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RNDM 2009

International Workshop on Reliable Networks Design and Modeling

Pulkovskaya Park Inn, St. Petersburg, Russia

14.10.2009

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Piotr Cichlo, AGH University of Science and Technology (PL)

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9:00-9:45 Keynote Talk: Wayne D. Grover, Fellow of IEEE, University of Alberta and TRLabs (CA)

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

Prof. Grover is a Chief Scientist at Network Systems, TRLabs, 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 TRLabs 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 Plans, 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.

9:45-10:30 Coffee Break

10:30-12:35 Session 1: p-Cycles and Other Protection Structures

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


Ammar Metnani (Universite de Montreal, CA) and Brigitte Jaumard (Concordia University, CA)

11:20-11:45 Directed p-Cycle Protection in Dynamic WDM Networks (full paper)

Péter Babaricz, János Tapolcai (Budapest University of Technology and Economics, HU) and Pin-Han Ho (University of Waterloo, CA)

11:45-12:00 Availability-Constrained Dedicated Segment Protection in Circuit Switched Mesh Networks (short paper)

Cinara Ghedini and Carlos Ribeiro (Instituto Tecnológico de Aeronáutica, BR)

12:00-12:15 Demand-Wise Shared Protection Network Design with Dual-Failure Restorability (short paper)

Tomasz Gierszewski and Wojciech Molisz (Gdansk University of Technology, PL)

12:35-13:30 Lunch

13:30-14:40 Session 2: Design and Evaluation of Survivable Networks

Chair: Dimitri Staessens, Ghent University (BE)

13:30-13:55 Managing availability in wireless inter domain access (full paper)

Eirik L. Følstad and Bjarne E. Helvik (Norwegian University of Science and Technology, NO)

13:55-14.10 Weighted Algebraic Connectivity Metric for Non-Uniform Traffic in Reliable Network Design (short paper)

Artur Neveread and John Doucette (University of Alberta, CA)

14:10-14:25 Framework for Vulnerability Management in Complex Networks (short paper)

William Liu, Harsha Sirisena and Krzysztof Pawlikowski (University of Canterbury, NZ)

14:25-14:40 Towards an ideal network: survivability issues in selected topologies (short paper)

Tomasz Gierszewski and Wojciech Molisz (Gdansk University of Technology, PL)

15:00-16:00 Coffee Break

16:00-17:35 Session 3: Survivability of multilayer and MPLS-based networks

Chair: Brigitte Jaumard, University of Concordia (CA)

16:00-16.25 Computation of high availability connections in multilayer IP-over-WDM networks (full paper)

Dimitri Staessens , Didier Collé, Marie Picavet and Piet Demester (Ghent University, BE)

16:25-16:50 Fast Reroute for Stateless Multicast (full paper)

Dominique Verchère, Alcatel-Lucent Bell Labs (FR)

16:50-17.05 Optimization of Survivable Networks with Simultaneous Unicast and Anycast Flows (short paper)

Jiro Kuroda and Krzysztof Walkowiak (Wroclaw University of Technology, PL)

17:05-17.20 Self-Protection: A Novel Protection Scheme for All-Optical Packet Switching Networks (short paper)

Jose Luis Marzo and Ramon Fabregat (Univ. de Girona, ES)

17:20-17.35 Multipath at the Transport Layer: An End-to-End Resilience Mechanism (short paper)

Jacek Rak, Gdansk University of Technology (PL)

17:45-18:00 Closing Session