

VITA

**George N. Rouskas**

**Alumni Distinguished Graduate Professor**

Department of Computer Science  
North Carolina State University  
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**Education**

Ph.D.	1994	Georgia Institute of Technology	Computer Science
M.S.	1991	Georgia Institute of Technology	Computer Science
B.S.	1989	National Technical University of Athens	Computer Engineering

**Employment History**

Alumni Distinguished Graduate Professor (Professor 2002-2018 Associate Professor 1999-2002 Assistant Professor 1994-1999)	Department of Computer Science North Carolina State University Raleigh, NC	1994-present
Director of Graduate Programs	Department of Computer Science	January 2014-present

**Visiting Positions**

Distinguished Scientist	King Abdulaziz University, Saudi Arabia	March 2013-present
Visiting Professor	Laboratoire d'Informatique University of Paris 6, France	October 2012
Visiting Professor	Universidad Tecnica Federico Santa Maria, Chile	December 2008
Visiting Professor	Laboratoire de Méthodes Informatiques University of Evry, France	July 2006 December 2002 June 2000
Network Architect (Sabbatical)	Vitesse Semiconductor	August 2000-May 2001

**Honors and Awards**

ALUMNI DISTINGUISHED GRADUATE PROFESSOR, NC State, 2018  
JOYCE HATCH SERVICE AWARD, NC State Chapter of ACM/AITP, 2015  
MOST RECEPTIVE GRADUATE PROFESSOR AWARD, NC State Chapter of ACM/AITP, 2014  
FELLOW, INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE), 2012  
CAROL MILLER GRADUATE LECTURER AWARD, NC State Chapter of ACM/AITP, 2012  
IEEE DISTINGUISHED LECTURER, 2010-2011

OUTSTANDING SERVICE AWARD, IEEE GLOBECOM, 2010

IBM FACULTY AWARD, 2007

BEST PAPER AWARD, *EVGM Workshop*, 2007 (with C. Castillo and K. Harfoush)

BEST PAPER AWARD, *CSNDSP Symposium*, 2006 (with B. Chen and R. Dutta)

ALCOA FOUNDATION ENGINEERING RESEARCH ACHIEVEMENT AWARD, CoE, NC State, 2004

ACADEMY OF OUTSTANDING TEACHERS, NC State, 2004

ALUMNI OUTSTANDING RESEARCH AWARD, NC State, 2003

BEST PAPER AWARD, *SPIE Conference on All-Optical Networking*, 1998 (with I. Baldine)

CAREER AWARD, NATIONAL SCIENCE FOUNDATION (NSF), 1997

OUTSTANDING NEW TEACHER AWARD, Department of Computer Science, NC State, 1995

GRADUATE RESEARCH AWARD, College of Computing, Georgia Institute of Technology, 1994

## I. Teaching and Mentoring

### **Courses Taught**

- CSC 316 – DATA STRUCTURES (undergraduate)
- CSC 401 – COMPUTER NETWORKS (undergraduate)
- CSC/ECE 573 – INTERNET PROTOCOLS (graduate)
- CSC/ECE 579 – INTRODUCTION TO COMPUTER PERFORMANCE EVALUATION (graduate)
- CSC/ECE 772 – SURVIVABLE NETWORKS (graduate)
- CSC/ECE 778 – OPTICAL NETWORKS (graduate)

### **Visiting Scholars**

3. DR. KAMAL JAMBI, 2018-19 (King Abdulaziz University, Jeddah, Saudi Arabia)  
Research: *Machine Learning Applications to Network Control Plane*
2. DR. YU XIONG, 2016-2017 (Chongqing University of Posts and Telecommunications (CUPT), China)  
Research: *Optical and Datacenter Networks*
1. DR. OMAR BATARFI, 2014-2015 (King Abdulaziz University, Jeddah, Saudi Arabia)  
Research: *Visible Light Communications*

### **Post Doctoral Fellows**

3. DR. EMRE YETGINER, 2008-2009  
Research: *Traffic Grooming for Green Optical Networking*
2. DR. A. HALIM ZAIM, 2001-2002  
Research: *Implementation of Signaling Protocols for Optical Burst-Switched Networks*
1. DR. SRIDHAR RAMESH, 1999-2000  
Research: *Performance Analysis of Wavelength Routed Networks*

### **Current Ph.D Students**

1. LINGNAN GAO  
Research: *Network Virtualization*

### **Ph.D. Students Supervised – Graduated**

24. SHIREESH BHAT, 2017  
Dissertation: *Network Service Orchestration within the ChoiceNet Architecture*
23. RAMESH KRISHNAMURTHY, 2016  
Dissertation: *A Framework for Evaluating Server Performance: Application to SIP Proxy Servers*
22. SAHAR TALEBI, 2015  
Dissertation: *On Routing and Spectrum Assignment in Elastic Optical Networks*

21. AHMET CAN BABAOGU, 2014  
Dissertation: *Verification Services for the Choice-Based Internet of the Future*
20. HUI WANG, 2013  
Dissertation: *Efficient Decomposition Techniques for Traffic Grooming Problems in Optical Networks*
19. ZEYU LIU, 2012  
Dissertation: *On Routing and Wavelength Assignment in WDM Networks*
18. MOHAN IYER, 2010  
Dissertation: *Providing Bandwidth on Demand Services Using Optical Network Design and the SILO Network Architecture*  
**Outstanding Teaching Assistant Award, 2009**
17. QIAN LV (2010)  
Dissertation: *Economic Models for Internet Tiered Services*
16. ANJING WANG, 2010  
Dissertation: *Optimization of Silo Services for the Future Internet*  
**Outstanding Teaching Assistant Award, 2009**
15. ZYAD DWEKAT 2009  
Dissertation: *Practical Fair Queueing Schedulers: Simplification Through Quantization*
14. CLARIS CASTILLO, 2008  
Dissertation: *Scheduling and Resource Management in Grids*  
**College of Engineering Nancy G. Pollock PhD Dissertation Award, 2008**  
**Google Anita Borg Scholarship, 2007**  
**Outstanding Teaching Assistant Award, 2006**
13. LI YANG, 2006  
Dissertation: *Congestion Control and Quality of Service (QoS) Provisions for Optical Burst Switched Networks*
12. BENSONG CHEN, 2005  
Dissertation: *Hierarchical Traffic Grooming in Large-Scale WDM Networks*  
**Outstanding Teaching Assistant Award, 2004**
11. JING TENG, 2004  
Dissertation: *A Study of Optical Burst Switched Networks with the Jumpstart Just-In-Time Signaling Protocol*
10. LAURA E. JACKSON, 2003  
Dissertation: *The Directional p-Median Problem with Applications to Traffic Quantization and Multi-processor Scheduling*  
**GAANN Fellow, 2000-2003**  
**College of Engineering Nancy G. Pollock PhD Dissertation Award, 2004**
9. YUFENG XIN, 2002  
Dissertation: *Topology Design of Large-Scale Optical Networks*
8. LISONG XU, 2002  
Dissertation: *Performance Analysis of Optical Burst Switched Networks*  
**NSF CAREER Award, 2007**

7. RUDRA DUTTA, 2001  
Dissertation: *Virtual Topology Design for Traffic Grooming in Optical WDM Networks*
6. A. HALIM ZAIM, 2001  
Dissertation: *Computing Call Blocking Probabilities in LEO Satellite Networks*
5. YUHONG ZHU, 1999  
Dissertation: *Computation of Blocking Probabilities in Wavelength Routing Networks*
4. ILYA BALDIN, 1998  
Dissertation: *Dynamic Reconfiguration in Broadcast WDM Networks*
3. ZEYDY ORTIZ-LAUREANO, 1998  
Dissertation: *Techniques to Support Multicast Traffic in Single-Hop WDM Optical Networks*  
**NSA Fellow, 1994-1998**
2. M. WILLIAM (BILL) MCKINNON, 1997  
Dissertation: *Performance Analysis of a Class of Photonic Interconnection Architectures*
1. SUPRIYA S. SHARMA, 1997  
Dissertation: *Optimal Buffer Management for Shared Buffer ATM Switches*

#### Visiting Ph.D. Students

4. WENZHE LI, 2017-2018 (Beijing University of Posts and Telecommunications, China)  
Research: *Optical Networks on a Chip (ONoC)*
3. XIAOMIN LIU, 2011-2012 (Beihang University, China)  
Research: *Ethernet Passive Optical Networks*
2. CHANG CAO, 2010-2011 (Beijing University of Posts and Telecommunications, China)  
Research: *p-Cycle Protection in MPLS Networks*
1. ARUN VISWANATH, 2007-2008 (University of New South Wales, Australia)  
Research: *Buffer Sizing in High-Speed Routers*

#### M.S. Students Supervised – Graduated

12. MANOJ VELLALA, 2008  
Thesis: *Stack Composition for SILO Architecture*
11. SRIKRISHNA GIRISH KHARE, 2008  
Thesis: *Linux Implementation of Tiered Service Fair Queueing (TSFQ) Scheduling Disciplines*
10. AJAY BABU AMUDALA BHASKER, 2006  
Thesis: *Tiered-Service Fair Queueing (TSFQ): A Practical and Efficient Fair Queueing Algorithm*
9. NIKHIL BARADWAJ, 2005  
Thesis: *Traffic Quantization and its Application to QoS Routing*  
**Graduate School Nancy G. Pollock MS Thesis Award, 2006**
8. VIJAY IYER, 2002  
Thesis: *A Simulation Study of Wavelength Assignment and Reservation Policies with Signaling Delays*

7. MRUGENDRA SINGHAI, 2002  
Thesis: *Helios 2: An All-Optical Broadcast Local Area Network*
6. SUDHIN BENERI, 2001  
Thesis: *Differentiated Services Support for the Helios Optical WDM Testbed*
5. DHAVAL THAKER, 2001  
Thesis: *Multicasting in a Partially Tunable Broadcast WDM Network*
4. JEFFREY J. STUCKEY, 1998  
Thesis: *Worst-Case Cell Delay in an ATM Switch Using EDF Scheduling*
3. BRIAN K. HABERMAN, 1997  
Thesis: *Cost, Delay, and Delay Variation Conscious Multicast Routing*
2. ILYA BALDIN, 1995  
Thesis: *Multicast Routing With End-to-End Delay and Delay Variation Constraints*
1. VIJAY SIVARAMAN, 1995  
Thesis: *TDM Schedules For Broadcast WDM Networks With Arbitrary Tuning Latencies*

## II. Research and Scholarship

### Books

3. ROUSKAS, G.N., RAMAMURTHY, B., SIVALINGAM, K.M. (editors). Next-Generation Internet Architectures and Protocols. Cambridge University Press, 2011.
2. ROUSKAS, G.N. Internet Tiered Services: Theory, Economics, and Quality of Service. Springer, 2009.
1. DUTTA, R., KAMAL, A., ROUSKAS, G.N. (editors). Traffic Grooming for Optical Networks: Foundations, Techniques, and Frontiers. Springer, 2008.

### Book Chapters

10. SIMMONS, J., ROUSKAS, G.N., "Routing and Wavelength (Spectrum) Allocation." In Biswanath Mukherjee, Ioannis Tomkos, Massimo Tornatore, Peter Winzer, and Yongli Zhao (editors), *Springer Handbook of Optical Networks*, Springer, 2019.
9. FAYEZ, M., KATIB, I., ROUSKAS, G.N., FAHEEM, H.M., "Scheduling-Inspired Spectrum Assignment Algorithms for Mesh Elastic Optical Networks." In Aaron Striegel, Min Song and Kewei Sha (editors), *Advances in Computer Communications and Networks - From Green, Mobile, Pervasive Networking to Big Data Computing*, River Publishers, 2016.
8. ROUSKAS, G.N., DUTTA, R., "Hierarchical Traffic Grooming." In Rudra Dutta, Ahmed E. Kamal, and George N. Rouskas (editors), *Traffic Grooming for Optical Networks: Foundations, Techniques, and Frontiers*, Springer, 2008.
7. DUTTA, R., KAMAL, A.E., ROUSKAS, G.N., "Grooming Mechanisms in SONET/SDH and Next-Generation SONET/SDH." In Rudra Dutta, Ahmed E. Kamal, and George N. Rouskas (editors), *Traffic Grooming for Optical Networks: Foundations, Techniques, and Frontiers*, Springer, 2008.
6. DUTTA, R., KAMAL, A.E., ROUSKAS, G.N., "Introduction to Traffic Grooming." In Rudra Dutta, Ahmed E. Kamal, and George N. Rouskas (editors), *Traffic Grooming for Optical Networks: Foundations, Techniques, and Frontiers*, Springer, 2008.
5. ROUSKAS, G.N., XU, L., "Optical Packet Switching." In Krishna Sivalingam and Suresh Subramanian (editors), *Optical WDM Networks: Past Lessons and Path Ahead*, Kluwer, Norwell, Massachusetts, 2004.
4. ROUSKAS, G.N., "Optical Network Engineering." In Sudhir Dixit (editor), *IP over DWDM: Building the Next Generation Optical Internet*, John Wiley & Sons, Hoboken, New Jersey, pp. 299-327, 2003.
3. ROUSKAS, G.N., "Routing and Wavelength Assignment in Optical WDM Networks." In John Proakis (editor), *Wiley Encyclopedia of Telecommunications*, 2002.
2. ROUSKAS, G.N., DUTTA, R., "Design of Logical Topologies for Wavelength Routed Networks." In Krishna Sivalingam and Suresh Subramanian (editors), *Optical WDM Networks: Principles and Practice*, Kluwer, Norwell, Massachusetts, pp. 79-102, 2000.
1. ROUSKAS, G.N., "Scheduling Algorithms for Unicast, Multicast, and Broadcast." In Krishna Sivalingam and Suresh Subramanian (editors), *Optical WDM Networks: Principles and Practice*, Kluwer, Norwell, Massachusetts, pp. 171-188, 2000.

## Journal Articles (refereed)

78. LI, W., GUO, B., LI, X., ZHOU, Y., HUANG, S., ROUSKAS, G.N. "A Large-Scale Nesting Ring Multi-Chip Architecture for Manycore Processor Systems." *Optical Switching and Networking*, vol. 31, pp. 183-192, January 2019.
77. GAO, L., ROUSKAS, G.N., "A Spectral Clustering Approach to Network-Aware Virtual Request Partitioning." *Computer Networks*, vol. 139, pp. 70-80, July 2018.
76. BHAT, S., ROUSKAS, G.N., KATIB, I., "On Time Dependent Routing Algorithms for Open Marketplaces of Path Services with Support for In-Advance Path Reservation." *Computer Networks*, vol. 138, pp. 201-212, June 2018.
75. XIONG, Y., SHI, J., YAYA, Y., LV, Y., ROUSKAS, G.N., "Lightpath Management on SDN-Based Elastic Optical Networks with Power Consumption Considerations." *IEEE/OSA Journal of Lightwave Technology*, vol. 36, no. 9, pp. 1650-1660, May 2018.
74. XIONG, Y., LI, Y., ZHOU, B., WANG, R., ROUSKAS, G.N., "SDN Enabled Restoration with Triggered Precomputation in Elastic Optical Inter-Datacenter Networks." *IEEE/OSA Journal of Optical Communications and Networking*, vol. 10, no. 1, pp. 24-34, January 2018.
73. BHAT, S., UDECHUKWU, R., DUTTA, R., ROUSKAS, G.N., "Network Service Orchestration in Heterogeneous 5G Networks using an Open Marketplace." *IET Networks*, 2017.
72. TALEBI, S., ROUSKAS, G.N., "On Distance-Adaptive Routing and Spectrum Assignment in Mesh Elastic Optical Networks." *IEEE/OSA Journal of Optical Communications and Networking*, vol. 9, no. 5, pp. 456-465, May 2017.
71. TALEBI, S., KATIB, I., ROUSKAS, G.N., "Distance-Adaptive Routing and Spectrum Assignment in Rings." *IET Networks*, vol. 5, no. 3, pp. 64-70, May 2016.
70. TALEBI, S., BAMPIS, E., LUCARELLI, G., KATIB, I., ROUSKAS, G.N., "On Routing and Spectrum Assignment in Rings." *IEEE/OSA Journal of Lightwave Technology*, vol. 33, no. 1, pp. 151-160, January 1, 2015.
69. COULIBALY, ROUSKAS, G.N., ABD LATIF, M.S., RAZZAQUE, M.A., MANDALA, S., "QoS-Aware Ant-Based Route, Wavelength and Timeslot Assignment Algorithm for Optical Burst Switched Networks." *Transactions on Emerging Telecommunications Technologies*, 2015.
68. TALEBI, S., BAMPIS, E., LUCARELLI, G., KATIB, I., ROUSKAS, G.N., "Spectrum Assignment in Optical Networks: A Multiprocessor Scheduling Perspective." *IEEE/OSA Journal of Optical Communications and Networking*, vol. 6, no. 8, pp. 754-763, August 2014.
67. WANG, H., ROUSKAS, G.N., "Hierarchical Traffic Grooming: A Tutorial." *Computer Networks*, vol. 69, pp. 147-156, August 2014.
66. YAYAH, A. A., COULIBALY, Y., ISMAIL, A. S., ROUSKAS, G.N., "Hybrid Offset-Time and Burst Assembly Algorithm (H-OTBA) for Delay Sensitive Applications Over Optical Burst Switching Networks." *International Journal of Communication Systems*, 2014.
65. WOLF, T., GRIFFIOEN, J., CALVERT, K., DUTTA, R., ROUSKAS, G.N., BALDINE, I., NAGURNEY, A., "ChoiceNet: Toward an Economy Plane for the Internet." *ACM Computer Communications Review*, vol. 44, no. 3, pp. 58-65, July 2014.
64. TALEBI, S., ALAM, F., KATIB, I., KHAMIS, M., KHALIFAH, R., ROUSKAS, G.N., "Spectrum Management Techniques for Elastic Optical Networks: A Survey." *Optical Switching and Networking*, vol. 13, no. 1, pp. 34-48, July 2014.



63. LIU, X., ROUSKAS, G.N., HE, F., XIONG, H., "MPCP with Look-Ahead for WDM EPON." *IEEE/OSA Journal of Optical Communications and Networking*, vol. 6, no. 2, pp. 104-113, February 2014.
62. WANG, H., ROUSKAS, G.N., "Traffic Grooming in Optical Networks: Decomposition and Partial LP Relaxation." *IEEE/OSA Journal of Optical Communications and Networking*, vol. 5, no. 8, pp. 825-835, August 2013.
61. CAO, C., ROUSKAS, G.N., WANG, J., TANG, X., "Hybrid FRR/ $p$ -Cycle Design for Link and Node Protection in MPLS Networks." *International Journal of Electronics and Communications*, vol. 67, no. 6, pp. 470-478, June 2013.
60. WANG, A., IYER, M., DUTTA, R., ROUSKAS, G.N., BALDINE, I., "Network Virtualization: Technologies, Perspectives, and Frontiers." *IEEE/OSA Journal of Lightwave Technology*, vol. 31, no. 4, pp. 523-537, February 15, 2013.
59. EL-BAWAB, T.S., ESFANDIARI, M., ROUSKAS, G.N., JAYASUMANA, A., EFFENBERGER, F., KAZOVSKY, L., KINCAID, M., MEDARD, M., FROST, V., BANIEWICZ, P., "Toward Specialized Undergraduate Telecommunication Engineering Education in the US." *IEEE Communications Magazine*, vol. 50, no. 9, pp. 3-4, September 2012.
58. VISWANATH, A., SIVARAMAN, V., ROUSKAS, G.N., "Anomalous Loss Performance for Mixed Real-Time and TCP Traffic in Routers with Very Small Buffers." *IEEE/ACM Transactions on Networking*, vol. 19, no. 4, pp. 933-946, August 2011.
57. YETGINER, E., ZEYU, L., ROUSKAS, G.N., "Fast Exact ILP Decompositions for Ring RWA." *IEEE/OSA Journal of Optical Communications and Networking*, vol. 3, no. 7, pp. 577-586, July 2011. **OSA Spotlight on Optics, September 2011.**
56. DWEKAT, Z., ROUSKAS, G.N., "A Practical Fair Queueing Scheduler: Simplification Through Quantization." *Computer Networks*, vol. 55, no. 10, pp. 2392-2406, July 2011.
55. CASTILLO, C., ROUSKAS, G.N., HARFOUSH, K., "Online Algorithms for Advance Resource Reservations." *Journal of Parallel and Distributed Computing*, vol. 71, no. 7, pp. 963-973, July 2011.
54. TOUCH, J., BALDINE, I., DAY, J., DUTTA, R., FINN, G.F., FORD, B., JORDAN, S., MASSEY, D., MATTA, A., PAPADOPOULOS, C., REIHER, P., ROUSKAS, G.N., "A Dynamic Recursive Unified Internet Design (DRUID)." *Computer Networks*, vol. 55, no. 4, pp. 919-935, 10 March 2011.
53. KARMOUS-EDWARDS, G., POLITO, S.G., JUKAN, A., ROUSKAS, G.N., "A New Framework for GLIF Interdomain Resource Reservation Architecture (GIRRA)." *Annals of Telecommunications*, vol. 65, no. 11-12, pp. 1000-1001, November-December 2010.
52. CHEN, B., DUTTA, R., ROUSKAS, G.N., "Clustering for Hierarchical Traffic Grooming in Large Scale Mesh WDM Networks." *IEEE/OSA Journal of Optical Communications and Networking*, vol. 2, no. 8, pp. 502-514, August 2010.
51. LV, Q., ROUSKAS, G.N., "An Economic Model for Pricing Tiered Network Services." *Annals of Telecommunications*, vol. 65, no. 3-4, pp. 147-161, April 2010.
50. ROUSKAS, G.N., BARADWAJ, N., "On Bandwidth Tiered Service." *IEEE/ACM Transactions on Networking*, vol. 17, no. 6, pp. 1780-1793, December 2009.
49. KARMOUS-EDWARDS, G., VISWANATH, A., REEVES, D.S., BATTISTILLI, L., VEGESNA, P., ROUSKAS, G.N. "Edge-Reconfigurable Optical Networks (ERONs): Rationale, Network Design, and Evaluation." *IEEE/OSA Journal of Lightwave Technology*, vol. 27, no. 12, pp. 1837-1845, June 15, 2009.

48. CHEN, B., ROUSKAS, G.N., DUTTA, R., "On Hierarchical Traffic Grooming in WDM Networks." *IEEE/ACM Transactions on Networking*, vol. 16, no. 6, pp. 1226-1238, October 2008.
47. YANG, L., ROUSKAS, G.N., "Optimal Wavelength Sharing Policies in OBS Networks Subject to QoS Constraints." *IEEE Journal on Selected Areas in Communications*, supplement on *Optical Communications & Networking*, vol. 25, no. 9, pp. 40-49, December 2007.
46. JACKSON, L.E., ROUSKAS, G.N., STALLMAN, M.F., "The Directional  $p$ -Median Problem with Applications to Traffic Quantization and Multiprocessor Scheduling." *European Journal of Operational Research*, vol. 179, no. 3, pp. 1097-1108, June 2007.
45. YANG, L., ROUSKAS, G.N., "Generalized Wavelength Sharing Policies for Absolute QoS Guarantees in OBS Networks." *IEEE Journal on Selected Areas in Communications*, supplement on *Optical Communications & Networking*, vol. 25, no. 4, pp. 93-104, April 2007.
44. YANG, L., ROUSKAS, G.N., "Adaptive Path Selection in Optical Burst Switched Networks." *IEEE/OSA Journal of Lightwave Technology*, vol. 24, no. 8, pp. 3002-3011, August 2006.
43. HUANG, S., DUTTA, R., ROUSKAS, G.N., "Traffic Grooming in Path, Star, and Tree Networks: Complexity, Bounds, and Algorithms." *IEEE Journal on Selected Areas in Communications*, vol. 24, no. 4, pp. 66-82, April 2006.
42. TENG, J., ROUSKAS, G.N., "A Traffic Engineering Approach to Path Selection in OBS Networks." *OSA Journal of Optical Networking*, vol. 4, no. 11, pp. 759-777, November 2005.
41. TENG, J., ROUSKAS, G.N., "Wavelength Selection in OBS Networks Using Traffic Engineering and Priority-Based Concepts." *IEEE Journal on Selected Areas in Communications*, vol. 23, no. 8, pp. 1658-1669, August 2005.
40. CHEN, B., ROUSKAS, G.N., DUTTA, R., "Traffic Grooming in WDM Ring Networks To Minimize the Maximum Electronic Port Cost." *Optical Switching and Networking*, vol. 1, no. 2, pp. 1-18, May 2005.
39. TENG, J., ROUSKAS, G.N., "A Detailed Analysis and Performance Comparison of Wavelength Reservation Schemes for Optical Burst Switched Networks." *Photonic Network Communications*, vol. 9, no. 3, pp. 311-335, May 2005.
38. XIN, Y., ROUSKAS, G.N., "Light-Tree Routing Under Optical Power Budget Constraints." *OSA Journal of Optical Networking*, vol. 3, no. 5, pp. 282-302, May 2004.
37. XIN, Y., ROUSKAS, G.N., "A Study of Path Protection in Large-Scale Optical Networks." *Photonic Network Communications*, vol. 7, no. 3, pp. 267-278, May 2004.
36. BALDINE, I., ROUSKAS, G.N., PERROS, H.G., STEVENSON, D., "Multicast and QoS in the Jumpstart Architecture for WDM Burst-Switched Networks." *Optical Networks*, vol. 4, no. 6, pp. 68-80, November/December 2003.
35. JACKSON, L.E., ROUSKAS, G.N., "Optimal Quantization of Periodic Task Requests on Multiple Identical Processors." *IEEE Transactions on Parallel and Distributed Systems*, vol. 14, no. 8, pp. 795-806, August 2003.
34. ZAIM, A.H., PERROS, H.G., ROUSKAS, G.N., "Performance Analysis of LEO Satellite Networks." *IEEE Transactions on Vehicular Technology*, vol. 52, no. 3, pp. 622-636, May 2003.
33. XIN, Y., ROUSKAS, G.N., PERROS, H.G., "On the Physical and Logical Topology Design of Large-Scale Optical Networks." *IEEE/OSA Journal of Lightwave Technology*, vol. 21, no. 4, pp. 904-915, April 2003.

32. ZAIM, A.H., BALDINE, I., CASSADA, M., ROUSKAS, G.N., PERROS, H.G., STEVENSON, D., "The **Jumpstart** Just-In-Time Signaling Protocol: A Formal Description Using Extended Finite State Machines." *Optical Engineering*, vol. 42, no. 2, pp. 568-585, February 2003.
31. XU, L., ROUSKAS, G.N., PERROS, H.G., "A Simulation Study of Optical Burst Switching and Access Protocols for WDM Ring Networks." *Computer Networks*, vol. 41, no. 2, pp. 143-160, January 2003.
30. ROUSKAS, G.N., "Optical Layer Multicast: Rationale, Building Blocks, and Challenges." *IEEE Network*, vol. 17, no. 1, pp. 60-65, January/February 2003.
29. XU, L., PERROS, H.G., ROUSKAS, G.N., "Access Protocols for Optical Burst-Switched Ring Networks." *Information Sciences*, vol. 149, no. 1-2, pp. 75-81, January 2003.
28. DUTTA, R., ROUSKAS, G.N., "A Survey of Traffic Grooming Techniques for Optical WDM Networks." *IEEE Network*, vol. 16, no. 6, pp. 46-56, November/December 2002.
27. JACKSON, L.E., ROUSKAS, G.N., "Deterministic Preemptive Scheduling of Real Time Tasks." *IEEE Computer*, vol. 35, no. 5, pp. 72-79, May 2002.
26. BAMPIS, E., ROUSKAS, G.N., "The Scheduling and Wavelength Assignment Problem in Optical WDM Networks." *IEEE/OSA Journal of Lightwave Technology*, vol. 20, no. 5, pp. 782-789, May 2002.
25. RHEE, I., BALAGURU, N., ROUSKAS, G.N., "MTCP: Scalable TCP-like Congestion Control for Reliable Multicast." *Computer Networks*, vol. 38, no. 5, pp. 553-575, April 2002.
24. BALDINE, I., ROUSKAS, G.N., PERROS, H.G., STEVENSON, D., "**Jumpstart**: A Just-In-Time Signaling Architecture for WDM Burst-Switched Networks." *IEEE Communications*, vol. 40, no. 2, pp. 82-89, February 2002.
23. ZAIM, A.H., ROUSKAS, G.N., PERROS, H.G., "Computing Call Blocking Probabilities in LEO Satellite Networks: The Single Orbit Case." *IEEE Transactions on Vehicular Technology*, vol. 51, no. 2, pp. 332-347, March 2002.
22. DUTTA, R., ROUSKAS, G.N., "On Optimal Traffic Grooming in WDM Rings." *IEEE Journal on Selected Areas in Communications*, vol. 20, no. 1, pp. 110-121, January 2002.
21. RAMESH, S., ROUSKAS, G.N., PERROS, H.G., "Computing Blocking Probabilities in Multi-Class Wavelength Routing Networks with Multicast Calls." *IEEE Journal on Selected Areas in Communications*, vol. 20, no. 1, pp. 89-96, January 2002.
20. THAKER, D., ROUSKAS, G.N., "Multi-Destination Communication in Broadcast WDM Networks: A Survey." *Optical Networks*, vol. 3, no. 1, pp. 34-44, January/February 2002.
19. BALDINE, I., ROUSKAS, G.N., "Traffic Adaptive WDM Networks: A Study of Reconfiguration Issues." *IEEE/OSA Journal of Lightwave Technology*, vol. 19, no. 4, pp. 433-455, April 2001.
18. RAMESH, S., ROUSKAS, G.N., PERROS, H.G., "Computing Blocking Probabilities in Multi-Class Wavelength Routing Networks." *ACM Transactions on Modeling and Computer Simulation (TOMACS)*, vol. 10, no. 2, pp. 87-103, April 2001.
17. XU, L., PERROS, H.G., ROUSKAS, G.N., "A Survey of Optical Packet Switching and Optical Burst Switching Techniques." *IEEE Communications*, vol. 39, no. 1, pp. 136-142, January 2001.
16. ZHU, Y., ROUSKAS, G.N., PERROS, H.G., "A Path Decomposition Approach for Computing Blocking Probabilities in Wavelength Routing Networks." *IEEE/ACM Transactions on Networking*, vol. 8, no. 6, pp. 747-762, December 2000.

15. ZHU, Y., ROUSKAS, G.N., PERROS, H.G., "A Comparison of Allocation Policies in Wavelength Routing Networks." *Photonic Network Communications Journal*, vol. 2, no. 3, pp. 265-293, August 2000.
14. ORTIZ-LAUREANO, Z., ROUSKAS, G.N., PERROS, H.G., "Scheduling Combined Unicast and Multicast Traffic in Broadcast WDM Networks." *Photonic Network Communications Journal*, vol. 2, no. 2, pp. 135-154, May 2000.
13. SIVARAMAN, V., ROUSKAS, G.N., "A Reservation Protocol for Broadcast WDM Networks and Stability Analysis." *Computer Networks*, vol. 32, no. 2, pp. 211-277, February 2000.
12. DUTTA, R., ROUSKAS, G.N., "A Survey of Virtual Topology Design Algorithms for Wavelength Routed Networks." *Optical Networks*, vol. 1, no. 1, pp. 73-89, January 2000.
11. ORTIZ-LAUREANO, Z., ROUSKAS, G.N., PERROS, H.G., "Maximizing Multicast Throughput in WDM Networks with Tuning Latencies Using the Virtual Receiver Concept." *European Transactions on Telecommunications*, vol. 11, no. 1, pp. 63-72, January/February 2000.
10. MCKINNON, M.W., PERROS, H.G., ROUSKAS, G.N., "Performance Analysis of Broadcast WDM Networks Under IP Traffic." *Performance Evaluation*, vol. 36-37, pp. 333-358, August 1999.
9. BALDINE, I., ROUSKAS, G.N., "Reconfiguration and Dynamic Load Balancing in Broadcast WDM Networks." *Photonic Network Communications Journal*, vol. 1, no. 1, pp. 49-64, June 1999.
8. MCKINNON, M.W., ROUSKAS, G.N., PERROS, H.G., "Performance Analysis of a Photonic Single-Hop ATM Switch Architecture with Tunable Transmitters and Fixed Frequency Receivers." *Performance Evaluation*, vol. 33, no. 2, pp. 113-136, June 1998.
7. ROUSKAS, G.N., SIVARAMAN, V., "Packet Scheduling in Broadcast WDM Networks with Arbitrary Transceiver Tuning Latencies." *IEEE/ACM Transactions on Networking*, vol. 5, no. 3, pp. 359-370, June 1997.
6. ROUSKAS, G.N., BALDINE, I., "Multicast Routing with End-to-End Delay and Delay Variation Constraints." *IEEE Journal on Selected Areas in Communications*, vol. 15, no. 3, pp. 346-356, April 1997.
5. ROUSKAS, G.N., AMMAR, M.H., "Multi-Destination Communication Over Tunable-Receiver Single-Hop WDM Networks." *IEEE Journal on Selected Areas in Communications*, vol. 15, no. 3, pp. 501-511, April 1997.
4. ROUSKAS, G.N., AMMAR, M.H., "Minimizing Delay and Packet Loss in Single-Hop Lightwave WDM Networks Using TDM Schedules." *Journal of High Speed Networks*, vol. 5, no. 4, pp. 309-327, 1996.
3. ROUSKAS, G.N., AMMAR, M.H., "Analysis and Optimization of Transmission Schedules for Single-Hop WDM Networks." *IEEE/ACM Transactions on Networking*, vol. 3, no. 2, pp. 211-221, April 1995.
2. AMMAR, M.H., ROUSKAS, G.N., "On the Design of Protocols for Collecting Responses over a Multiple-Access Channel." *IEEE Transactions on Communications*, vol. 43, no. 2, pp. 412-420, February 1995.
1. ROUSKAS, G.N., AMMAR, M.H., "Dynamic Reconfiguration in Multihop WDM Networks." *Journal of High Speed Networks*, vol. 4, no. 3, pp. 221-238, 1995.

### Conference Proceedings (refereed)

103. FAYEZ, M., KATIB, I., ROUSKAS, G.N., GHARIB, T.F., KHALED, H., FAHEEM, H.M., "Performance Evaluation of Brute Force Techniques for Routing and Spectrum Assignment in Elastic Optical Network using MPI and CUDA." *Proceedings of International Conference on Computational Science and Computational Intelligence (CSCI 2018)*, December 13-15, 2018, Las Vegas, NV.
102. GAO, L., ROUSKAS, G.N., "Virtual Network Reconfiguration with Load Balancing and Migration Cost Considerations." *Proceedings of IEEE Infocom 2018*, April 15-19, 2018, Honolulu, Hawaii.
101. BHAT, S., ROUSKAS, G.N., "Service-Concatenation Routing With Applications to Network Functions Virtualization." *Proceedings of ICCCN 2017*, July 31-August 3, 2017, Vancouver, Canada.
100. XIONG, Y., SHI, J., LV, Y., ROUSKAS, G.N., "Power-Aware Lightpath Management for SDN-Based Elastic Optical Networks." *Proceedings of ICCCN 2017*, July 31-August 3, 2017, Vancouver, Canada.
99. BHAT, S., UDECHUKWU, R., DUTTA, R., ROUSKAS, G.N., "On Service Composition Algorithms for Open Marketplaces of Network Services." *Proceedings of EuCNC 2017*, June 12-15, 2017, Oulu, Finland.
98. TALEBI, S., ROUSKAS, G.N., KATIB, I., "Offline Distance-Adaptive Routing and Spectrum Assignment in Mesh Elastic Optical Networks." *Proceedings of IEEE GLOBECOM 2016*, December 4-8, 2016, Washington, DC.
97. XIONG, Y., ROUSKAS, G.N., "Exploiting SDN Principles for Extremely Fast Restoration in Elastic Optical Datacenter Networks." *Proceedings of IEEE GLOBECOM 2016*, December 4-8, 2016, Washington, DC.
96. UDECHUKWU, R., BHAT, S., DUTTA, R., ROUSKAS, G.N., "Language of Choice: On Embedding Choice-related Semantics in a Realizable Protocol." *Proceedings of the 37th IEEE Sarnoff Symposium*, September 19-21, 2016, Newark, New Jersey.
95. GAO, L., ROUSKAS, G.N., "Network-Aware Virtual Request Partitioning Based on Spectral Clustering." *Proceedings of ICCCN 2016*, August 1-4, 2016, Honolulu, Hawaii.
94. BHAT, S., ROUSKAS, G.N., "On Routing Algorithms for Open Marketplaces of Path Services." *Proceedings of IEEE ICC 2016*, May 23-27, 2016, Kuala Lumpur, Malaysia.
93. KRISHNAMURTHY, R., ROUSKAS, G.N., "Performance Evaluation of Multi-Core, Multi-Threaded SIP Proxy Servers (SPS)." *Proceedings of IEEE ICC 2016*, May 23-27, 2016, Kuala Lumpur, Malaysia.
92. BHAT, S., UDECHUKWU, R., DUTTA, R., ROUSKAS, G.N., "Inception to Application: A GENI based prototype of an Open Marketplace for Network Services." *Proceedings of IEEE INFOCOM 2016 Workshops*, April 2016, San Francisco, CA.
91. TALEBI, S., KATIB, I., ROUSKAS, G.N., "Offline Distance-Adaptive Routing and Spectrum Assignment (DA-RSA) in Rings." *Proceedings of IEEE GLOBECOM 2015*, December 6-10, 2015, San Diego, CA.
90. FAYEZ, M., KATIB, I., ROUSKAS, G.N., FAHEEM, H.M., "Spectrum Assignment in Mesh Elastic Optical Networks." *Proceedings of ICCCN 2015*, August 3-6, 2015, Las Vegas, NV.
89. CHEN, X., WOLF, T., GRIFFIOEN, J., ASCIGIL, O., DUTTA, R., ROUSKAS, G.N., BHAT, S., BALDIN, I., CALVERT, K., "Design of a Protocol to Enable Economic Transactions for Network Services." *Proceedings of IEEE ICC 2015*, June 8-12, 2015, London, UK.

88. KRISHNAMURTHY, R., ROUSKAS, G.N., "On the Impact of Scheduler Settings on the Performance of Multi-Threaded SIP Servers." *Proceedings of IEEE ICC 2015*, June 8-12, 2015, London, UK.
87. TALEBI, S., BAMPIS, E., LUCARELLI, G., KATIB, I., ROUSKAS, G.N., "The Spectrum Assignment (SA) Problem in Optical Networks: A Multiprocessor Scheduling Perspective." *Proceedings of the 18th Conference on Optical Network Design and Modeling (ONDM 2014)*, May 19-22, 2014, Stockholm, Sweden.
86. WANG, H., ROUSKAS, G.N., "Hierarchical Grooming in Optical Networks." *Proceedings of IEEE GLOBECOM 2013*, December 9-13, 2013, Atlanta, Georgia.
85. KRISHNAMURTHY, R., ROUSKAS, G.N., "Evaluation of SIP Proxy Server Performance: Packet-Level Measurements and Queuing Model." *Proceedings of IEEE ICC 2013*, June 9-13, 2013, Budapest, Hungary.
84. WANG, H., ROUSKAS, G.N., "An Efficient Algorithm for Solving Traffic Grooming Problems in Optical Networks." *Proceedings of IEEE ICC 2013*, June 9-13, 2013, Budapest, Hungary.
83. LIU, X., ROUSKAS, G.N., "MPCP- $\ell$ : Look-Ahead Enhanced MPCP for EPON." *Proceedings of IEEE ICC 2013*, June 9-13, 2013, Budapest, Hungary.
82. LIU, Z., ROUSKAS, G.N., "Scalable Optimal Traffic Grooming in WDM Rings Incorporating Fast RWA Formulation." *Proceedings of IEEE ICC 2013*, June 9-13, 2013, Budapest, Hungary.
81. LIU, Z., ROUSKAS, G.N., "Link Selection Algorithms for Link-Based ILPs and Applications to RWA in Mesh Networks." *Proceedings of the 17th Conference on Optical Network Design and Modeling (ONDM 2013)*, April 16-19, 2013, Brest, France.
80. LIU, Z., ROUSKAS, G.N., "A Fast Path-Based ILP Formulation for Offline RWA in Mesh Optical Networks." *Proceedings of IEEE GLOBECOM 2012*, December 3-7, 2012, Anaheim, California.
79. WOLF, T., GRIFFIOEN, J., CALVERT, K., DUTTA, R., ROUSKAS, G.N., BALDINE, I., NAGURNEY, A., "Choice as a Principle in Network Architecture." *Proceedings of ACM SIGCOMM 2012*, pp. 105-106, August 13-17, 2012, Helsinki, Finland.
78. CAO, C., ROUSKAS, G.N., "Hybrid FRR/ $p$ -Cycle MPLS Link Protection Design." *Proceedings of IEEE GLOBECOM 2011*, December 5-9, 2011, Houston, Texas.
77. LV, Q., ROUSKAS, G.N., "On Optimal Tiered Structures for Network Service Bundles." *Proceedings of IEEE GLOBECOM 2011*, December 5-9, 2011, Houston, Texas.
76. WANG, H., ROUSKAS, G.N., "Flow Isolation in Optical Networks." *Proceedings of IEEE LANMAN 2011*, October 13-14, 2011, Chapel Hill, North Carolina.
75. DWEKAT, Z., ROUSKAS, G.N., "Worst-Case Fair Bin Sort Queuing (WBSQ): A Low Complexity Worst-Case Fair Scheduler." *Proceedings of IEEE ICC 2011*, June 5-9, 2011, Kyoto, Japan.
74. WANG, M.S., WANG, A., BATHULA, B.G., LAI, C.P., BALDINE, I., CHEN, C., MAJUMDER, D., GURKAN, D., ROUSKAS, G.N., DUTTA, R., BERGMAN, K., "Demonstration of QoS-Aware Video Streaming Over A Metro-Scale Optical Network Using A Cross-Layer Architectural Design." *Proceedings of OFC/NFOEC 2011*, paper no. NThC4, March 6-10, 2011, Los Angeles, California.
73. YETGINER, E., ZEYU, L., ROUSKAS, G.N., "RWA in Rings: An Efficient Formulation Based on Maximal Independent Set Decomposition." *Proceedings of IEEE LANMAN 2010*, May 5-7, 2010, Long Beach, New Jersey.

72. LV, Q., ROUSKAS, G.N., "Internet Service Tiering as a Market Segmentation Strategy." *Proceedings of IEEE GLOBECOM 2009*, November 30-December 4, 2009, Honolulu, Hawaii.
71. YETGINER, E., ROUSKAS, G.N., "Power Efficient Traffic Grooming in Optical WDM Networks." *Proceedings of IEEE GLOBECOM 2009*, November 30-December 4, 2009, Honolulu, Hawaii.
70. LV, Q., ROUSKAS, G.N., "An Economic Model for Pricing Tiered Network Services." *Proceedings of IEEE ICC 2007*, June 14-18, 2009, Dresden, Germany.
69. ROUSKAS, G.N., BULLARD, L., CRAIG, A.E., JOINES, J., MILLER, C., MILLER, T., RAUBENHEIMER, D., SILVERBERG, L., WIEBE, E., "Computing Across Curricula: The View of Industry Leaders." In *Proceedings of the 2009 ASEE Annual Conference & Exposition*, June 14-17, 2009, Austin, TX.
68. CASTILLO, C., ROUSKAS, G.N., HARFOUSH, K., "Resource Co-Allocation for Large-Scale Distributed Environments." In *Proceedings of the ACM International Symposium on High Performance Distributed Computing (HPDC 2009)*, June 11-13, 2009, Munich, Germany.
67. VISWANATH, A., SIVARAMAN, V., ROUSKAS, G.N., "Considerations for Sizing Buffers in Optical Packet Switched Networks." *Proceedings of IEEE INFOCOM 2009*, April 19-25, 2009, Rio de Janeiro, Brazil.
66. IYER, M., ROUSKAS, G.N., DUTTA, R., "A Hierarchical Model for Multigranular Optical Networks." In *Proceedings of IEEE BROADNETS 2008*, September 8-11, 2008, London, UK.
65. ROUSKAS, G.N., BULLARD, L., CRAIG, A.E., JOINES, J., MILLER, C., MILLER, T., RAUBENHEIMER, D., SILVERBERG, L., WIEBE, E., "Computing Across Curricula." In *Proceedings of the 2008 ASEE Annual Conference & Exposition*, June 22-25, 2008, Pittsburg, PA.
64. BALDINE, I., CHASE, J., ROUSKAS, G.N., DUTTA, R., "At-Scale Experimentation with Resource Virtualization in a Metro Optical Testbed." *Proceedings of the 2nd International Conference on the Virtual Computing Initiative (ICVCI 2)*, May 15-16, 2008, RTP, NC.
63. LV, Q., ROUSKAS, G.N., "On Optimal Sizing of Tiered Network Services." In *Proceedings of IEEE INFOCOM 2008 (miniconference)*, April 13-18, 2008, Phoenix, Arizona.
62. VISWANATH, A., SIVARAMAN, V., ROUSKAS, G.N., "Are Bigger Optical Buffers Necessarily Better." *Proceedings of IEEE INFOCOM 2008 Student Workshop*, April 13, 2008, Phoenix, Arizona.
61. CASTILLO, C., ROUSKAS, G.N., HARFOUSH, K., "Efficient QoS Resource Management for Heterogeneous Grids." In *Proceedings of the 21st IEEE International Parallel and Distributed Processing Symposium (IPDPS 2008)*, April 14-18, 2008, Miami, Florida.
60. VELLALA, M., WANG, A., ROUSKAS, G.N., DUTTA, R., BALDINE, I., STEVENSON, D., "A Composition Algorithm for the SILO Cross-Layer Optimization Service Architecture." *Proceedings of the Advanced Networks and Telecommunications Systems Conference (ANTS 2007)*, December 17-18, Mumbai, India.
59. STEVENSON, D., DUTTA, R., ROUSKAS, G.N., REEVES, D., BALDINE, I., "On the Suitability of Composable Services for a Next General Assurable Network." *Proceedings of MILCOM 2007*, October 29-31, Orlando, Florida.
58. CASTILLO, C., ROUSKAS, G.N., HARFOUSH, K., "Efficient Implementation of Best-Fit Scheduling for Advance Reservations and QoS in Grids." *Proceedings of the First IEEE/IFIP International Workshop on End-to-end Virtualization and Grid Management (EVGM 2007)*, October 29-30, 2007, San Jose, California. **Best Paper Award.**

57. BALDINE, I., VELLALA, M., WANG, A., ROUSKAS, G.N., DUTTA, R., STEVENSON, D., "A Unified Software Architecture to Enable Cross-Layer Design in the Future Internet." *Proceedings of IEEE ICCCN 2007* August 13-16, 2007, Honolulu, Hawaii.
56. ROUSKAS, G.N., BARADWAJ, N., "TDM Emulation in Packet-Switched Networks." In *Proceedings of IEEE ICC 2007*, June 24-28, 2007, Glasgow, Scotland.
55. ROUSKAS, G.N., DUTTA, R., BALDINE, I., BRAGG, A., STEVENSON, D., "The SILO Architecture for Services Integration, control, and Optimization for the Future Internet." In *Proceedings of IEEE ICC 2007*, June 24-28, 2007, Glasgow, Scotland.
54. DWEKAT, Z., ROUSKAS, G.N., "A Practical and Efficient Fair Implementation of  $W^2Q+$ ." In *Proceedings of IEEE ICC 2007*, June 24-28, 2007, Glasgow, Scotland.
53. CHEN, B., DUTTA, R., ROUSKAS, G.N., "Clustering for Hierarchical Traffic Grooming in Large Scale Mesh WDM Networks." *Proceedings of the 11th Conference on Optical Network Design and Modeling (ONDM 2007)*, pp. 249-258, May 29-31, 2007, Athens, Greece.
52. ROUSKAS, G.N., BARADWAJ, N., "A Framework for Tiered Service in MPLS Networks." In *Proceedings of IEEE INFOCOM 2007*, pp. 1577-1585, May 6-12, 2007, Anchorage, Alaska.
51. CASTILLO, C., ROUSKAS, G.N., HARFOUSH, K., "On the Design of Online Scheduling Algorithms for Advance Reservations and QoS in Grids." In *Proceedings of the 21st IEEE International Parallel and Distributed Processing Symposium (IPDPS 2007)*, March 26-30, 2007, Long Beach, California.
50. YANG, L., ROUSKAS, G.N., "Dynamic Wavelength Sharing Policies for Absolute QoS in OBS Networks." In *Proceedings of IEEE GLOBECOM 2006*, November 27-December 1, 2005, San Jose, CA.
49. YANG, L., ROUSKAS, G.N., "A Framework for Absolute QoS Guarantees in Optical Burst Switched Networks." In *Proceedings of BROADNETS 2006*, pp. 167-176, October 1-5, 2006, San Jose, CA.
48. BENSONG, C., DUTTA, R., ROUSKAS, G.N., "Clustering Techniques for Hierarchical Grooming." In *Proceedings of the Fifth International Symposium on Communications Systems, Networks, and Digital Signal Processing (CSNDSP 2006)*, pp. 55-59, July 19-21, 2006, Patras, Greece. **Best Paper Award.**
47. CHEN, B., ROUSKAS, G.N., DUTTA, R., "A Framework for Hierarchical Traffic Grooming in WDM Networks of General Topology." In *Proceedings of BROADNETS 2005*, October 3-7, pp. 167-176, 2005, Boston, MA.
46. CHEN, B., ROUSKAS, G.N., DUTTA, R., "On the Application of  $K$ -Center Algorithms to Hierarchical Traffic Grooming." In *Proceedings of the Traffic Grooming Workshop 2005*, pp. 295-301, October 7, 2005, Boston, MA.
45. BALDINE, I., MEHROTRA, P., ROUSKAS, G.N., BRAGG, A., STEVENSON, D., "An Intra- and Inter-Domain Routing Architecture for Optical Burst Switched (OBS) Networks." In *Proceedings of the Fifth Workshop on Optical Burst/Packet Switching*, pp. 150-159, October 3, 2005, Boston, MA.
44. YANG, L., ROUSKAS, G.N., "Path Switching in Optical Burst Switched Networks." In *Proceedings of NETWORKING 2005*, LNCS 3462, pp. 406-418, May 2-6, 2005, Waterloo, Canada.
43. TENG, J., ROUSKAS, G.N., "Routing Optimization in Optical Burst Switched Networks." In *Proceedings of the 9th Conference on Optical Network Design and Modeling (ONDM 2005)*, pp. 1-10, February 7-9, 2005, Milan, Italy.
42. TENG, J., ROUSKAS, G.N., "On Wavelength Assignment in Optical Burst-Switched Networks." In *Proceedings of BROADNETS 2004*, pp. 24-33, October 25-29, 2004, San Jose, California.



41. XIN, Y., TENG, J., KARMOUS-EDWARDS, G., ROUSKAS, G.N., STEVENSON, D., "Fault Management with Fast Restoration for Optical Burst Switched Networks." In *Proceedings of BROADNETS 2004*, pp. 34-42, October 25-29, 2004, San Jose, California.
40. CHEN, B., ROUSKAS, G.N., DUTTA, R., "Traffic Grooming in WDM Star Networks." In *Proceedings of the Traffic Grooming Workshop 2004*, October 29, 2004, San Jose, California.
39. XIN, Y., TENG, J., KARMOUS-EDWARDS, G., ROUSKAS, G.N., STEVENSON, D., "A Novel Fast Restoration Mechanism for Optical Burst Switched Networks." In *Proceedings of the Third Workshop on Optical Burst Switching*, October 25, 2004, San Jose, California.
38. CHEN, B., ROUSKAS, G.N., DUTTA, R., "Traffic Grooming in WDM Ring Networks with the Min-Max Objective." In *Proceedings of NETWORKING 2004*, LNCS 3042, pp. 174-185, May 9-14, 2004, Athens, Greece.
37. XIN, Y., ROUSKAS, G.N., "Light-Tree Routing Under Optical Layer Power Constraints." *Proceedings of IEEE INFOCOM 2004*, pp. 2731-2742, March 7-11, 2004, Hong Kong.
36. DUTTA, R., HUANG, S., ROUSKAS, G.N., "On Optimal Traffic Grooming in Elemental Network Topologies." In *Proceedings of OPTICOMM 2003*, pp. 13-24, October 15-18, 2003, Dallas, Texas.
35. TENG, J., ROUSKAS, G.N., "A Comparison of the JIT, JET, and Horizon Wavelength Reservation Schemes on A Single OBS Node." In *Proceedings of the First International Workshop on Optical Burst Switching*, October 16, 2003, Dallas, Texas.
34. XU, L., PERROS, H.G., ROUSKAS, G.N., "Performance Analysis of an Edge Optical Burst Switching Node with A Large Number of Customers." In *Proceedings of the 18th International Teletraffic Congress (ITC 18)*, September 1-5, 2003, Berlin, Germany.
33. ROUSKAS, G.N., JACKSON, L.E., "Optimal Granularity of MPLS Tunnels." In *Proceedings of the 18th International Teletraffic Congress (ITC 18)*, September 1-5, 2003, Berlin, Germany.
32. DUTTA, R., HUANG, S., ROUSKAS, G.N., "Traffic Grooming in Path, Star, and Tree Networks: Complexity, Bounds, and Algorithms." In *Proceedings of ACM SIGMETRICS 2003*, pp. 298-299, June 10-14, 2003, San Diego, CA.
31. XU, L., PERROS, H.G., ROUSKAS, G.N., "A Queueing Network Model of an Edge Optical Burst Switching Node." In *Proceedings of IEEE INFOCOM 2003*, pp. 2019-2029, April 1-3, 2003, San Francisco, CA.
30. XIN, Y., ROUSKAS, G.N., PERROS, H.G., "Design of Large-Scale Optical Networks." In *Proceedings of the 14th IASTED International Conference on Parallel and Distributed Computing and Systems*, pp. 822-827, November 4-6, 2002, Cambridge MA.
29. XU, L., PERROS, H.G., ROUSKAS, G.N., "Performance Modeling of an Edge Optical Burst Switching Node." In *Proceedings of the 17th International Symposium on Computer and Information Sciences*, pp. 377-381, October 28-30, 2002, Orlando, FL.
28. ZAIM, A.H., BALDINE, I., CASSADA, M., ROUSKAS, G.N., PERROS, H.G., STEVENSON, D., "Formal Description of the Jumpstart Just-In-Time Signaling Protocol Using EFSM." In *Proceedings of OPTICOMM 2002*, pp. 160-173, July 29-31, 2002 Boston, MA.
27. ZAIM, A.H., PERROS, H.G., ROUSKAS, G.N., "Performance Analysis of LEO Satellite Networks." In *Proceedings of NETWORKING 2002*, LNCS 2345, pp. 790-801, Pisa, Italy, May 19-24, 2002.

26. XU, L., PERROS, H.G., ROUSKAS, G.N., "A Simulation Study of Access Protocols for Optical Burst-Switched Ring Networks." In *Proceedings of NETWORKING 2002*, LNCS 2345, pp. 863-874, Pisa, Italy, May 19-24, 2002.
25. BALDINE, I., JACKSON, L.E., ROUSKAS, G.N., "Helios: A Broadcast Optical Architecture." In *Proceedings of NETWORKING 2002*, LNCS 2345, pp. 887-898, Pisa, Italy, May 19-24, 2002.
24. BALDINE, I., ROUSKAS, G.N., PERROS, H.G., STEVENSON, D. "Jumpstart: A Just-In-Time Signaling Architecture for WDM Burst-Switched Networks." In *Proceedings of NETWORKING 2002*, LNCS 2345, pp. 1081-1086, Pisa, Italy, May 19-24, 2002.
23. ZAIM, A.H., ROUSKAS, G.N., PERROS, H.G., "Computing Call Blocking Probabilities in LEO Satellite Networks: The Single Orbit Case." In *Proceedings of the 17th International Teletraffic Congress (ITC 17)*, pp. 505-516, December 3-7, 2001, Salvador da Bahia, Brazil.
22. BAMPIS, E., ROUSKAS, G.N., "On Scheduling Problems with Applications to Packet-Switched Optical WDM Networks." In *Proceedings of OPTICOMM 2001*, pp. 163-172, August 19-24, Denver, Colorado.
21. DUTTA, R., ROUSKAS, G.N., "On Optimal Traffic Grooming in WDM Rings." In *Proceedings of ACM SIGMETRICS/PERFORMANCE 2001*, pp. 164-174, June 16-20, 2001, Cambridge, MA.
20. ZHU, Y., ROUSKAS, G.N., PERROS, H.G., "A Comparison of Allocation Policies in Wavelength Routing Networks." In *Proceedings of the SPIE conference on Terabit Optical Networking: Architecture, Control and Management Issues*, vol. 4123, pp. 64-72, November 6-7, 2000, Boston, MA.
19. RAMESH, S., ROUSKAS, G.N., PERROS, H.G., "Computing Blocking Probabilities in Multi-Class Wavelength Routing Networks." In *Proceedings of NETWORKING 2000*, LNCS 1815, pp. 176-188, May 14-19, 2000, Paris, France.
18. ZHU, Y., ROUSKAS, G.N., PERROS, H.G., "Blocking in Wavelength Routing Networks, Part II: Mesh Topologies." In *Proceedings of the 16th International Teletraffic Congress (ITC 16)*, pp. 1321-1330, June 7-11, 1999, Edinburgh, UK.
17. BALDINE, I., ROUSKAS, G.N., "Dynamic Reconfiguration Policies for Broadcast WDM Networks." In *Proceedings of IEEE INFOCOM '99*, pp. 313-320, March 21-25, 1999, New York.
16. ZHU, Y., ROUSKAS, G.N., PERROS, H.G., "Blocking in Wavelength Routing Networks, Part I: The Single Path Case." In *Proceedings of IEEE INFOCOM '99*, pp. 321-328, March 21-25, 1999, New York.
15. RHEE, I., BALAGURU, N., ROUSKAS, G.N., "MTCP: Scalable TCP-like Congestion Control for Reliable Multicast." In *Proceedings of IEEE INFOCOM '99*, pp. 1265-1273, March 21-25, 1999, New York.
14. BALDINE, I., ROUSKAS, G.N., "On the Design of Dynamic Reconfiguration Policies for Broadcast WDM Networks." In *Proceedings of the SPIE conference on All-Optical Networking: Architecture, Control and Management Issues*, vol. 3531, pp. 146-157, November 3-5, 1998, Boston, MA. **Best Paper Award.**
13. MCKINNON, M.W., ROUSKAS, G.N., PERROS, H.G., "Queueing-Based Analysis of Broadcast Optical Networks." In *Proceedings of ACM SIGMETRICS/PERFORMANCE '98*, pp. 121-130, June 22-26, 1998, Madison, Wisconsin.
12. BALDINE, I., ROUSKAS, G.N., "Dynamic Load Balancing in Broadcast WDM Networks with Tuning Latencies." In *Proceedings of IEEE INFOCOM '98*, pp. 78-85, March 29-April 1, 1998, San Francisco, California.

11. ORTIZ-LAUREANO, Z., ROUSKAS, G.N., PERROS, H.G., "Scheduling Combined Unicast and Multicast Traffic in Broadcast WDM Networks." In *Proceedings of the 1998 IFIP Conference on Performance of Information and Communications Systems (PICS '98)*, pp. 137–150, May 25-28, 1998, Lund, Sweden.
10. ORTIZ-LAUREANO, Z., ROUSKAS, G.N., PERROS, H.G., "Scheduling of Multicast Traffic in Tunable-Receiver WDM Networks with Non-Negligible Tuning Latencies." In *Proceedings of ACM SIGCOMM '97*, pp. 301-310, September 16-18, 1997, Cannes, France.
9. SIVARAMAN, V., ROUSKAS, G.N., "HiPeR- $\ell$ : A High Performance Reservation Protocol with  $\ell$ -look-ahead for Broadcast WDM Networks." In *Proceedings of IEEE INFOCOM '97*, pp. 1272-1279, April 7-11, 1997, Kobe, Japan.
8. ROUSKAS, G.N., SIVARAMAN, V., "On the Design of Optimal TDM Schedules for Broadcast WDM Networks with Arbitrary Tuning Latencies." In *Proceedings of IEEE INFOCOM '96*, pp. 1217-1224, March 24-28, 1996, San Francisco, California.
7. ROUSKAS, G.N., BALDINE, I., "Multicast Routing with End-to-End Delay and Delay Variation Constraints." In *Proceedings of IEEE INFOCOM '96*, pp. 353-360, March 24-28, 1996, San Francisco, California.
6. ROUSKAS, G.N., AMMAR, M.H., "Minimizing Delay and Packet Loss in Single-Hop Lightwave WDM Networks Using TDM Schedules." In *Proceedings of IEEE ICC '95*, pp. 1267-1271, June 19-21, 1995, Seattle, Washington.
5. ROUSKAS, G.N., AMMAR, M.H., "Multi-Destination Communication Over Single-Hop Lightwave WDM Networks." In *Proceedings of IEEE INFOCOM '94*, pp. 1520-1527, June 14-16, 1994, Toronto, Ontario, Canada.
4. ROUSKAS, G.N., AMMAR, M.H., "Dynamic Reconfiguration in Multihop WDM Networks." In *Proceedings of ICCCN '94*, pp. 391-395, September 11-14, 1994, San Francisco, California.
3. ROUSKAS, G.N., AMMAR, M.H., "Analysis and Optimization of Transmission Schedules for Single-Hop WDM Networks." In *Proceedings of IEEE INFOCOM '93*, pp. 1342-1349, March 30 - April 1, 1993, San Francisco, California.
2. ROUSKAS, G.N., AMMAR, M.H., "On the Design of Dynamic Configuration Policies for Multihop WDM Networks." In *Proceedings of Photonics '93*, September 1993, Atlanta, GA.
1. AMMAR, M.H., ROUSKAS, G.N., "On the Design of Protocols for Collecting Responses over a Multiple-Access Channel." In *Proceedings of IEEE INFOCOM '91*, pp. 1490-1499, March 1991, Miami, Florida.

### Conference Proceedings (invited)

17. BHAT, S., ROUSKAS, G.N., "Open Marketplace and Service Orchestration for Virtual Optical Networks." *Proceedings of the 22nd Conference on Optical Network Design and Modeling (ONDM 2018)*, May 14-17, 2018, Dublin, Ireland.
16. TALEBI, S., FURQAN, A., KATIB, I., ROUSKAS, G.N., "Spectrum Assignment in Rings With Shortest Path Routing: Complexity and Approximation Algorithms." *Proceedings of the International Conference on Computing, Networking and Communications (ICNC 2015)*, February 16-19, 2015, Anaheim, California.
15. DUTTA, R., ROUSKAS, G.N., BALDIN, I., "Traffic Grooming: Balancing Choice and Service in Optical Networks." *Proceedings of Advanced Photonics for Communications*, July 13-17, 2014, San Diego, California.

14. DUTTA, R., ROUSKAS, G.N., BALDINE, I., "Converging Choice and Service in Future Commodity Optical Networks Using Traffic Grooming." *Proceedings of 15th International Conference on Transparent Optical Networks (ICTON 2013)*, June 23-27, 2013, Cartagena, Spain.
13. ROUSKAS, G.N., BALDINE, I., CALVERT, K., DUTTA, R., GRIFFIOEN, J., NAGURNEY, A., WOLF, T., "ChoiceNet: Network Innovation Through Choice." *Proceedings of the 17th Conference on Optical Network Design and Modeling (ONDM 2013)*, April 16-19, 2013, Brest, France.
12. WANG, H., LIU, Z., ROUSKAS, G.N., "Scalable Traffic Grooming in Optical Networks." *Proceedings of Asia Communications and Photonics Conference (ACP 2012)*, November 7-10, 2012, Guangzhou, China.
11. DUTTA, R., BALDINE, I., WANG, A., IYER, M., ROUSKAS, G.N., "Architectural Support for Internet Evolution and Innovation." *Proceedings of IEEE ANTS 2010*, December 16-18, 2010, Mumbai, India.
10. KARMOUS-EDWARDS, G., VISWANATH, A., REEVES, D.S., BATTETILLI, L., VEGESNA, P., ROUSKAS, G.N. "ERONS: Dynamic Lightpath Networking via Overlay Control of Static Optical Connections." *Proceedings of the 11th Conference on Optical Network Design and Modeling (ONDM 2009)*, February 18-20, 2009, Braunschweig, Germany.
9. ROUSKAS, G.N., DUTTA, R., BALDINE, I. "A New Internet Architecture to Enable Software Defined Optics and Evolving Optical Switching Models." *Proceedings of the 8th Workshop on Optical Burst/Package Switching (WOBS 2008)*, September 8, 2008, London, UK.
8. IYER, M., ROUSKAS, G.N., DUTTA, R., "Hierarchical Grooming in Multigranular Networks." *Proceedings of the Advanced Networks and Telecommunications Systems Conference (ANTS 2007)*, December 17-18, Mumbai, India.
7. ROUSKAS, G.N., "Tiered Service in Packet-Switched Networks." In *Proceedings of the IEEE Computer Communications Workshop*, February 5-7, 2006, Pittsburgh, PA.
6. ROUSKAS, G.N., "Multicast Routing Under Optical Layer Constraints." In *Proceedings of the IEEE Computer Communications Workshop*, October 13-16, 2002, Santa Fe, New Mexico.
5. ROUSKAS, G.N., "Jumpstart: A Just-in-Time Signaling Architecture for WDM Burst-Switched Networks." In *Proceedings of the IEEE LEOS Summer Topicals*, July 15-17, 2002, Mont Tremblant, Quebec, Canada.
4. XU, L., PERROS, H.G., ROUSKAS, G.N., "Access Protocols for Optical Burst-Switched Ring Networks." In *Proceedings of the 6th Joint Conference on Information Sciences (JCIS 2002)*, pp. 1287-1290, March 8-13, 2002, RTP, North Carolina.
3. DUTTA, R., ROUSKAS, G.N., "Bounds on Traffic Grooming in Star and Tree Networks." In *Proceedings of the 39th Allerton Conference on Communication, Control, and Computing*, October 3-5, Monticello, Illinois, 2001.
2. DUTTA, R., ROUSKAS, G.N., "Topology Design in WDM Rings to Minimize Electronic Routing: Efficient Computation of Tight Bounds." In *Proceedings of the 38th Allerton Conference on Communication, Control, and Computing*, pp. 1284-1293, October 4-6, Monticello, Illinois, 2000.
1. ROUSKAS, G.N., "A Comparison of Allocation Policies in Wavelength Routing Networks." In *Proceedings of the 37th Allerton Conference on Communication, Control, and Computing*, pp. 669-678, September 22-24, Monticello, Illinois, 1999.

## Tutorials

4. ROUSKAS, G.N., “Tutorial on Network Virtualization.” Presented at the *OFC 2012* Conference, March 2012, Los Angeles, California.
3. ROUSKAS, G.N., “Tutorial on Traffic Grooming and Multigranular Switching in Optical WDM Networks.” Presented at the *NETWORKING 2004* Conference, May 9, 2004, Athens, Greece.
2. ROUSKAS, G.N., “Tutorial on Traffic Grooming and Multigranular Switching in Optical WDM Networks.” Presented at the *IEEE INFOCOM 2004* Conference, March 7, 2004, Hong Kong.
1. ROUSKAS, G.N., PERROS, H.G., “Tutorial on Optical Networks.” In E. Gregori *et al.*, (editors), *Advanced Lectures on Networking: Networking 2002 Tutorials*, Springer-Verlag LNCS 2497, pp. 155-193, 2002. Presented at the *NETWORKING 2002* Conference, May 19, 2002, Pisa, Italy.

## Keynotes, Distinguished Lectures, and Panels

- Distinguished Lecture, East Carolina University, April 2017
- Distinguished Lecture, National Conference for Colleges of Computing (NC3), Jeddah, Saudi Arabia, February 2016
- Distinguished Lecture, King Abdulaziz University, Saudi Arabia, April 2015
- Distinguished Lecture, King Abdulaziz University, Saudi Arabia, February 2014
- Distinguished Lecture, King Abdulaziz University, Saudi Arabia, May 2013
- CS Distinguished Lecture, Iowa State University, April 2012
- Panel, IEEE LANMAN workshop, Chapel Hill, NC, October 2011
- Keynote, ICIIS Conference, Kandy, Sri Lanka, August 2011
- IEEE Distinguished Lecture, University of Colombo, Sri Lanka, August 2011
- IEEE Distinguished Lecture, University of Moratuwa, Sri Lanka, August 2011
- IEEE Distinguished Lecture, The University of West Indies, Kingston, Jamaica, May 2011
- IEEE Distinguished Lecture, IEEE Communications Society Chapter, Orlando, FL, May 2011
- IEEE Distinguished Lecture, University of Alabama at Huntsville, Huntsville, AL, May 2011
- IEEE Distinguished Lecture, University of Alabama at Birmingham, Birmingham, AL, October 2010
- IEEE Distinguished Lecture, Verizon, Temple Terrace, FL, October 2010
- IEEE Distinguished Lecture, IEEE Communications Society Chapter, Orlando, FL, October 2010
- IEEE Distinguished Lecture, AT&T Research, Middletown, NJ, August 2010
- IEEE Distinguished Lecture, DRS Technologies, Gaithersburg, MD, August 2010
- IEEE Distinguished Lecture, IEEE Communications Society Chapter, Baltimore, MD, August 2010
- Keynote, INFORMS Telecom, Montreal, Canada, May 2010
- Panel, OFC Conference, San Diego, CA, March 2010

- Keynote, Euro-NGI Conference, Aveiro, Portugal, July 2009
- Distinguished Lecture, Universidad Tecnica Federico Santa Maria, Valparaiso, Chile, November 2008
- Distinguished Presentation, IEEE ICCCN Conference, Saint Thomas, August 2008
- Keynote, 5th Workshop on Optimization of Optical Networks, Montreal, Canada, May 2008
- Panel, ONDM Conference, Vilanova i la Geltru, Spain, March 2008
- Panel, BROADNETS conference, San Jose, CA, October 2006
- Distinguished Lecture, University of Evry, France, July 2006
- Panel, UNC Teaching and Learning with Technology (TLT) conference, Chapel Hill, NC, March 2006
- Distinguished Lecture, Carleton University, Canada, December 2005
- Distiguated Lecture, National Technical University of Athens, Greece, June 2004
- Distiguated Lecture, Athens Institute of Technology, Greece, June 2004
- Distiguated Lecture, University of Patras, Greece, May 2004

#### **Funded Research Proposals and Grants**

*CNS Core:Small:On Parallelizing Optical Network Design Problems:Towards Network Optimization as a Service* (PI: Rouskas)  
National Science Foundation  
Amount: \$500,000, Pending

*AF: Small: Global Stochastic Optimization in Continuous/Discrete Domains: Multi-Walk Algorithms under Tableau Formulations* (PIs: Rouskas, Brglez)  
National Science Foundation  
Amount: \$500,000, Pending

*Graduate Industrial Traineeships* (PI: Rouskas)  
SAS, Genworth, RENCI  
Amount: \$400,000, June 2014-May 2019

*Cisco Internship Program* (PIs: Rouskas, Ning)  
Cisco  
Amount: \$160,000, May 2011-December 2012

*NeTS: Large: Collaborative Research: ChoiceNet: Network Innovation Through Choice* (NC State PIs: Rouskas, Dutta)  
National Science Foundation  
Amount: \$643,917 (total budget: \$2.732M), September 2011-December 2015

*NeTS: Small: Computationally Scalable Aware Optical Network design* (PI: Rouskas)  
National Science Foundation  
Amount: \$430,000, August 2011-July 2016

*SURFnet GigaPort3 Research Plan* (PIs: Rouskas, Karmous-Edwards)  
SURFnet  
Amount: \$280,000, July 2009-May 2012

*GENI IMF: Integrated Measurement Framework and Tools for Cross Layer Experimentation* (PIs: Dutta, Rouskas)  
 GENI Program Office  
 Amount: \$420,000, October 2009-September 2012

*Edge Reconfigurable Optical Networks (ERONs) for High-Performance Applications* (PIs: Rouskas, Reeves)  
 DARPA  
 Amount: \$250,000, July 2008- December 2009

*CPATH-CB: Computing Across Curricula*  
 National Science Foundation  
 Amount: \$275,000, July 2007-June 2010

*An Intelligent Second-Life VCL-Based Computing Lab* (PIs: Rouskas, Young)  
 IBM Faculty Award  
 \$30,000, July 2007

*Lambda Scheduling for Grid Applications*  
 NC State Center for Advanced Computing and Communication (CACC)  
 Amount: \$40,000, July 2007-June 2008

*Learning with In-class Technology (LIT): The 15-Minute Learning Module Approach*  
 NC State LITRE  
 Amount: \$8,000, June 2006-May 2007

*Collaborative Research: NeTS-FIND: The SILO Architecture for Services Integration, control, and Optimization for the Future Internet* (PIs: Rouskas, Dutta)  
 National Science Foundation  
 Amount: \$228,000 (total budget: \$408,000), September 2006-May 2010

*Integration of Network Survivability Concepts in an MS in Computer Networking Curriculum* (PIs: Dutta, Rouskas)  
 Microsoft Trustworthy Computing Curriculum  
 Amount: \$50,000, January 2006-December 2006

*Traffic Quantization: A Formal Approach To Scalability in Packet-Switched Networks*  
 National Science Foundation  
 Amount: \$357,000, September 2004-August 2009

*A Formal Approach to Traffic Grooming in Optical Networks with General Topologies* (PIs: Rouskas, Dutta)  
 National Science Foundation  
 Amount: \$405,000, September 2003-August 2006

*Transparent Optical Network Management and Routing with Just In Time Signaling* (PIs: Rouskas, Perros)  
 NSA LTS  
 Amount: \$327,000 (total budget: \$1,350,000), January 2003-December 2004

*Optical Network Lab Equipment*  
 MCNC-RDI  
 Amount: \$640,000 (six Optera WDM switches with SONET and Gigabit Ethernet interfaces), August 2003

*Engineering Online Student Access to Internet Lab*  
 NC State DELTA  
 Amount: \$10,000, January 2003-June 2003

*Access Protocols for Multicasting in an Optical Burst Switching Metro Ring* (PIs: Perros, Rouskas)  
 Alcatel  
 Amount: \$45,000, January 2002-September 2003

*Performance Analysis and Alternate Routing for Just In Time Optical Burst Switching Networks* (PIs: Rouskas, Perros, Franzon)  
 NSA LTS  
 Amount: \$437,000 (total budget: \$1,500,000), January 2002-June 2003

*Performance Evaluation of IPv6 Tunneling*  
 IBM Faculty Award (PIs: Devetsikiotis, Rouskas)  
 Amount: \$40,000, July 2001

*Research in Optical Burst Switching* (PIs: Perros, Rouskas)  
 NC State Center for Advanced Computing and Communications (CACC)  
 Amount: \$43,000, July 2001-June 2002

*Multicast Support for Just In Time Optical Burst Switching Networks* (PIs: Rouskas, Perros)  
 NSA LTS  
 Amount: \$70,000 (total budget: \$500,000), October 2000-March 2001

*Project: Optical Burst-Switched Ring Networks* (PIs: Perros, Rouskas)  
 NC State Center for Advanced Computing and Communications (CACC)  
 Amount: \$35,000, July 2000-June 2001

*Regional Testbed Optical Access Network for IP, Multicast, and Differentiated Services*  
 DARPA Next Generation Internet (NGI) Program  
 Amount: \$214,000 (total budget: \$1,800,000), March 2000-March 2002

*Networking Lab Equipment*  
 HP U.S. University Equipment Grants  
 Amount: \$159,190 (50 HP Kayak workstations and 3 laser printers), December 1999

*Internet Teaching Lab*  
 CAIDA Internet Teaching Laboratories (ITL) Initiative  
 Amount: \$100,000 (4 Cisco Routers), October 1999

*Performance Analysis of Wavelength Routed Wide Area Networks* (PIs: Rouskas, Perros)  
 National Science Foundation  
 Amount: \$255,000, September 1998-August 2002

*MTCP: TCP-like Congestion Control for Reliable Multicast* (PIs: Rhee, Rouskas)  
 NC State Center for Advanced Computing and Communications (CACC)  
 Amount: \$78,000, July 1998-June 2000

*Towards an All-Optical Network Infrastructure: Interconnection of Photonic WDM Broadcast-and-Select Local Area Networks*  
 National Science Foundation (CAREER)  
 Amount: \$200,000, September 1997-August 2002

*All-Optical Solutions to ATM Switching*  
 NC State Center for Advanced Computing and Communications (CACC)  
 Amount: \$40,000, July 1995-June 1996

*Multicasting for Multimedia Applications*  
 NC State Faculty Development and Research Support  
 Amount: \$5,000, January 1995-June 1995



### III. Leadership and Service

#### **Society Memberships**

FELLOW, Institute of Electrical and Electronics Engineers, Communications Society

MEMBER, Association for Computing Machinery, also Special Interest Group on Computer Communications

#### **IEEE Leadership**

CHAIR, IEEE Communications Society Distinguished Lecturer Selection Committee, 2016-2017

VICE CHAIR, IEEE Communications Society Technical and Educational Activities Council, 2016-2017

VICE CHAIR, IEEE Communications Society TCs Recertification Committee, 2016-2017

CHAIR, IEEE Communications Society Optical Networking Technical Committee (ONTC), 2016-2017

VICE CHAIR, IEEE Communications Society Optical Networking Technical Committee (ONTC), 2014-2015

SECRETARY, IEEE Communications Society Optical Networking Technical Committee (ONTC), 2012-2013

#### **Technical Journal Leadership**

FOUNDING EDITOR-IN-CHIEF, *IEEE Networking Letters*, 2018-present

FOUNDING EDITOR-IN-CHIEF, *Optical Switching and Networking*, Elsevier, 2004-2017

#### **Conference Committee Leadership**

MEMBER, STEERING COMMITTEE, *OFC Conference*, 2018-present

CHAIR, STEERING COMMITTEE, *IEEE LANMAN*, 2015-2018

GENERAL CO-CHAIR, *IEEE MASS 2018*, Chengdu, China, October 9-12, 2018.

PROGRAM CO-CHAIR, *IEEE ICC 2017, Optical Networks and Systems (ONS) Symposium*, Paris, France, May 21-25, 2017.

GENERAL CO-CHAIR, *IEEE ICNP 2014*, Raleigh, NC, October 21-24, 2014.

GENERAL CHAIR, *ICCCN 2013*, Nassau, Bahamas, July 30-August 2, 2013.

PROGRAM CO-CHAIR, *ICCCN 2011*, Maui, Hawaii, August 1-4, 2011.

PROGRAM CO-CHAIR, *IEEE Globecom 2010, Optical Networks and Systems (ONS) Symposium*, Miami, FL, November 28-December 3, 2010.

PROGRAM CO-CHAIR, *ICCCN 2009, Internet Services, Systems and Applications (ISSA) Track*, San Francisco, CA, August 2-6, 2009.

GENERAL CO-CHAIR, *International Conference on Broadband Communications, Networks, and Systems (BROADNETS 2007)*, Raleigh, NC, September 10-13, 2007

GENERAL CO-CHAIR, *14th IEEE Workshop on Local and Metropolitan Area Networks (LANMAN 2005)*, Chania, Crete, Greece, September 18-21, 2005.

PROGRAM CO-CHAIR, *Workshop on Traffic Grooming (WTG 2004)*, October 29, 2004, San Jose, CA

TECHNICAL PROGRAM CHAIR, *13th IEEE Workshop on Local and Metropolitan Area Networks (LANMAN 2004)*, April 25-28, 2004, San Francisco, CA

TECHNICAL PROGRAM CO-CHAIR, *IFIP Networking 2004*, May 9-14, 2004, Athens, Greece

### **Editorial and Review Work for Technical Journals and Publishers**

ASSOCIATE EDITOR, *IEEE/OSA Journal of Communications and Networking*, 2010-2012

CO-GUEST EDITOR, *JCM Journal of Communications*, Special Issue on the “Advances in Communications and Networking,” vol. 6, no. 9, December 2011.

ASSOCIATE EDITOR, *IEEE/ACM Transactions on Networking*, 2000-2004

ASSOCIATE EDITOR, *Computer Networks*, 2001-2004

ASSOCIATE EDITOR, *Optical Networks*, 2000-2004

CO-GUEST EDITOR, *IEEE Journal on Selected Areas in Communications*, Special Issue on “Protocols for Next Generation Optical WDM Networks,” vol. 18, no. 10, October 2000.

REVIEWER, Morgan Kaufmann, John Wiley and Sons, Cambridge University Press, Springer, IEEE Transactions on Networking, IEEE Transactions on Computers, IEEE Transactions on Communications, IEEE/OSA Journal of Lightwave Technology, IEEE/OSA Journal of Optical Communications and Networking, IEEE Journal on Selected Areas in Communications, Computer Networks Journal, International Journal of Performance Evaluation, European Transactions on Telecommunications, Photonic Network Communications Journal, IEEE Computer Magazine, IEEE Communications Magazine, IEEE Network Magazine, and numerous conferences

PROPOSAL REVIEW PANELIST, National Science Foundation – on numerous occasions

### **Conference Program Committees**

*IEEE GLOBECOM*: 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011, 2010, 2009, 2008, 2007, 2006, 2005, 2004, 2003

*IEEE ICC*: 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011, 2010, 2009, 2008, 2007, 2006, 2003

*IEEE LANMAN*: 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2011, 2010, 2008, 2007

*IEEE INFOCOM*: 2013, 2012, 2011, 2010, 2009, 2008, 2007, 2004, 1998, 1997, 1996

*ONDM*: 2018, 2017, 2016, 2015, 2014, 2009, 2005

*IFIP NETWORKING*: 2019, 2012, 2010, 2007, 2006, 2005

*OSA NETWORKS*: 2019, 2018, 2017

*OFC/NFOEC*: 2010, 2009, 2008  
*Euro NGI*: 2011, 2010, 2009, 2008  
*EuCNC*: 2017, 2016, 2015  
*ACM CoNEXT Cloud Assisted Networking*: 2017, 2016  
*TEMU*: 2016, 2014, 2012  
*Networks*: 2016, 2012, 2010, 2008  
*DRCN*: 2019, 2015, 2011  
*NOC*: 2015, 2014  
*IEEE NFV-SDN*: 2015  
*ITC*: 2013  
*IEEE ICNP*: 2013, 2008, 1997  
*ICCCN*: 2012, 2006  
*ICNC*: 2012  
*IEEE ANTS*: 2011, 2009, 2008  
*RNDM*: 2011, 2010  
*ACP*: 2010  
*ReArch Workshop*: 2010, 2009  
*INFORMS Telecom*: 2010  
*WOBS*: 2009, 2005, 2004, 2003  
*BROADNETS*: 2006, 2005, 2004  
*IEEE HPSR Workshop*: 2019, 2005, 2004, 2003  
*OPTiCOMM*: 2003, 2002, 2001, 2000  
*SPIE Conference on All-Optical Networking*: 1999, 1998

#### **NC State: University Committees**

MEMBER, Administrative Board of the Graduate School (ABGS), 2016-2018  
JUDGE, Graduate Student Research Symposium, 2018, 2014  
MEMBER, Microsoft Research Faculty Fellowship Review Committee, 2012-2013  
MEMBER, DELTA IDEA grant review committee, 2004-2005  
MEMBER, DELTA Advisory Committee, 2003-2005  
CHAIR, DELTA Subcommittee on Intellectual Property, 2003-2005  
MEMBER, Alumni Outstanding Research Awards Selection Committee, 2004

### **NC State: College of Engineering Committees**

MEMBER, University Faculty Scholar Selection Committee, 2012-2014  
MEMBER, ALCOA Awards Committee, 2012-2013  
MEMBER, College Reappointment, Promotion, and Tenure (RPT) Committee, 2008-2011  
textscMember, College Research Committee, 2007-2008  
MEMBER, CSC Head Search Committee, 2004-2006  
MEMBER, Engineering Online Advisory Committee, 2003-2005  
MEMBER, CSC Review Survey Committee, 1998-1999  
MEMBER, Admissions Standards Committee, MS in Computer Networking, 1998-1999

### **NC State: Department of Computer Science Committees**

MEMBER, Reappointment, Promotion, and Tenure (RPT) Committee, 2017-present  
CHAIR, Strategic Planning Committee, 2009-2012  
MEMBER, Graduate Student Admissions Committee, 2011-2012  
MEMBER, Awards Committee, 2009-2012  
MEMBER, Faculty Recruiting Committee, 2008-2009  
COURSE COORDINATOR, CSC 316 (Data Structures), 2005-2017  
MEMBER, Computing Infrastructure Committee, 2006-2010  
CHAIR, Minority Recruiting Committee, 2006-2007  
MEMBER, Committee for External Evaluation Visit, Fall 2004  
MEMBER, Strategic Planning Committee, 2003-2004  
MEMBER, Research Productivity Committee, 2003-2004  
MEMBER, Strategic Planning Committee, 2002-2005  
CHAIR, Faculty Recruiting Committee, 2001-2002  
CHAIR, Faculty Recruiting Committee, 2000-2001  
PEER EVALUATOR, 23 teaching evaluations, 1999-present  
MEMBER, Graduate Student Admissions Committee, 1996-1998  
MEMBER, PhD Qualifying Exam Committee, 1994-1996

### **NC State: Operations Research and ECE Committees**

MEMBER, OR Graduate Student Admissions Committee, 2012-2013, 2005-2007  
MEMBER, ECE Faculty Recruiting Committee, 1999-2000

## Other National and International Activities

MEMBER, International Advisory Committee, Scuola Superiore Sant'Anna, Pisa, Italy, 2013-2014

MEMBER, Committee of Visitors (CoV), DoE Networking Research Program, 2011

MEMBER, Best Paper Award Committees

*IEEE/OSA Journal of Optical Communications and Networking*, Charles Kao Award, 2015-2017

*IEEE ICC*, 2016

*ICNC*, 2015

*ACP*, 2012, 2009

*IEEE INFOCOM*, 2011

*IEEE ANTS*, 2010

IEEE FELLOW NOMINATOR, one case, 2018-present

IEEE FELLOW REFERENCE, 17 cases, 2012-present

EXTERNAL REVIEWER for the promotion to Full Professor, 26 cases, 2004-present

EXTERNAL REVIEWER for the promotion to Associate Professor with tenure, 29 cases, 2000-present