

International Teletraffic Congress

ITC 21

15 – 17 September 2009 – Paris, France

Program Outline

Tuesday 15 September 2009	
09:30 - 09:45	Opening
09:45 - 10:30	KS-1 – Keynote I
10:30 - 11:00	Coffee Break
11:00 - 12:10	TS-1 Routing
	TS-2 WLAN I
12:30 - 14:00	Lunch Break
14:00 - 15:30	TS-3 Traffic Control
	TS-4 Network Modelling
15:30 - 16:00	Coffee Break
16:00 - 17:30	TS-5 Performance I
	TS-6 Network Planning

Wednesday 16 September 2009	
09:30 – 10:30	KS-2 – Keynotes II & III
10:30 - 11:00	Coffee Break
11:00 - 12:10	TS-7 Network Tomography
	TS-8 New Services
12:30 - 14:00	Lunch Break
14:00 - 15:30	TS-9 Traffic Analysis
	TS-10 Peer-to-Peer Networks
15:30 - 16:00	Coffee Break
16:00 - 17:30	TS-11 Performance II
	TS-12 Optical Networks

Thursday 17 September 2009	
09:30 – 10:30	KS-3 Keynotes IV & V
10:30 - 11:00	Coffee Break
11:00 - 12:10	TS-13 Robustness & Protection
	TS-14 Optimization of Wireless Networks
12:30 - 14:00	Lunch Break
14:00 - 15:30	TS-15 Queuing
	TS-16 WLAN II
15:30 - 16:00	Coffee Break
16:00 - 17:15	Panel
17:15 - 17:30	Closing Session

Detailed Program

Tuesday 15 September 2009

9:30–9:45 **Opening (*Amphitheater Farabeuf*)**

9:45–10:30 **KS1 – Keynote (*Amphitheater Farabeuf*)**
Session Chair: **Luigi Fratta** (*Politecnico University of Milano, Italy*)

Multi-Hop Wireless Networks

Catherine Rosenberg (*University of Waterloo, Canada*)

10:30–11:00 **Coffee Break**

11:00–12:10 **TS 1 – Routing (*Amphitheater Farabeuf*)**
Session Chair: **Richard Harris** (*Massey University, New-Zealand*)

Optimal Call Routing in VoIP

Costas Courcoubetis (*Athens University of Economics and Business, Greece*), Costas Kalogiros (*Athens University of Economics and Business, Greece*), Richard Weber (*Statistical Laboratory, University of Cambridge, UK*)

Two Steps Towards Practical Compact Routing

Rolf Winter (*NEC Network Labs, Germany*)

On-line Survivable Routing in WDM Networks

Anteneh Beshir (*Delft University of Technology, The Netherlands*), Fernando Kuipers (*Delft University of Technology, The Netherlands*), Ariel Orda (*Technion, Israel*), Piet Van Mieghem (*Delft University of Technology, The Netherlands*)

11:00–12:10 **TS 2 – WLAN I (*Amphitheater Pasquier*)**
Session Chair: **Guillaume Urvoy-Keller** (*Eurecom, France*)

Analysis of a Fountain Codes Based Transport in an 802.11 WLAN Cell

Dinesh Kumar (*INRIA, France*), Tijani Chahed (*TELECOM & Management SudParis, France*), Eitan Altman (*INRIA, France*)

Distributed Reservation-Based QoS in Ad Hoc Networks With Internet Access Connectivity

Ali Hamidian (*Lund University, Sweden*), Ulf Körner (*Lund University, Sweden*)

On the Unfair Channel Access Phenomenon in Wireless LANs

Rastin Pries (*University of Wuerzburg, Germany*), Dirk Staehle (*University of Wuerzburg, Germany*), Simon Oechsner (*University of Wuerzburg, Germany*), Michael Menth (*University of Wuerzburg, Germany*), Stefan Menth (*University of Wuerzburg, Germany*), Phuoc Tran-Gia (*University of Wuerzburg, Germany*)

12:30–14:00 **Lunch Break**

14:00–15:30 **TS 3 – Traffic Control (*Amphitheater Farabeuf*)**
Session Chair: **Manuel Villen-Altamirano** (*Polytechnic University of Madrid, Spain*)

Admission Control with Resource Reallocation

Henrik Lundqvist (*NEC Europe Ltd, Germany*)

Novel Overload Controls for SIP Networks

Eric Noel (*AT&T Labs - Research, USA*), Carolyn Johnson (*AT&T Labs - Research, USA*)

Congestion Control and Pricing of Volume Intensive Applications

Costas Courcoubetis (*Athens University of Economics and Business, Greece*), Antonis Dimakis (*Athens University of Economics and Business, Greece*)

Backpressure-Based Control Protocols: Design and Computational Aspects

Denis Miretskiy (*University of Twente, The Netherlands*), Werner Scheinhardt (*University of Twente, The Netherlands*), Michel Mandjes (*University of Amsterdam, The Netherlands*)

14:00–15:30 TS 4 – Network Modelling (Amphitheater Pasquier)

Session Chair: **Oscar Gonzalez-Soto** (*Consultant, Spain*)

Parametric Distance Distributions for Fixed Access Network Analysis and Planning

Catherine Gloaguen (*Orange Labs, France*), Florian Voss (*Ulm University, Germany*), Volker Schmidt (*Ulm University, Germany*)

A Novel Analytical Framework for Mobility Modeling in All-IP Wireless Systems

Said Zaghloul (*Technical University Braunschweig, Germany*), Wolfgang Bziuk (*Technical University Braunschweig, Germany*), Admela Jukan (*Technical University Braunschweig, Germany*)

Connectivity Dynamics for Vehicular Ad-Hoc Networks in Signalized Road Systems

Ivan Wang-Hei Ho (*Imperial College London, UK*), Kin K. Leung (*Imperial College, UK*), John W. Polak (*Imperial College London, UK*)

Adaptive and Efficient Radio Access Selection and Optimisation in a Heterogeneous Communication Environment

Weizhi Luo (*Queen Mary, University of London, United Kingdom*), Eliane Bodanese (*Queen Mary, University of London, United Kingdom*)

15:30–16:00 Coffee Break

16:00–17:30 TS 5 – Performance I (Amphitheater Farabeuf)

Session Chair: **Iraj Saniee** (*Alcatel-Lucent – Bell Labs, USA*)

Analysis of a Bloom Filter Algorithm via the Supermarket Model

Yousra Chabchoub (*INRIA, France*), Christine Fricker (*INRIA, France*), Mohamed Hanene (*IUT Sceaux, France*)

A Mean-field Approach to Some Internet-like Random Networks

Ilkka Norros (*VTT Technical Research Centre of Finland, Finland*)

Variability of Service Times and Throughput Efficiency Trade-Off in IEEE 802.11 DCF

Andrea Baiocchi (*University of Roma "La Sapienza", Italy*)

Maximum Weight Independent Sets in an Infinite Plane

Jarno Nousiainen (*Helsinki University of Technology, Finland*), Jorma Virtamo (*Helsinki University of Technology, Finland*), Pasi Lassila (*Helsinki University of Technology, Finland*)

16:00–17:30 TS 6 – Network Planning (Amphitheater Pasquier)

Session Chair: **Ralf Lehnert** (*Technical University Dresden, Germany*)

Mixing Malleable and Rigid Bandwidth Requests for Optimizing Network Provisioning

Sebastien Soudan (*LIP, Ecole Normale Supérieure de Lyon, France*), Pascale Vicat-Blanc Primet (*INRIA, France*)

Integration of Equipment Constraints in the Capacity-Planning Process

Cédric Fortuny (*LAAS-CNRS, France*), Olivier Brun (*LAAS-CNRS, France*), Mohamed Zied Ben Hamouda (*LAAS-CNRS, France*), Jean-Marie Garcia (*LAAS-CNRS, France*)

Modeling MNO and MVNO's Dynamic Interconnection Relations: Is Cooperative Content Investment Profitable for Both Providers?

Hélène Le Cadre (*Orange Labs, France*), Mustapha Bouhtou (*Orange Labs, France*), Bruno Tuffin (*INRIA Bretagne, France*)

Energy-Efficient Management of UMTS Access Networks

Luca Chiaraviglio (*Politecnico di Torino, Italy*), Delia Ciullo (*Politecnico di Torino, Italy*), Michela Meo (*Politecnico di Torino, Italy*), Marco Ajmone Marsan (*Politecnico di Torino, Italy*)

18:00–20:00 Welcome Reception (Room Marie Curie)

Wednesday 16 September 2009

9:00–10:30 KS2 – Keynotes (*Amphitheater Farabeuf*)

Session Chair: **Michael Menth** (*University of Wuerzburg, Germany*)

What QoS for the future Internet?

James Roberts (*Orange Labs, France*)

Bringing Network Coding into the Network

Muriel Medard (*MIT, USA*)

10:30–11:00 Coffee Break

11:00–12:10 TS 7 – Network Tomography (*Amphitheater Farabeuf*)

Session Chair: **Dimitri Papadimitriou** (*Alcatel-Lucent – Bell Labs, Belgium*)

IGen: Generation of Router-level Internet Topologies Through Network Design Heuristics

Bruno Quoitin (*Université catholique de Louvain, Belgium*), Virginie Van den Schrieck (*Université catholique de Louvain, Belgium*), Pierre Francois (*Université catholique de Louvain, Belgium*), Olivier Bonaventure (*Université catholique de Louvain, Belgium*)

On the Importance of Local Connectivity for Internet Topology Models

Hamed Haddadi (*Max Planck Institute for Software Systems, Germany*), Damien Fay (*McGill University, Canada*), Almerima Jamakovic (*TNO-ICT, The Netherlands*), Olaf Maennel (*Deutsche Telekom Laboratories, Germany*), Andrew Moore (*University of Cambridge, UK*), Richard Mortier (*Vipadia Ltd, UK*), Steve Uhlig (*TU Berlin/T-labs, Germany*)

Improving Efficiency of IP Alias Resolution Based on Offsets Between IP Addresses

Santiago Garcia-Jimenez (*Universidad Publica de Navarra, Spain*), Eduardo Magaña (*Universidad Publica de Navarra, Spain*), Daniel Morato (*Universidad Publica de Navarra, Spain*), Mikel Izal (*Universidad Publica de Navarra, Spain*)

11:00–12:10 TS 8 – New Services (*Amphitheater Pasquier*)

Session Chair: **Peter Reichl** (*Telecommunications Research Center – FTW, Austria*)

An Analytical Model for Provisioning of Emerging Personalized Content Distribution Services

Sem Borst (*Alcatel-Lucent, Bell Labs, USA*), Iraj Saniee (*Alcatel-Lucent, Bell Labs, USA*), Anwar Walid (*Alcatel-Lucent, Bell Labs, USA*)

Network-Friendly Box-Powered Video Delivery System

Yiping Chen (*Thomson Research, France*), Bing Han (*Beijing University of Posts and Telecommunications, P.R. China*), Jimmy Leblet (*Institut TELECOM - TELECOM Bretagne, France*), Gwendal Simon (*Institut TELECOM - TELECOM Bretagne, France*), Gilles Straub (*Thomson Research, France*)

Scalability and Performance Evaluation of a JAIN SLEE-Based Platform for VoIP Services

Mauro Femminella (*University of Perugia, Italy*), Roberto Francescangeli (*University of Perugia, Italy*), Francesco Giacinti (*University of Perugia, Italy*), Alessandro Parisi (*University of Perugia, Italy*), Emanuele Maccherani (*University of Perugia, Italy*), Gianluca Reali (*University of Perugia, Italy*)

12:30–14:00 Lunch Break

14:00–15:30 TS 9 – Traffic Analysis (*Amphitheater Farabeuf*)

Session Chair: **Åke Arvidsson** (*Ericsson, Sweden*)

Analysis of the Impact of Early Fiber Access Deployment on Residential Internet Traffic

Guillaume Vu-Brugier (*Orange Labs, France*)

On Appropriate Intervals for Active Measurement of Packet Transmission Delays

Katsunori Ori (*NTT Corporation, Japan*), Takafumi Okuyama (*NTT Corporation, Japan*), Yutaka Takahashi (*Kyoto University, Japan*)

Efficient Methods for Traffic Matrix Modeling and On-line Estimation in Large-Scale IP Networks

Pedro Casas (*TELECOM Bretagne, France*), Sandrine Vatou (*TELECOM Bretagne, France*), Lionel Fillatre (*UTT, France*), Thierry Chonavel (*TELECOM Bretagne, France*)

Identification of Heavyweight Address Prefix Pairs in IP Traffic

Patrick Truong (*Orange Labs, France*), Fabrice Guillemin (*Orange Labs, France*)

14:00–15:30 TS 10 – Peer-to-Peer Networks (Amphitheater Pasquier)

Session Chair: **Kurt Tutschku** (*University of Vienna, Austria*)

A New Statistical Approach to Estimate Global File Populations in the eDonkey P2P File Sharing System

Patrick Brown (*Orange Labs, France*), Sanja Petrovic (*Orange Labs, France*)

Peer-To-Peer Unstructured Anycasting Using Correlated Swarms

Pushkar Patankar (*Pennsylvania State University, USA*), Gunwoo Nam (*The Penn State University, USA*), George Kesidis (*Pennsylvania State University, USA*), Takis Konstantopoulos (*Heriot Watt University, United Kingdom*), Chita R. Das (*The Pennsylvania State University, USA*)

Fundamental Delay Bounds in Peer-to-Peer Chunk-Based Real-Time Streaming Systems

Giuseppe Bianchi (*University of Roma Tor Vergata, Italy*), Nicola Blefari-Melazzi (*University of Roma Tor Vergata, Italy*), Lorenzo Bracciale (*University of Roma Tor Vergata, Italy*), Francesca Lo Piccolo (*University of Roma Tor Vergata, Italy*), Stefano Salsano (*University of Rome Tor Vergata, Italy*)

Simulation Analysis of Download and Recovery Processes in P2P Storage Systems

Abdulhalim Dandoush (*INRIA Sophia-Antipolis, France*), Sara Alouf (*INRIA Sophia-Antipolis, France*), Philippe Nain (*INRIA Sophia-Antipolis, France*)

15:30–16:00 Coffee Break

16:00–17:30 TS 11 – Performance II (Amphitheater Farabeuf)

Session Chair: **Yutaka Takahashi** (*Kyoto University, Japan*)

Robust Regression for Minimum-Delay Load-Balancing

Federico Larroca (*TELECOM ParisTech, France*), Jean-Louis Rougier (*TELECOM ParisTech, France*)

Flow-level Modelling of TCP Traffic Using GPS Queueing Networks

Olivier Brun (*LAAS-CNRS, France*), Ahmad Al Sheikh (*LAAS-CNRS, France*), Jean-Marie Garcia (*LAAS-CNRS, France*)

Optimal Policy for Multi-Class Scheduling in a Single Server Queue

Natalia Osipova (*INRIA Sophia-Antipolis, France*), Urtzi Ayesta (*LAAS-CNRS, France*), Konstantin Avrachenkov (*INRIA Sophia-Antipolis, France*)

A Stochastic Network Calculus for Many Flows

Kazutomo Kobayashi (*Nagasaki University, Japan*), Yukio Takahashi (*Tokyo Institute of Technology, Japan*), Hiroyuki Takada (*Nagasaki University, Japan*)

16:00–17:30 TS 12 – Optical Networks (Amphitheater Pasquier)

Session Chair: **Pascale Vicat-Blanc** (*Inria, France*)

A Joint Transmission Grant Scheduling and Wavelength Assignment in Multichannel SG-EPON

Lehan Meng (*Concordia University, Canada*), Jad El-Najjar (*Concordia University, Canada*), Chadi Assi (*Concordia University, Canada*), Hamed Alazemi (*Kuwait University, Kuwait*)

Dynamic Topology Overlays for Multipoint Ethernet-over-SONET/SDH

Nasir Ghani (*University of New Mexico, USA*), Qing Liu (*University of New Mexico, USA*), Rui Wang (*Shanghai Jiaotong University, P.R. China*), Yan Qiao (*Shanghai Jiaotong University, P.R. China*), Chongyang Xie (*University of New Mexico, USA*), Srikanth Seethamraju (*University of New Mexico, USA*), Ashwin Gumaste (*Indian Institute of Technology - Bombay, India*)

Traffic Grooming in WDM Optical Packet Rings

Bogdan Uscumlic (*Institut Telecom - Telecom Bretagne, France*), Annie Gravey (*Institut Telecom - Telecom Bretagne, France*), Isabella Cerutti (*Scuola Superiore Sant'Anna, Italy*), Philippe Gravey (*Institut Telecom - Telecom Bretagne, France*)

SWING: Traffic Capacity of a Simple WDM Ring Network

Thomas Bonald (*Orange Labs, France*), Sara Oueslati (*Orange Labs, France*), James Roberts (*Orange Labs, France*), Charlotte Roger (*Orange Labs, France*)

20:00–23:00 Farewell Dinner

Thursday 17 September 2009

9:00–10:30 KS3 – Keynotes (*Amphitheater Farabeuf*)

Session Chair: **Fabrice Guillemin** (*Orange Labs, France*)

Probabilistic Algorithms for Mining in Large Streams

Philippe Flajolet (*INRIA-Rocquencourt, France*)

Statistical Multiplexing, the Stochastic Knapsack and Admission Control

Ravi R. Mazumdar (*University of Waterloo, Canada*)

10:30–11:00 Coffee Break

11:00–12:10 TS 13 – Robustness and Protection (*Amphitheater Farabeuf*)

Session Chair: **Carolyn Johnson** (*AT&T Labs - Research, USA*)

Efficiently Adding Link Facilities to Improve Quality Stability at Failures

Noriaki Kamiyama (*NTT Service Integration Laboratories, Japan*)

FoF-R Ant-Based Survivable Routing Using Distributed Resilience Matrix

William Liu (*University of Canterbury, New-Zealand*), Harsha Sirisena (*University of Canterbury, New-Zealand*),
Krzysztof Pawlikowski (*University of Canterbury, New-Zealand*)

A Graph Theoretical Approach to Traffic Engineering and Network Control Problem

Ali Tizghadam (*University of Toronto, Canada*), Alberto Leon-Garcia (*University of Toronto, Canada*)

11:00–12:10 TS 14 – Optimization of Wireless Networks (*Amphitheater Pasquier*)

Session Chair: **Villy-Baek Iversen** (*Technical University of Denmark, Denmark*)

QoS and Channel Aware Packet Bundling for VoIP Traffic in Cellular Networks

Jung Hwan Kim (*Openet, USA*), Baek-Young Choi (*University of Missouri, USA*), Cory Beard (*University of Missouri, USA*)

Effects of Link Rate Assignment on the Max-Min Fair Throughput of Wireless Mesh Networks

Barbara Staehle (*University of Wuerzburg, Germany*), Dirk Staehle (*University of Wuerzburg, Germany*), Rastin Pries (*University of Wuerzburg, Germany*)

Operating Point Selection in Multiple Access Rate Regions

Eitan Altman (*INRIA, France*), Konstantin Avratchenkov (*INRIA, France*), Laura Cottatellucci (*Eurecom, France*),
Merouane Debbah (*Supelec, France*), Gaoning He (*Motorola, France*), Alberto Suarez (*Eurecom, France*)

12:30–14:00 Lunch Break

14:00–15:30 TS 15 – Queuing (*Amphitheater Farabeuf*)

Session Chair: **Markus Fiedler** (*Blekinge Institute of Technology, Sweden*)

A Discrete Time Queueing Model for End-to-End Delay and Jitter Analysis

Olav Osterbo (*Telenor Research, Norway*)

Scaling of Buffer and Capacity Requirements of Voice Traffic in Packet Networks

Florin Ciucu (*DT Labs/TU Berlin, Germany*), Oliver Hohlfeld (*DT Labs/TU Berlin, Germany*)

Distribution of Loss Volume and Estimation of Loss for Aggregated Video Traffic

Astrid Undheim (*Norwegian University of Science and Technology, Norway*), Peder J. Emstad (*Norwegian University of Science and Technology, Norway*)

Queueing in Space: Design of Message Ferry Routes in Static Ad Hoc Networks

Veeraruna Kavitha (*INRIA Sophia-Antipolis, France*), Eitan Altman (*INRIA Sophia-Antipolis, France*)

14:00–15:30 TS 16 – WLAN II (Amphitheater Pasquier)

Session Chair: **Tijani Chahed** (*Institut Telecom – SudParis, France*)

On a Positive Recurrence Criterion for Multidimensional Markov Chains with Application to the Stability of Slotted-Aloha with a Finite Number of Queues

Sayee Kompalli (*University of Waterloo, Canada*), Ravi R. Mazumdar (*University of Waterloo, Canada*)

A Traffic-Oriented Approach for Channel Assignment in WLAN

Ali Ibrahim (*Orange Labs, France*), James Roberts (*Orange Labs, France*)

Layer 2 vs. Layer 3 Mechanisms for Improving TCP Performance in 802.11 Wireless LANs

Martin Heusse (*Grenoble Informatics Laboratory, France*), Guillaume Urvoy-Keller (*Institut Eurecom, France*),

Andrzej Duda (*Grenoble Informatics Laboratory, France*)

MUD Receiver Capacity Optimization for Wireless Ad Hoc Networks

Jahangir Sarker (*University of Ottawa, Canada*), Zbigniew Dziiong (*Ecole de Technologie Supérieure, University of Quebec, Canada*), Francois Gagnon (*Ecole de Technologie Supérieure, Canada*)

15:30–16:00 Coffee Break

16:00–17:15 Panel (Amphitheater Farabeuf)

Moderator: **Daniel Kofman** (*Institut TELECOM - ParisTech, France*)

Internet of the Future: From Vision to Reality?

Aki Nakao (*NICT, Japan*), Phuoc Tran-Gia (*University of Wuerzburg, Germany*), Serge Fdida (*Pierre and Marie Curie University, France*)

17:15–17:30 Closing Session (Amphitheater Farabeuf)