SE, Linnæus Center ACCESS and the supporting universities for their generous support.

Once again, welcome to Stockholm and IFIP Networking 2017. We hope you will enjoy the conference!

**Gunnar Karlsson**

*General Co-Chair*

KTH Royal Institute of Technology, Sweden

**Anna Brunström**

*General Co-Chair*

Karlstad University, Sweden

## Welcome from the IFIP Networking 2017 TPC Co-Chairs

Welcome to the 16th edition of the IFIP Networking conference! We are delighted to present an exciting technical program with 43 papers that span the breadth of networking, ranging from resource allocation and traffic engineering to security and emerging topics, such as software-defined networks and content-centric networks.

With the help of our technical program committee, we selected these papers from a pool of 150 submissions. Each paper was assigned to TPC members for review based on preferences indicated during the bidding phase. After the initial review phase, where each paper received three or four written reviews, online discussions were conducted to merge the different reviewers' opinions into a recommendation to the TPC chairs. Based on these recommendations, we selected the final 43 papers for the program and grouped them into 12 sessions. Thus, the acceptance rate for the conference is 28.7%. In addition to the technical papers, we are extremely fortunate to have three exceptional keynote speakers: Prof. Chiara Petrioli, University of Rome; Prof. John C.S. Lui, The Chinese University of Hong Kong; Dr. Pablo Rodriguez, CEO, Telefonica Alpha, who present their exciting visions for research opportunities and challenges.

We would like to thank all of those who helped make this program possible. First and foremost, we would like to thank the authors who sent their best work for review to this conference. We thank all our TPC members who worked tirelessly to ensure that each paper was reviewed thoroughly. We are grateful to our colleagues on the organizing committee who helped us at all stages of the process. Finally, we thank the IFIP Technical Committee TC6 for giving us this opportunity. It has been a pleasure to serve as technical program co-chairs, and we hope you enjoy the conference program!

### **Tilman Wolf**

University of  
Massachusetts Amherst  
USA

### **Viktoria Fodor**

KTH Royal Institute  
of Technology  
Sweden

### **Hongbo Jiang**

Huazhong University of  
Science and Technology  
China

## Welcome from the IFIP Networking 2017 Workshop Co-Chairs

It is our great pleasure to present the IFIP Networking 2017 workshops! We had a higher ambition in attracting more workshops to the conference this year. We received seven workshop proposals of which five were selected in the first round. Finally, after some merging of adjacent topics, two exciting workshops are held in conjunction with the main conference. They are within the scope of computer networks, but with special focus on emerging topics. The two workshops are:

- Workshop on Future of Internet Transport (FIT)
- Workshop on Information Centric Fog Computing (ICFC)

We are most grateful to the respective workshop organizers, TPC members, and paper authors. We cannot have such great workshops without your dedicated efforts! Also, we would like to thank Prof. Gunnar Karlsson and Prof. Anna Brunström, the general co-chairs of IFIP Networking 2017, for giving us the opportunity to contribute to IFIP Networking 2017, and for their great support throughout the organization of the conference. Finally, we want to express our appreciation to Dr. Naeem Khademi, the conference web chair, for accommodating the special needs of the workshops. We sincerely hope that you enjoy the IFIP Networking 2017 workshops and that the workshops complement the main conference with lively discussions on focused topics!

### **Bengt Ahlgren**

RISE SICS, Sweden

### **Yang Chen**

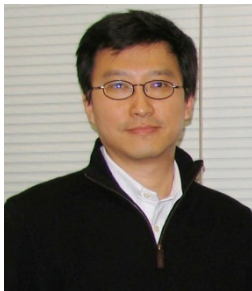
Fudan University, China

## Keynote Speakers



*Chiara Petrioli* is full professor and Director of the PhD program at University of Rome “La Sapienza” Computer Science Department, where she leads the Sensor Networks and Embedded Systems laboratory (SENSES lab). She also leads the Cyber Physical System lab of “La Sapienza” center for Cyber Intelligence and Information Security, and is a founding partner of “La Sapienza” spinoff WSENSE S.r.l. Her research interests focus on the design and optimization of future wireless, embedded, IoT and cyber physical systems; she is a pioneer of the Internet of Underwater Things. Prof. Petrioli is member of the steering committee of IEEE SECON, program co-chair of IEEE INFOCOM 2016, workshop co-chair of ACM MobiCom 2014, general chair of ACM

SenSys 2013. She has among other engagements been member of the steering committee and associate editor of IEEE Transactions on Mobile Computing, member of the steering committee of ACM SenSys, associate editor of IEEE Transactions on Vehicular Technology, member of the executive committee of ACM SIGMOBILE, and program co-chair of leading conferences in the field, such as ACM MobiCom and IEEE SECON. Prof. Petrioli has published over a hundred fifty papers in prominent international journals and conferences. Prof. Petrioli was a Fulbright scholar.



*John C.S. Lui* is currently the Choh-Ming Li Professor of the CSE Department at The Chinese University of Hong Kong (CUHK) and the associate dean of research at the College of Engineering. His current research interests are in network sciences, network economics, network/system security, large scale distributed systems and performance evaluation theory. John received various departmental teaching awards and the CUHK Vice-Chancellor's Exemplary Teaching Award, as well as the CUHK Faculty of Engineering Research Excellence Award (2011-2012). He is a co-recipient of the IFIP WG 7.3 Performance 2005,

IEEE/IFIP NOMS 2006 and SIMPLEX'14 Best Paper Awards. He is an elected member of the IFIP WG 7.3, Fellow of ACM, Fellow of IEEE, Senior Research Fellow of the Croucher Foundation and the past chair of the ACM SIGMETRICS (2011-15). His personal interests include films and general reading.



*Pablo Rodriguez* (PhD Swiss Federal Institute of Technology, 2000; MSc King's College, London) is the CEO of Telefonica Alpha, Telefonica's long term disruptive research unit to solve social problems through technology (Moonshots). Prior he led Telefonica's corporate research lab and incubator. He has also worked in several Silicon Valley startups and corporations such as Inktomi, Microsoft Research, Bell-Labs, and as a faculty at Columbia University. At Microsoft Research he helped

architect the Windows Updates system to distribute security patches to millions using P2P networks. At Telefonica he launched Telefonica's Content Delivery Network to more than 40M viewers. In 2009, he co-founded the Data Transparency Lab to drive data privacy and transparency. He is on the advisory board of Akamai, EPFL, the Catalan Foundation for Research, LaBoral Art Center, Microsoft Innovation Program, and IMDEA Networks. Pablo's current interests are privacy and personal data, re-thinking the Internet ecosystem and network economics. He also works with chef Ferran Adria (El Bulli) on computational gastronomy and with the F.C. Barcelona applying network science to soccer. He received the “Prix de la Recherche” for research excellence in France (2000), has keynoted at WIRED and TEDx, and is an IEEE Fellow and ACM Fellow.

## Conference program

June 13	Session	Names	Presentation
09:00	<i>Opening</i>	General and TPC Chairs	
09:10	<i>Keynote</i>	Prof. Chiara Petrioli, (Univ. Rome – La Sapienza, Italy)	<i>From Land to Sea: Building the Internet of Underwater Things</i>
10:10	<i>Security</i>	Chair: George C. Polyzos (AUEB, Greece)	
		Bruhadeshwar Bezawada (Mahindra Ecole Centrale, India); Alex X. Liu (Michigan State Univ., USA); Xiaojiang Liang (Nanjing Univ., P.R. China); Rui Li (Dongguan Univ. Technology, P.R. China)	<i>A Template Approach for Group Key Distribution in Dynamic Ad-hoc Groups</i>
		Zainab Abaid (Univ. New South Wales, Australia); Mohamed Ali Kaafar (NICTA, Australia); Sanjay Jha (Univ. NSW, Australia)	<i>Early Detection of In-the-Wild Botnet Attacks by Exploiting Network Communication Uniformity: An Empirical Study</i>
10:50	<i>Coffee Break</i>		
11:10	<i>Software Defined Networks</i>	Chair: David Hausheer (Otto-von-Guericke-Univ. Magdeburg, Germany)	
		Pravein G Kannan, Mun Choon Chan, Richard T. B. Ma and Ee-Chien Chang (National Univ. Singapore, Singapore)	<i>Raptor: Scalable Rule Placement over Multiple Path in Software Defined Networks</i>
		Pavlos Sermpezis and Xenofontas Dimitropoulos (FORTH-ICS, Greece)	<i>Can SDN Accelerate BGP Convergence? A Performance Analysis of Inter-domain Routing Centralization</i>
		Christian Sieber, Raphael Durner and Wolfgang Kellerer (TU Munich, Germany)	<i>How fast can you reconfigure your partially deployed SDN network?</i>
		Anat Bremler-Barr (Interdisciplinary Center, Israel); David Hay (Hebrew Univ. Jerusalem, Israel); Idan Moyal (Interdisciplinary Center, Israel); Liron Schiff (Tel Aviv Univ., Israel)	<i>Load Balancing Memcached Traffic Using Software Defined Networking</i>
12:30	<i>Lunch Break</i>		

<b>June 13</b>	<b>Session</b>	<b>Names</b>	<b>Presentation</b>
13:30	<i>Resource Allocation</i>	Chair: Sergey Gorinsky (IMDEA Networks, Spain)	
		Jose Yallouz (Technion, Israel); János Tapolcai and Attila Körösi (BUTE, Hungary); Kristof Berczi (MTA-ELTE Egerváry Research Group, Hungary); László Gyimóthi (BUTE, Hungary); Ariel Orda (Technion, Israel)	<i>Packing Strictly-Shortest Paths in a Tree for QoS-Aware Routing</i>
		Francesca Fossati (LIP6, France); Stefano Moretti (Université Paris Dauphine CNRS UMR, France); Stefano Secci (Univ. Pierre et Marie Curie - Paris 6, France)	<i>A Mood Value for Fair Resource Allocations</i>
		Peiyue Zhao and György Dán (KTH, Sweden)	<i>Resilient Placement of Virtual Process Control Functions in Mobile Edge Clouds</i>
		Amr Rizk (TU Darmstadt, Germany); Michael Zink (Univ. Massachusetts Amherst, USA); Ramesh K Sitaraman (Univ. Massachusetts Amherst and Akamai Technologies, USA)	<i>Model-based Design and Analysis of Cache Hierarchies</i>
15:00	<i>Coffee Break</i>		
15:20	<i>Mobile Networks</i>	Chair: Karin Anna Hummel (JKU, Austria)	
		Shuya Abe, Go Hasegawa and Masayuki Murata (Osaka Univ., Japan)	<i>Design and performance evaluation of bearer aggregation method in mobile core network with C/U plane separation</i>
		Artur Sterz and Lars Baumgärtner (Univ. Marburg, Germany); Ragnar Mogk and Mira Mezini (Univ. Darmstadt, Germany); Bernd Freisleben (Philipps-Univ. Marburg, Germany)	<i>DTN-RPC: Remote Procedure Calls for Disruption-Tolerant Networking</i>

<b>June 13</b>	<b>Session</b>	<b>Names</b>	<b>Presentation</b>
		Spencer Sevilla (UC Santa Cruz, USA); JJ Garcia-Luna-Aceves (UC Santa Cruz and PARC, USA)	<i>A Deployable Identifier-Locator Split Architecture</i>
		Tatsuya Amano, Shugo Kajita, Hirozumi Yamaguchi and Teruo Higashino (Osaka Univ., Japan); Mineo Takai (UCLA USA and Osaka Univ., Japan)	<i>A Crowdsourcing and Simulation based Approach for Fast and Accurate Wi-Fi Radio Map Construction in Urban Environment</i>
16:50	<i>Break</i>		
17:00	<i>Data Centers</i>	Chair: Carlo Fischione (KTH, Sweden)	
		Zhaogeng Li, Jun Bi and Yangyang Wang (Tsinghua Univ., P.R. China)	<i>Multi-Channel Scatter (MCS): Traffic Balancing Based on Edge-switching in Datacenter Networks</i>
		Kuangyu Zheng and Xiaorui Wang and Jia Liu (Ohio State Univ., USA)	<i>DISCO: Distributed Traffic Flow Consolidation for Power Efficient Data Center Network</i>
		Daniel Stefani Marcon and Marinho P. Barcellos (Federal Univ. Rio Grande do Sul, Brazil)	<i>Packer: Minimizing Multi-Resource Fragmentation and Performance Interference in Datacenters</i>
18:00	<i>End of the Day</i>		
18:30	<i>Reception at the City Hall of Stockholm</i>		

<b>June 14</b>	<b>Session</b>	<b>Names</b>	<b>Presentation</b>
09:00	<i>Keynote</i>	Pablo Rodriguez (Telefonica Alpha, Spain)	<i>Data Transparency on the Internet</i>
10:00	<i>Congestion Control</i>	Chair: Martina Zitterbart (KIT, Germany)	
		Naeem Khademi (Univ. Oslo, Norway); Grenville Armitage (Swinburne Univ. Technology, Australia); Michael Welzl (Univ. Oslo, Norway); Sebastian Zander (Murdoch Univ., Australia); Gorry Fairhurst (Univ. Aberdeen, United Kingdom); David Ros (Simula Research Laboratory, Norway)	<i>Alternative Backoff: Achieving Low Latency and High Throughput with ECN and AQM</i>
		David Hayes (Simula Research Laboratory and Univ. Oslo, Norway); David Ros (Simula, Norway); Andreas Petlund (Simula and Univ. Oslo, Norway); Iffat Ahmed (Simula, Norway)	<i>A Framework for Less than Best Effort Congestion Control with Soft Deadlines</i>
10:40	<i>Coffee Break</i>		
11:00	<i>Measurements</i>	Chair: Jordi Domingo (UPC, Spain)	
		Khondaker M. Salehin (Bard College, USA); Vinitmadhukar Sahasrabudhe and Roberto Rojas-Cessa (New Jersey Institute of Technology, USA)	<i>Remote Measurement of Interrupt-Coalescence Latency of Internet Hosts</i>
		Torsten Zimmermann, Jan R�uth, Benedikt Wolters and Oliver Hohlfeld (RWTH Aachen Univ., Germany)	<i>How HTTP/2 Pushes the Web: An Empirical Study of HTTP/2 Server Push</i>
		Pradeep Bangera (unaffiliated); Sergey Gorinsky (IMDEA Networks Institute, Spain)	<i>Ads versus Regular Contents: Dissecting the Web Hosting Ecosystem</i>
		Paul Emmerich, Maximilian Pudelko, Sebastian Gallenm�uller, and Georg Carle (TU Munich, Germany);	<i>FlowScope: Efficient Packet Capture and Storage in 100 Gbit/s Networks</i>
12:30	<i>Lunch Break</i>		



<b>June 14</b>	<b>Session</b>	<b>Names</b>	<b>Presentation</b>
13:30	<i>Software Defined Networks</i>	Chair: Marinho Barcellos (UFRGS, Brazil)	
		Matthias Wichtlhuber, Jan Kessler and Sebastian Bücken (TU Darmstadt, Germany); Ingmar Poese (BENOCS GMBH, Germany); Jeremias Blendin, Christian Koch and David Hausheer (TU Darmstadt, Germany)	<i>SoDA: Enabling CDN-ISP Collaboration with Software Defined Anycast</i>
		Rhaban Hark, Nils Richerzhagen, Björn Richerzhagen, Amr Rizk and Ralf Steinmetz (TU Darmstadt, Germany)	<i>Towards an Adaptive Selection of Loss Estimation Techniques in Software-defined Networks</i>
		Argyrios G. Tasiopoulos (Univ. College London, United Kingdom); Sameer G Kulkarni and Mayutan Arumaithurai (Univ. Goettingen, Germany); Ioannis Psaras (Univ. College London, United Kingdom); K. K. Ramakrishnan (UC Riverside, USA); Xiaoming Fu (Univ. Goettingen, Germany); George Pavlou (Univ. College London, United Kingdom)	<i>DRENCH: A Semi-Distributed Resource Management Framework for NFV based Service Function Chaining</i>
		Marco Casazza (Università degli Studi di Milano, Italy); Pierre Fouilhoux (UPMC, France); Stefano Secci (IPMC - Paris 6, France); Mathieu Bouet (Thales Communications and Security, France)	<i>Securing Virtual Network Function Placement with High Availability Guarantees</i>
15:00	<i>Posters and Demos</i>	Chair: Karin Hummel (JKU, Austria)	<i>One Minute Madness</i>

15:15- Coffee, posters and demos  
16:15

### **Demos**

Imed Allal, Bruno Mongazon-Cazavet, Khaldoun Al Agha, Sidi-Mohammed Senouci and Yvon Gourhant, *A Green Small Cells Deployment in 5G - Switch ON/OFF via IoT Networks & Energy Efficient Mesh Backhauling*

Rafael Pasquini; Farnaz Moradi; Jawwad Ahmed; Andreas Johnsson; Christofer Flinta; Rolf Stadler, *Predicting SLA Conformance for Cluster-based Services*

Ian Marsh, *A lightweight measurement platform for home Internet monitoring*

Ricardo Santos, Zdravko Bozakov, Simone Mangiante, Anna Brunström and Andreas J. Kessler, *A NEAT framework for application-awareness in SDN environments*

Albert Pötsch, Stefan J. K. Hujber and Andreas Springer, *Remote Controlled Performance Analysis of Embedded Wireless Sensor Networks*

Tran Quang Thanh, Stefan Covaci, Marius Corici, and Aifen Sui, *Access Control Management and Orchestration in NFV Environment*

### **Posters**

Mikhail Vilgelm and Wolfgang Kellerer, *Binary Contention Resolution for M2M Random Access Prioritization in LTE-A and 5G*

Charalampos Orfanidis, Laura Marie Feeney and Martin Jacobsson, *Measuring PHY layer interactions between LoRa and 802.15.4g networks*

Felipe Boeira, Marinho P. Barcellos, Edison Pignaton de Freitas, Mikael Asplund and Alexey Vinel, *On the Impact of Sybil Attacks in Cooperative Driving Scenarios*

Rhaban Hark, Amr Rizk, Nils Richerzhagen, Björn Richerzhagen and Ralf Steinmetz, *Isolated In-Band Communication for Distributed SDN Controllers*

Ming Zeng and Viktoria Fodor, *Distributing Dynamic Divisible Loads*

Berkin Güler and Oznur Ozkasap, *Secure Chain Replication*

Sanaz Taheri Boshrooyeh and Oznur Ozkasap, *Guard: Secure Routing in Skip Graph*

<b>June 14</b>	<b>Session</b>	<b>Names</b>	<b>Presentation</b>
16:15	<i>Traffic Engineering</i>	Chair: György Dan (KTH, Sweden)	
		Diman Zad Tootaghaj (Pennsylvania State Univ., USA); Hana Khamfroush (Penn State Univ., USA); Novella Bartolini (Sapienza Univ. Rome, Italy); Stefano Ciavarella (Univ. La Sapienza, Italy); Seamus Hayes (Pennsylvania State Univ., USA); Tom La Porta (Pennsylvania State Univ., USA)	<i>Network Recovery from Massive Failures under Uncertain Knowledge of Damages</i>
		Samuel Micka, Sean Yaw, Brittany Terese Fasy, Brendan Mumey and Mike P Wittie (Montana State Univ., USA)	<i>Efficient Multipath Flow Monitoring</i>
		Timmy Schüller (Univ. Osnabrück and Detecon International GmbH, Germany); Nils Aschenbruck and Markus Chimani (Univ. Osnabrück, Germany); Martin Horneffer (Deutsche Telekom AG, Germany); Stefan Schnitter (Detecon International GmbH, Germany)	<i>Traffic Engineering using Segment Routing and Considering Requirements of a Carrier IP Network</i>
		Nashid Shahriar, Shihabur Rahman Chowdhury, Reaz Ahmed, Aimal Khan and Raouf Boutaba (Univ. Waterloo, Canada); Jeebak Mitra (Huawei Technologies, Canada); Liu Liu (Huawei Technologies, P.R.China)	<i>Joint Backup Capacity Allocation and Embedding for Survivable Virtual Networks</i>
17:45	<i>End of the Day</i>		
19:00	<i>Conference Banquet at Fotografiska</i>		

<b>June 15</b>	<b>Session</b>	<b>Names</b>	<b>Presentation</b>
09:00	<i>Modeling and Analysis</i>	Chair: Viktoria Fodor (KTH, Sweden)	
		M. Zubair Shafiq (Univ. Iowa, USA); Alex X. Liu (Michigan State Univ., USA)	<i>A Graph Theoretic Approach to Fast and Accurate Malware Detection</i>
		Paul Nikolaus and Jens Schmitt (Univ. Kaiserslautern, Germany)	<i>On Per-Flow Delay Bounds in Tandem Queues under (In)Dependent Arrivals</i>
		Sukhpreet Khangura and Markus Fidler (Leibniz Universität Hannover, Germany)	<i>Available Bandwidth Estimation from Passive TCP Measurements using the Probe Gap Model</i>
		M. Zubair Shafiq (Univ. Iowa, USA); Alex X. Liu (Michigan State Univ., USA)	<i>Cascade Size Prediction in Online Social Networks</i>
10:30	<i>Coffee Break</i>		
11:00	<i>Security</i>	Chair: Tilman Wolf (UMass, USA)	
		Milan Schmittner, Arash Asadi and Matthias Hollick (TU Darmstadt, Germany)	<i>SEMUD: Secure Multi-hop Device-to-Device Communication for 5G Public Safety Networks</i>
		Siddharth Pal (Raytheon BBN Technologies, USA); Ertugrul Necdet Ciftcioglu (US Army Research Laboratory, USA); Prithwish Basu (Raytheon BBN Technologies, USA); Kevin S Chan (US Army Research Laboratory, USA); Ananthram Swami (US Army Research Lab., USA)	<i>Decentralized network protection games in adversarial environments</i>
		Naercio Magaia (INESC-ID, Portugal); Carlos Borrego (Autonomous Univ. Barcelona (UAB), Spain); Paulo Pereira (INESC-ID and IST - Universidade de Lisboa, Portugal); Miguel Correia (INESC-ID and Instituto Superior Técnico, Portugal)	<i>PRIVO: A PRIVacy-preserVing Opportunistic routing protocol for Delay Tolerant Networks</i>

<b>June 15</b>	<b>Session</b>	<b>Names</b>	<b>Presentation</b>
		Christopher Wood (UC Irvine, USA)	<i>Protecting the Long Tail: Transparent Packet Security in Content-Centric Networks</i>
12:30	<i>Lunch Break</i>		
13:30	<i>Keynote</i>	Prof. John C.S. Lui (Chinese Univ. Hong Kong, Hong Kong)	<i>Sampling Large Networks: Algorithms and Applications</i>
14:30	<i>Coffee Break</i>		
15:00	<i>Content-Centric Networks</i>	Chair: Hongbo Jiang (HUST, P. R. China)	
		Ali Marandi and Torsten Ingo Braun (Univ. Bern, Switzerland); Kavé Salamatian (LISTIC PolyTech, Université de Savoie, France); Nikolaos Thomos (Univ. Essex, United Kingdom)	<i>BFR: a Bloom Filter-based Routing Approach for Information-Centric Networks</i>
		Christopher Wood (UC Irvine, USA); Ersin Uzun (PARC, USA); Marc Mosko (PARC, USA)	<i>Mobile Sessions in Content-Centric Networks</i>
		Junxiao Shi, Eric Newberry and Beichuan Zhang (Univ. Arizona, USA)	<i>On Broadcast-based Self-Learning in Named Data Networking</i>
		Bitan Banerjee (Univ. Alberta, Canada); Anand Seetharam (SUNY Binghamton, USA); Chintha Tellambura (Univ. Alberta, Canada)	<i>Greedy Caching: A Latency-aware Caching Strategy for Information-centric Networks</i>
16:30	<i>Award Ceremony and Closing</i>		

## Workshop on Future of Internet Transport (FIT 2017)

June 12	Session	Names	Title
09:00	<i>Opening</i>		
09:20	<i>Session 1</i>	Kiran Yedugundla, Per Hurtig and Anna Brunstrom	<i>Probe or Wait: Handling tail losses using Multipath TCP</i>
		Tor Tangenes, David Hayes, Andreas Petlund and David Ros	<i>Evaluating CAIA Delay Gradient as a Candidate for Deadline-Aware Less-than-Best-Effort Transport</i>
		Vladimir Marbukh,	<i>Fragility Risks of Low Latency Dynamic Queuing in Large-Scale Clouds: Complex System Perspective</i>
10:50	<i>Coffee Break</i>		
11:15	<i>Workshop Panel Discussion</i>	Dirk Kutscher (Huawei, Germany); Colin Perkins (Univ. Glasgow, UK); Gorry Fairhurst (Univ. Aberdeen) - Panel Moderator	<i>Approaches to address the ossification of the Internet transport layer and challenges ahead</i>
12:30	<i>Lunch Break</i>		
13:45	<i>Session 2</i>	Brian Trammell, Colin Perkins and Mirja Kuehlewind	<i>Post Sockets: Towards an Evolvable Network Transport Interface</i>
		Tom Jones, Gorry Fairhurst and Colin Perkins	<i>Raising the Datagram API to Support Transport Protocol Evolution</i>
		Felix Weinrank and Michael Tuexen	<i>Transparent Flow Mapping for NEAT</i>
15:15	<i>Coffee Break</i>		
15:30	<i>Session 3</i>	Rohit P. Tahiliani and Hitesh Tewari	<i>Implementation of PI2 Queuing Discipline for Classic TCP Traffic in ns-3</i>
		Mohammad Rajiullah, A. C. Mohideen, Felix Weinrank, Raffaello Secchi, Gorry Fairhurst and Anna Brunstrom,	<i>Understanding Multistreaming for Web Traffic: An Experimental Study</i>
16:30-16:45	<i>Concluding Remarks</i>		

## Workshop on Information-Centric Fog Computing (ICFC)

June 12	Session	Names	Title
08:45	<i>Opening</i>		
09:00	<i>Keynote</i>	Eve Schooler (Principal Engineer and Director, Intel IoT)	<i>Information-Centric Networking in Wireless Edge Networks and Beyond</i>
10:00	<i>Information Centric Networking and IoT</i>	Nikos Fotiou, Vasilios A. Siris, George Xylomenos, George C. Polyzos, George Petropoulos, Konstantinos V. Katsaros	<i>Edge-ICN and its application to the Internet of Things</i>
		H. Islam, Dmitrij Lagutin, Nikos Fotiou	<i>Observing Resources over ICN</i>
10:50	<i>Coffee Break</i>		
11:15	<i>Computing and Caching at the Edge</i>	Christopher Scherb, Balázs Faludi, Christian F Tschudin	<i>Execution State Management in Named Function Networking</i>
		Christopher Scherb, Claudio Marxer, Urs Schnurrenberger, Christian F Tschudin	<i>In-Network Live Stream Processing with Named Functions</i>
		Junaid A Khan, Cedric Westphal, Yacine Ghamri-Doudane	<i>A Content-based Centrality Metric for Collaborative Caching in Information-Centric Fogs</i>
12:30	<i>Lunch Break</i>		
13:30	<i>Industry Panel</i>	Eve Schooler (Intel IoT, USA); Cedric Westphal (Huawei, USA); Chris Wood (UC Irvine, USA); Dirk Kutscher (Huawei, Germany) - Moderator	<i>Adoption Challenges and Prospects of Information-Centric Fog Computing</i>
14:30	<i>Computing Networks</i>	Ioannis Andreopoulos (University College London, UK)	<i>Invited Talk: "Tools, reliability and pricing for cloud-based compute instances: lessons learned from Dithen</i>
15:15	<i>Coffee Break</i>		
15:30	<i>Computing Networks</i>	Brenton Walker	<i>Benchmarking and Simulating the Fundamental Scaling Behaviors of a MapReduce Engine</i>
		Mikael Gasparyan; Guillaume Corsini; Torsten Braun; Eryk Jerzy Schiller; Jonnahtan Eduardo Saltarin de Arco	<i>Session Support for SCN</i>
16:20-16:30	<i>Concluding Remarks</i>		

## Social program

### Welcome reception at the City Hall of Stockholm.

The City of Stockholm cordially invites us to a reception on Tuesday June 13 with drinks and buffet followed by a short tour of the City Hall.

#### Program

*18:30 Doors open; entrance is at the base of the tower*

*19:00 Start of program*

*21:00 Closing of event*

### Conference banquet at Fotografiska.

The conference dinner is held on Wednesday June 14 at Fotografiska, a museum of photography. You are welcome to visit the exhibitions of the museum, just show your badge for admission. See [fotografiska.eu](http://fotografiska.eu) for current exhibitions.

Fotografiska is located on the quay at Stadsgårdshamnen 22 and is easily reached by foot from transportation hub Slussen (subway, busses). Entrance to the conference dinner is either through the restaurant inside the museum, or from the outside by following the signs.

#### Program

*18:00 Visit to the exhibitions of the museum*

*19:00 Welcome drink and dinner*

*22:00 Bar mingle (drinks not included in conference fee)*

*23:00 Closing of event*

## Useful information

*Venue.* IFIP Networking is held at KTH on Osquidas väg 6A, Stockholm. The main conference is held in auditorium Q1, and workshops FIT and ICFC in rooms Q31 and Q34, respectively.

*Registration* is open on Monday June 12 from 8:00 to 11:00; on Tuesday June 13 from 8:00 to 14:00 and on Wednesday June 14 from 8:30 to 11:00.

*Lunch and coffee* are provided with workshop and conference registrations. Lunch is served in Restaurant Q at the conference site. You need to provide a lunch voucher to be served, enclosed to the registration package. All dietary requests are handled by the restaurant. Coffees are served in the lounge next to the lobby of the conference site

*WiFi* available through Eduroam or through SSID: KTH-Conference, and password: huresuvy

*Information about Stockholm* is provided by the conference registration and information staff in the lobby and through the official tourist information of Stockholm [www.visitstockholm.com](http://www.visitstockholm.com).

*Conference and workshop proceedings* are available through IFIP TC6 Digital Library and will be submitted to IEEE Xplore.

## Sponsors

We are grateful for the support of several partners in making the conference feasible.

- Stockholm stad - City of Stockholm
- The Internet Foundation in Sweden - .SE
- Linnæus Center ACCESS
- Karlstad University
- KTH Royal Institute of Technology