

# International Conference on Ultra Modern Telecommunications

12 – 14 October 2009, St.-Petersburg, Russia

## Preliminary Program

### RNDM 2009

International Workshop on Reliable Networks Design and Modeling

14.10.2009, St. Petersburg, Russia

<http://www.icumt.org/>

#### Technical co-sponsorship



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#### 9:00-9:15 Opening Session

Chair: Jacek Rak, Gdansk University of Technology (PL)

#### 9:15-10:00 Keynote Talk: Wayne D. Grover, Fellow of IEEE, University of Alberta and TRILabs (CA)

*p-Cycles: A Review of Basics and Current State-of-the-art*

Prof. Grover is a Chief Scientist at Network Systems, TRILabs, and a Professor of Electrical and Computer Engineering, at the University of Alberta. He has authored or co-authored over 200 peer-reviewed publications and has patents issued or pending on nearly 40 topics to date. He is a recipient of the IEEE Baker Prize Paper Award and IEEE Fellow for his work on survivable and self-organizing networks, as well as the IEEE Canada Outstanding Engineer Award, the Alberta Science and Technology Leadership Award, and the University of Alberta's Martha Cook-Piper Research Award and the prestigious NSERC Steacie Fellowship. He has received TRILabs Technology Commercialization Awards for the licensing of restoration and network-design-related technologies to industry and authored the 2004 book *Mesh-based Survivable Networks*, Prentice-Hall PTR, and is a co-author of *Next Generation Transport Networks: Data, Management and Control Planes*, Springer Science, 2005. Current research interests focus on optical network design optimization, new survivability architectures including p-cycles, and new approaches to operation and ongoing re-optimization of dynamic transport networks.



#### 10:00-10:30 Coffee Break

#### 10:30-12:25 Session 1: *p-Cycles and Other Protection Structures*

Chair: Wayne D. Grover, University of Alberta and TRILabs (CA)

10:30-10:55 *A Global Approach to Fully Pre-cross Connected Protection Schemes Design using p-structures* (full paper)  
Samir Sebbah and Brigitte Jaumard (Concordia University, CA)

10:55-11:20 *UPSR-like p-Cycles: A New Approach to Dual Failure Protection* (full paper)  
Aden Grue and Wayne D. Grover (University of Alberta, CA)

11:20-11:55 *Directed p-Cycle Protection in Dynamic WDM Networks* (full paper)  
Ammar Metnani (Université de Montréal, CA) and Brigitte Jaumard (Concordia University, CA)

11:55-12:10 *Availability-Constrained Dedicated Segment Protection in Circuit Switched Mesh Networks* (short paper)  
Péter Babarzi, János Tapolcai (Budapest University of Technology and Economics, HU) and Pin-Han Ho (University of Waterloo, CA)

12:10-12:25 *Demand-Wise Shared Protection Network Design with Dual-Failure Restorability* (short paper)  
Brody Todd (University of Alberta, CA); John Doucette (University of Alberta, CA)

#### 12:30-13:30 Lunch

#### 14:30-15:40 Session 2: *Design and Evaluation of Survivable Networks*

Chair: Dimitri Staessens, Ghent University (BE)

14:30-14:55 *Managing availability in wireless inter domain access* (full paper)  
Eirik L Følstad and Bjarne E. Helvik (Norwegian University of Science and Technology, NO)

14:55-15:10 *Weighted Algebraic Connectivity Metric for Non-Uniform Traffic in Reliable Network Design* (short paper)  
William Liu, Harsha Sirisena and Krzysztof Pawlikowski (University of Canterbury, NZ)

15:10-15:25 *Framework for Vulnerability Management in Complex Networks* (short paper)  
Cinara Ghedini and Carlos Ribeiro (Instituto Tecnológico de Aeronáutica, BR)

15:10-15:25 *Towards an ideal network: survivability issues in selected topologies* (short paper)  
Tomasz Gierszewski and Wojciech Molisz (Gdansk University of Technology, PL)

#### 15:40-16:10 Coffee Break

#### 16:10-17:45 Session 3: *Survivability of multilayer and MPLS-based networks*

Chair: Brigitte Jaumard, University of Concordia (CA)

16:10-16:35 *Computation of high availability connections in multidomain IP-over-WDM networks* (full paper)  
Dimitri Staessens, Didier Colle, Mario Pickavet and Piet Demeester (Ghent University, BE)

16:35-17:00 *Fast Reroute for Stateless Multicast* (full paper)  
András Zahemszky and Somaya Arianfar (Ericsson Research Nomadiclab, FI)

17:00-17:15 *Optimization of Survivable Networks with Simultaneous Unicast and Anycast Flows* (short paper)  
Jakub Gladysz and Krzysztof Walkowiak (Wrocław University of Technology, PL)

17:15-17:30 *Self-Protection: A Novel Protection Scheme for All-Optical Packet Switching Networks* (short paper)  
Fernando Solano Donado, Michał Pióro (Warsaw University of Technology, PL), Jose Luis Marzo and Ramon Fabregat (Univ. de Girona, ES)

17:30-17:45 *Multipath at the Transport Layer: An End-to-End Resilience Mechanism* (short paper)  
Justin P. Rohrer, Ramya Naidu (The University of Kansas, US) and James P. G. Sterbenz (University of Kansas & Lancaster University, US, UK)

#### 17:45-18:00 Closing Session

