

Curriculum Vitae

George N. Rouskas

IEEE Fellow

Professor and Director of Graduate Programs

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1 Brief Resume

Education

GEORGIA INSTITUTE OF TECHNOLOGY, PhD, Computer Science, 1994
 GEORGIA INSTITUTE OF TECHNOLOGY, MS, Computer Science, 1991
 NATIONAL TECHNICAL UNIV. OF ATHENS, GREECE, Diploma, Computer Engineering, 1989

Professional Experience

NORTH CAROLINA STATE UNIVERSITY, Department of Computer Science, 1994-present
 Director of Graduate Programs, January 2014-present
 Professor, 2002-present
 Associate Professor, 1999-2002
 Program Coordinator, MS in Computer Networking, 1999-2001
 Assistant Professor, 1994-1999

KING ABDULAZIZ UNIVERSITY, SAUDI ARABIA
 Distinguished Scientist, March 2013-present

PARIS 6 UNIVERSITY, FRANCE
 Invited Professor, October 2012

UNIVERSITY OF EVRY, FRANCE
 Invited Professor, July 2006, December 2002, June 2000

VITESSE SEMICONDUCTOR
 Network Architect, 2000-2001 (on Sabbatical leave from NCSU)

GEORGIA INSTITUTE OF TECHNOLOGY
 Graduate Research/Teaching Assistant, 1989-1994

Scholarly and Creative Activities

Type	Number
Citations (Google Scholar, July 2017)	7850
<i>h</i> -Index (Google Scholar, July 2017)	46
Book	3
Proceedings	6
Book Chapter	8
Editorial	6
Refereed Journal Article	72
Refereed Conference Article	101
Invited Conference Article	16
Tutorial	4
Keynote Presentations	4
Panels	7
Invited Research Presentations	65

Membership in Professional Organizations

IEEE (Communications Society)

ACM (SIGCOMM)
Association of Professional Engineers of Greece

Scholarly and Professional Honors

JOYCE HATCH SERVICE AWARD, NCSU Chapter of ACM/AITP, 2014-2015
MOST RECEPTIVE GRADUATE PROFESSOR OUTSIDE THE CLASSROOM AWARD, NCSU Chapter of ACM/AITP, 2013-2014
IEEE FELLOW, Class of 2012
CAROL MILLER GRADUATE LECTURER AWARD, NCSU Chapter of ACM/AITP, 2011-2012
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, NCSU, 2004
ACADEMY OF OUTSTANDING TEACHERS, NCSU, 2004
ALUMNI OUTSTANDING RESEARCH AWARD, NCSU, 2003
BEST PAPER AWARD, *SPIE Conference on All-Optical Networking*, 1998 (with I. Baldine)
NATIONAL SCIENCE FOUNDATION CAREER AWARD, 1997
OUTSTANDING NEW TEACHER AWARD, Department of Computer Science, NCSU, 1995
GRADUATE RESEARCH AWARD, College of Computing, Georgia Institute of Technology, 1994

Professional Service On Campus

CoE Representative to the Administrative Board of the Graduate School, 2016-2017
CoE University Faculty Scholar Committee, 2012-2014
CoE ALCOA Awards Committee, 2012-2013
Operations Research Graduate Admissions Committee, 2012-2013
CSC 316 Coordinator, 2004-present
Chair, CSC Strategic Planning Committee, 2009-2012
CSC Awards Committee, 2009-2012
CSC Graduate Admissions Committee, 2011-2012
College of Engineering Reappointment, Promotion, and Tenure (RPT) Committee, 2008-2011
Faculty Recruiting Committee, 2008-2009
Computing Infrastructure Committee, 2006-present
College of Engineering Research Committee, 2007-2008
Minority Recruiting Committee, 2006-2007
CSC 316 Assessment, Spring 2006
CSC Head Search Committee, 2004-2006
DELTA IDEA grant review committee, 2004-2005
DELTA Advisory Committee, 2003-2005
CHAIR, DELTA Subcommittee on Intellectual Property, 2003-2005
Engineering Online Advisory Committee, 2003-2005

Alumni Outstanding Research Awards Selection Committee, Spring 2004
 Admissions Standards Committee, MS in Computer Networking, 1998-1999
 Committee for External Evaluation Visit, Fall 2004
 Strategic Planning Committee, 2002-2004
 Research Productivity Committee, 2003-2004
 CHAIR, Faculty Recruiting Committee, 2000-2002
 Peer Evaluation Committee, 2000-present
 Graduate Student Admissions Committee, 1996-1998
 PhD Qualifying Exam Committee, 1994-1996
 ECE Faculty Recruiting Committee, 1999-2000

Professional Service Off Campus

CANDIDATE, IEEE COMMUNICATIONS SOCIETY BOARD OF GOVERNORS, 2016 Elections
 CHAIR, IEEE COMMUNICATIONS SOCIETY DISTINGUISHED LECTURER SELECTION COMMITTEE, 2016-2017
 VICE CHAIR, IEEE COMMUNICATIONS TECHNICAL ACTIVITIES COUNCIL, 2016-2017
 CHAIR, IEEE OPTICAL NETWORKING TECHNICAL COMMITTEE (ONTC), 2016-2017
 TECHNICAL PROGRAM CO-CHAIR, *IEEE ICC 2017, Optical Networks and Systems (ONS) Symposium*, Paris, France, May 21-25, 2017
 VICE CHAIR, *IEEE Optical Networking Technical Committee (ONTC)*, 2014-2015
 SECRETARY, *IEEE Optical Networking Technical Committee (ONTC)*, 2012-2013
 BEST PAPER AWARD SELECTION COMMITTEE, *IEEE/OSA Journal on Optical Communications and Networking*, 2014-present.
 MEMBER, Advisory Board, H2020 European Project FALCON, 2014-present
 TRACK CO-CHAIR, EUROPEAN CONFERENCE ON NETWORKS AND COMMUNICATIONS (EUCNC), June 2016.
 MEMBER, *International Advisory Committee*, Scuola Superiore Sant'Anna, Pisa, Italy, 2013-present
 GENERAL CO-CHAIR, *IEEE ICNP 2014*, Raleigh, NC, October 2014
 GENERAL CHAIR, *IEEE ICCCN 2013*, Nassau, Bahamas, July/August 2013
 FOUNDING EDITOR-IN-CHIEF, *Optical Switching and Networking*, Elsevier, 2004-present
 GUEST EDITOR, *JCM Journal of Communications*, December 2011
 ASSOCIATE EDITOR, *IEEE/OSA Journal of Optical Communications and Networking*, 2010-2012
 TECHNICAL PROGRAM CO-CHAIR, *ICCCN 2011*, Maui, Hawaii, August 1-4, 2011
 TECHNICAL PROGRAM CO-CHAIR, *IEEE Globecom 2010, Optical Networks and Systems (ONS) Symposium*, Miami, FL, November 28-December 3, 2010
 MEMBER, *Best Paper Award Selection Committee, IEEE INFOCOM 2011*.
 TECHNICAL PROGRAM CO-CHAIR, *ICCCN 2009, Internet Services, Systems and Applications (ISSA) Track*, San Francisco, CA, August 2-6, 2009
 GENERAL CO-CHAIR, *BROADNETS 2007*, Raleigh, NC., September 10-13, 2007
 ASSOCIATE EDITOR, *IEEE/ACM Transactions on Networking*, 2000-2004
 ASSOCIATE EDITOR, *Computer Networks*, 2001-2004
 ASSOCIATE EDITOR, *Optical Networks*, 2000-2004
 GUEST EDITOR, *IEEE Journal on Selected Areas in Communications*, October 2000

GENERAL CO-CHAIR, *IEEE LANMAN 2005*, Chania, Crete, Greece, September 2005

TECHNICAL PROGRAM CO-CHAIR, *Traffic Grooming Workshop*, San Jose, CA, October 29, 2004

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

TECHNICAL PROGRAM CHAIR, *IEEE LANMAN 2004*, San Francisco, CA, April 25-28, 2004

MEMBER, numerous conference programs committees

NSF PANELIST on several occasions

REVIEWER for numerous books, journals, and conferences

EXTERNAL REVIEWER for the promotion of 42 faculty

2 Research Activities

2.1 Publications

2.1.1 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.

2.1.2 Journal Publications

71. TALEBI, S., ROUSKAS, G.N., “On Distance-Adaptive Routing and Spectrum Assignment in Mesh Elastic Optical Networks.” *Journal of Optical Communications and Networking*, 2017.
70. 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.
69. TALEBI, S., BAMPIS, E., LUCARELLI, G., KATIB, I., ROUSKAS, G.N., “On Routing and Spectrum Assignment in Rings.” *Journal of Lightwave Technology*, vol. 33, no. 1, pp. 151-160, January 1, 2015.
68. 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.
67. TALEBI, S., BAMPIS, E., LUCARELLI, G., KATIB, I., ROUSKAS, G.N., “Spectrum Assignment in Optical Networks: A Multiprocessor Scheduling Perspective.” *Journal of Optical Communications and Networking*, vol. 6, no. 8, pp. 754-763, August 2014.
66. WANG, H., ROUSKAS, G.N., “Hierarchical Traffic Grooming: A Tutorial.” *Computer Networks*, vol. 69, pp. 147-156, August 2014.
65. 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.
64. 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.
63. 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.
62. LIU, X., ROUSKAS, G.N., HE, F., XIONG, H., “MPCP with Look-Ahead for WDM EPON.” *Journal of Optical Communications and Networking*, vol. 6, no. 2, pp. 104-113, February 2014.

61. WANG, H., ROUSKAS, G.N., “Traffic Grooming in Optical Networks: Decomposition and Partial LP Relaxation.” *Journal of Optical Communications and Networking*, vol. 5, no. 8, pp. 825-835, August 2013.
60. 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.
59. 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.
58. 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.
57. 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.
56. YETGINER, E., ZEYU, L., ROUSKAS, G.N., “Fast Exact ILP Decompositions for Ring RWA.” *Journal of Optical Communications and Networking*, vol. 3, no. 7, pp. 577-586, July 2011. **OSA Spotlight on Optics, September 2011.**
55. DWEKAT, Z., ROUSKAS, G.N., “A Practical Fair Queueing Scheduler: Simplification Through Quantization.” *Computer Networks*, vol. 55, no. 10, pp. 2392-2406, July 2011.
54. 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.
53. 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.
52. 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.
51. CHEN, B., DUTTA, R., ROUSKAS, G.N., “Clustering for Hierarchical Traffic Grooming in Large Scale Mesh WDM Networks.” *Journal of Optical Communications and Networking*, vol. 2, no. 8, pp. 502-514, August 2010.
50. 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.
49. ROUSKAS, G.N., BARADWAJ, N., “On Bandwidth Tiered Service.” *IEEE/ACM Transactions on Networking*, vol. 17, no. 6, pp. 1780-1793, December 2009.
48. 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.

47. 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.
46. 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.
45. 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.
44. 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.
43. 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.
42. 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.
41. 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.
40. 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.
39. 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.
38. 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.
37. 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.
36. 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.
35. BALDINE, I., ROUSKAS, G.N., PERROS, H.G., STEVENSON, D., “Multicast and QoS in the Jump-start Architecture for WDM Burst-Switched Networks.” *Optical Networks*, vol. 4, no. 6, pp. 68-80, November/December 2003.
34. 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.
33. 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.

32. 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.
31. 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.
30. 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.
29. ROUSKAS, G.N., “Optical Layer Multicast: Rationale, Building Blocks, and Challenges.” *IEEE Network*, vol. 17, no. 1, pp. 60-65, January/February 2003.
28. 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.
27. 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.
26. JACKSON, L.E., ROUSKAS, G.N., “Deterministic Preemptive Scheduling of Real Time Tasks.” *IEEE Computer*, vol. 35, no. 5, pp. 72-79, May 2002.
25. 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.
24. 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.
23. 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.
22. 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.
21. 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.
20. 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.
19. 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.
18. 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.
17. 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.

16. 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.
15. 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.
14. 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.
13. 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.
12. 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.
11. 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.
10. 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.
9. 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.
8. 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.
7. 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.
6. 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.
5. 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.
4. 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.
3. 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.
2. 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.

1. 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.
0. 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.

2.1.3 Editorials

6. ZAI, F., MATTA, I., ROUSKAS, G.N., “Guest Editorial – Advances in Communications and Networking.” *JCM Journal of Communications*, vol. 6, no. 9, p. 1, December 2011.
5. ROUSKAS, G.N., NERI, F., “Editorial.” *Optical Switching and Networking*, vol. 3, no. 4, p. 1, March 2006.
4. ROUSKAS, G.N., NERI, F., “Editorial.” *Optical Switching and Networking*, vol. 2, no. 4, pp. 199-200, December 2005.
3. ROUSKAS, G.N., NERI, F., “Editorial.” *Optical Switching and Networking*, vol. 2, no. 2, p. 71, September 2005.
2. NERI, F., ROUSKAS, G.N., “Editorial.” *Optical Switching and Networking*, vol. 1, no. 1, pp. 1-2, January 2005.
1. GERSTEL, O., LI, B., MCGUIRE A., ROUSKAS, G.N., SIVALINGAM, K.M., ZHANG, Z., “Guest Editorial – Protocols and Architectures for Next Generation Optical WDM Networks.” *IEEE Journal on Selected Areas in Communications*, vol. 18, no. 10, pp. 1805-1809, October 2000.

2.1.4 Proceedings

5. ROUSKAS, G.N., ZHU, X. (Editors). *Proceedings of the 4th International Conference on Computer and Communication Networks (ICCCN)*, 2011.
4. ROUSKAS, G.N., TOMKOS, I. (Editors). *Proceedings of the 4th International Conference on Broadband Communications, Networks, and Systems (IEEE BROADNETS)*, 2007.
3. RAMAKRISHNAN, K.K., ROUSKAS, G.N., PATERAKIS, M. (Editors). *Proceedings of the 14th IEEE Workshop on Local and Metropolitan Area Networks (IEEE LANMAN)*, 2005.
2. MITROU, N., KONTOVASSILIS, K, ROUSKAS, G.N., ILIADIS, I., MERAKOS, L. (Editors). *NETWORKING 2004: Networking Technologies, Services and Protocols; Performance of Computer and Communication Networks; Mobile and Wireless Communications*, LNCS 3042, Springer-Verlag, Berlin, Germany, 2004.
1. ROUSKAS, G.N., BRASSIL, J., SHARMA, P. (Editors). *Proceedings of the 13th IEEE Workshop on Local and Metropolitan Area Networks (IEEE LANMAN)*, 2004.

2.1.5 Book Chapters

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.
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2.1.7 Invited Conference Proceedings

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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., BATTESTILLI, 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.

2.1.8 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.

2.1.9 Keynote Presentations

4. “Perspectives on Future Internet Design.” Keynote presentation, ICIIS Conference, Kandy, Sri Lanka, August 17, 2011.
3. “RWA in WDM Rings: An Efficient Formulation Based on Maximal Independent Set Decomposition.” Keynote Presentation, INFORMS Telecom, Concordia University, Montreal, Canada, May 7, 2010.
2. “Net SILOS: A Network Architecture for Advanced Cross-Layer Experimentation.” Keynote Presentation, Euro-NGI (Next Generation Internet) Conference, July 3, 2009, Aveiro, Portugal.
1. “Hierarchical Traffic Grooming for Multi-Granular Optical Networks.” Keynote presentation, 5th Workshop on Optimization of Optical Networks (OON) 2008, May 7, 2008.

2.1.10 Panels (Partial List)

7. “Future Internet: Do We Need Fundamentally New designs?” IEEE LANMAN workshop, October 14, 2011.
6. “Roundtable on RPT Process” Women Faculty Summit, June 16, 2011.
5. “NC State College of Engineering Roundtable on RPT Process” May 5, 2011.
4. “Are All-Optical Networks Manageable?” OFC 2010 Conference, March 22, 2010.
3. “Is Multilayer Optical Networking Feasible?” ONDM 2008 Conference, March 12, 2008.
2. “Optical Networking Research: Decline or Resurgence?” IEEE BROADNETS 2006 conference, October 3, 2006.
1. “Pedagogy, Laptops, and Student Learning: Providing Leadership to Faculty in the Transformation of Courses,” UNC Teaching and Learning with Technology (TLT) conference, March 16, 2006.

2.1.11 Invited Research Presentations (Partial List)

65. “Network-Aware Virtual Request Partitioning Based on Spectral Clustering.” East Carolina University, April 21, 2017.
64. “Enhancing Scholarship and Research in Academia.” Distinguished Lecture, Computer Science Department, King Abdulaziz University, Jeddah, Saudi Arabia, February 18, 2016.

63. “On a Successful Graduate Career.” Distinguished Lecture, Computer Science Department, King Abdulaziz University, Jeddah, Saudi Arabia, February 18, 2016.
62. “On Writing Research and Survey Papers.” Distinguished Lecture, Computer Science Department, King Abdulaziz University, Jeddah, Saudi Arabia, February 18, 2016.
61. “On Writing Successful Research Proposals.” Distinguished Lecture, Computer Science Department, King Abdulaziz University, Jeddah, Saudi Arabia, April 22, 2015.
60. “Routing and Spectrum Assignment in Elastic Optical Networks: A Multiprocessor Scheduling Perspective.” Distinguished Lecture, Computer Science Department, King Abdulaziz University, Jeddah, Saudi Arabia, April 21, 2015.
59. “A New Perspective on Spectrum Management in Elastic Optical Networks.” Position talk, International Conference on Computing, Networking and Communications (ICNC) 2015, Anaheim, California, February 17, 2015.
58. “Traffic Grooming: Balancing Choice and Service in Optical Networks.” Invited presentation, Photonics in Switching 2014, San Diego, California, July 15, 2014.
57. “Perspectives on Networking Research.” Distinguished Lecture, Computer Science Department, King Abdulaziz University, Jeddah, Saudi Arabia, February 11, 2014.
56. “Optimization Approaches in Network Design.” Distinguished Lecture, Computer Science Department, King Abdulaziz University, Jeddah, Saudi Arabia, February 10, 2014.
55. “Perspectives on Future Internet Design.” Distinguished Lecture, Computer Science Department, King Abdulaziz University, Jeddah, Saudi Arabia, May 28, 2013.
54. “Scalable Optical Network Design.” Distinguished Lecture, Computer Science Department, King Abdulaziz University, Jeddah, Saudi Arabia, May 26, 2013.
53. “ChoiceNet: Network Innovation Through Choice.” Invited Presentation, 17th Conference on Optical Network Design and Modeling (ONDM 2013), April 16, 2013, Brest, France.
52. “Scalable Traffic Grooming in Optical Networks.” Invited Presentation, Asia Communications and Photonics Conference (ACP 2012), November 10, 2012, Guangzhou, China.
51. “Scalable Optical Network Design.” CS Distinguished Lecture, Department of Computer Science, Iowa State University, April 5, 2012.
50. “Power-Aware and Computationally-Efficient Optical Network Design.” IEEE Distinguished Lecture, University of Moratuwa, Sri Lanka, hosted by the Sri Lanka IEEE Communications Society chapter, August 16, 2011.
49. “Power-Aware and Computationally-Efficient Optical Network Design.” IEEE Distinguished Lecture, University of Colombo, Sri Lanka, hosted by the Sri Lanka IEEE Communications Society chapter, August 15, 2011.
48. “Power-Aware and Computationally-Efficient Optical Network Design.” IEEE Distinguished Lecture, Virtual Physics Lab, The University of West Indies, Kingston, Jamaica, hosted by the Jamaica IEEE Communications Society chapter, May 12, 2011.

47. “Power-Aware and Computationally-Efficient Optical Network Design.” IEEE Distinguished Lecture, Community Center, hosted by the Orlando, FL, IEEE Communications Society chapter, May 11, 2010.
46. “Power-Aware and Computationally-Efficient Optical Network Design.” IEEE Distinguished Lecture, University of Alabama at Huntsville, hosted by the Birmingham, AL, IEEE Communications Society chapter, May 10, 2011.
45. “Architectural Support for Internet Evolution and Innovation.” Invited Presentation, ANTS 2010 Conference, December 17, 2010, Mumbai, India.
44. “Architectural Support for Internet Evolution and Innovation.” IEEE Distinguished Lecture, Business and Engineering Complex, University of Alabama at Birmingham, hosted by the Birmingham, AL, IEEE Communications Society chapter, October 8, 2010.
43. “Architectural Support for Internet Evolution and Innovation.” IEEE Distinguished Lecture, Verizon, Temple Terrace, Florida, hosted by the Tampa, FL, IEEE Communications Society chapter, October 7, 2010.
42. “Architectural Support for Internet Evolution and Innovation.” IEEE Distinguished Lecture, Community Center, hosted by the Orlando, FL, IEEE Communications Society chapter, October 6, 2010.
41. “Architectural Support for Internet Evolution and Innovation.” IEEE Distinguished Lecture, Middletown Public Library, Middletown, New Jersey, hosted by the New Jersey Coast IEEE Communications Society chapter, August 12, 2010.
40. “Architectural Support for Internet Evolution and Innovation.” IEEE Distinguished Lecture, National Electronics Museum, Baltimore, Maryland, hosted by the Baltimore, Maryland, IEEE Communications Society chapter, August 11, 2010.
39. “Architectural Support for Internet Evolution and Innovation.” IEEE Distinguished Lecture, DRS Technologies, Gaithersburg, Maryland, hosted by the Washington, DC, IEEE Communications Society chapter, August 10, 2010.
38. “Impairment-Aware Routing: Pitfalls and Challenges.” Invited presentation, OFC Workshop on “Are All-Optical Networks Manageable?” March 22, 2010, San Diego, CA.
37. “Dynamic Lightpath Networking via Overlay Control of Static Optical Connections.” Invited Presentation, Asia Communications and Photonics Exhibit and Conference (ACP), November 2-6, 2009.
36. “Net SILOS: A Network Architecture for Advanced Cross-Layer Experimentation.” Georgia Institute of Technology, September 23, 2009.
35. “Edge-Reconfigurable Optical Networks.” Invited Presentation, ONDM Conference, February 18, 2009.
34. “Hierarchical Traffic Grooming for Optical Networks.” Universidad Tecnica Federico Santa Maria, Valparaiso, Chile, November 24, 2008.
33. “The SILO Architecture for the Future Internet.” Universidad Tecnica Federico Santa Maria, Valparaiso, Chile, November 25, 2008.
32. “Net SILOS: Generalizing the Layered Network Architecture.” Department of Computer Science, UNC Chapel Hill, September 19, 2008.

31. “A Composable Network Architecture For Enabling Cross-Layer Interactions.” Distinguished Invited Presentation, IEEE ICCCN Conference, August 3-7, 2008.
30. “Net SILOs: An Architecture to Enable an Intelligent and Programmable Optical Layer.” ONDM 2008 Conference, March 13, 2008.
29. “Multilayer Optical Networks.” Panel at the ONDM 2008 Conference, March 12, 2008.
28. “A Framework for Tiered Service in Packet-Switched Networks.” University of Evry, France, July 6, 2006.
27. “Hierarchical Traffic Grooming in WDM Networks.” Carleton University, Canada, December 1, 2005.
26. “Traffic Quantization in Packet-Switched Networks.” National Technical University of Athens, Greece, June 7, 2004.
25. “Optical Networks: A Practical Perspective.” Athens Institute of Technology, Greece, June 10, 2004.
24. “Traffic Quantization in Packet-Switched Networks.” University of Patras, Greece, May 31, 2004.
23. “The **Jumpstart** Optical Burst Switching Testbed.” Department of Computer Science, Duke University, Durham, North Carolina, March 19, 2003.
22. “The Traffic Grooming Problem in Optical WDM Networks.” University of Evry, Evry, France, December 3, 2002.
21. “Issues in the Design of Large-Scale Optical Networks.” University of Evry, Evry, France, December 10, 2002.
20. “The Traffic Grooming Problem in Optical WDM Networks.” National Technical University of Athens, Athens, Greece, October 22, 2002.
19. “On Optical Traffic Grooming in WDM Rings.” University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, April 12, 2002.
18. “On Optical Traffic Grooming in WDM Rings.” Department of Electrical Engineering, Duke University, Durham, North Carolina, November 14, 2002.
17. “On Optical Traffic Grooming in WDM Rings.” Georgia Institute of Technology, Atlanta, Georgia, November 7, 2001.
16. “Traffic Grooming in WDM Ring, Star, and Tree Networks.” Level 3 Communications, Boulder, Colorado, August 21, 2001.
15. “Traffic Grooming in WDM Rings.” Alcatel CRC, Richardson, Texas, August 29, 2001.
14. “A Comparison of Allocation Policies for Wavelength Routed Networks.” Computer Science Seminar Series, University of Pierre and Marie Curie (Paris XI), Paris, France, June 6, 2000.
13. “A Comparison of Allocation Policies for Wavelength Routed Networks.” Seminar Series, Institut National des Telecommunications (INT), Paris, France, May 29, 2000.
12. “A Comparison of Allocation Policies for Wavelength Routed Networks.” Computer Science Seminar Series, University of Evry, Paris, France, May 26, 2000.

11. "A Comparison of Allocation Policies for Wavelength Routed Networks." IRISA Networking Seminar, University of Rennes, Rennes, France, May 23, 2000.
10. "Optical Networks: Past, Present, and Future." Computer Science Seminar Series, University of Evry, Paris, France, May 19, 2000.
9. "Optical Networks." General Dynamics Advanced technology Systems, Greensboro, NC, March 15, 2000.
8. "Blocking in Wavelength Routing Networks: A Comparison of Wavelength Allocation Policies and the Effects of Converters." Alcatel CRC Lecture Series, Richardson, Texas, July 9, 1999.
7. "Evolution Path Towards Optical Wavelength Routed Networks," MCNC NCNI Symposium, RTP, NC, May 25, 1999
6. "Blocking and Reconfiguration in WDM Networks," Panel on Optical Networks, NSF Networking PI meeting, Washington, DC, January 23, 1999.
5. "Scheduling, Dynamic Load Balancing, and Multicasting in WDM Networks," Old Dominion University, Norfolk, VA, October 15, 1997.
4. "Traffic Scheduling and Media Access in Optical Broadcast WDM Networks," University of North Carolina, Chapel Hill, May 12, 1997.
3. "Packet Scheduling and New Media Access Protocols for Broadcast WDM Networks with Arbitrary Transceiver Tuning Latencies," University of North Carolina, Greensboro, March 1, 1996.
2. "Single-Hop Lightwave WDM Networks and Applications to Distributed Computing," National Technical University of Athens, Athens, Greece, July 1994.
1. "Single-Hop Lightwave WDM Networks and Applications to Distributed Computing," Emory University, Atlanta, GA, November 1993.

2.2 Research Grants

External Grants

1. **Title:** *CIF21 DIBBS: EI:dAta eXchange ovErlay Service (AXES)*
Source: RENC
PIs: George Rouskas
Period: Pending
Amount: \$505,728
2. **Title:** *SAS Graduate Industrial Traineeship, Liang Dong*
Source: SAS
PIs: George Rouskas
Period: 8/2016 - 5/2017
Amount: \$39,407
3. **Title:** *SAS Graduate Student Industrial Traineeships (multiple students)*
Source: SAS
PIs: George Rouskas
Period: 6/2014 - 8/2016
Amount: \$245,662
4. **Title:** *Cisco Internship Program*
Source: Cisco
PIs: Peng Ning, George Rouskas
Period: 5/2012 - 12/2012
Amount: \$160,000
5. **Title:** *NeTS: Large: Collaborative Research: ChoiceNet: Network Innovation Through Choice*
Source: NSF
PIs: Rudra Dutta, George Rouskas
Period: 09/2011 - 08/2014
Amount: \$643,917 (total budget: \$2.732M)
6. **Title:** *NeTS: Small: Computationally Scalable Aware Optical Network design*
Source: NSF
PIs: George Rouskas
Period: 08/2011 - 07/2014
Amount: \$429,995
7. **Title:** *SURFnet GigaPort3 Research Plan 2010*
Agency/Program: SURFnet
PIs: George Rouskas, Gigi Karmous-Edwards
Period: 07/2011 - 12/2011
Amount: \$58,208
8. **Title:** *SURFnet GigaPort3 Research Plan 2010*
Agency/Program: SURFnet
PIs: George Rouskas, Gigi Karmous-Edwards

Period: 07/2010 - 06/2011

Amount: \$149,802

9. **Title:** *SURFnet GigaPort3 Research Plan 2009*
Agency/Program: SURFnet
PIs: George Rouskas, Gigi Karmous-Edwards
Period: 07/2009 - 06/2010
Amount: \$72,814
10. **Title:** *GENI IMF: Integrated Measurement Framework and Tools for Cross Layer Experimentation*
Agency/Program: GENI Program Office
PIs: Rudra Dutta, George Rouskas, Ilia Baldine (RENCI), KarenBergman (Columbia University)
Period: 10/2009 - 9/2012
Amount: \$419,506
11. **Title:** *Edge Reconfigurable Optical Networks (ERONs) for High-Performance Applications*
Agency/Program: DARPA
PIs: George Rouskas, Douglas Reeves, Gigi Karmous-Edwards
Period: 7/2008 - 12/2008
Amount: \$250,279
12. **Title:** *CPATH-CB: Computing Across Curricula*
Agency/Program: NSF CPATH
PIs: George Rouskas, Jeff Joines, Eric Wiebe, Larry Silverberg, Lisa Bullard
Period: 7/2007 - 6/2010
Amount: \$274,749
13. **Title:** *Collaborative Research: NeTS-FIND: The SILO Architecture for Services Integration, control, and Optimization for the Future Internet*
Agency/Program: NSF NeTS
PIs: George Rouskas, Rudra Dutta, Ilia Baldine, Arnold Bragg, Dan Stevenson
Period: 9/2006 - 2/2010
Amount: \$228,000 (total budget: \$408,000)
14. **Title:** *Traffic Quantization: A Formal Approach To Scalability in Packet-Switched Networks*
Agency/Program: NSF CNS
PI: George Rouskas
Period: 9/2004 – 8/2009
Amount: \$357,314
15. **Title:** *A Formal Approach to Traffic Grooming in Optical Networks with General Topologies*
Agency/Program: NSF CISE/ANIR
PIs: George Rouskas, Carla Savage, Rudra Dutta
Period: 9/2003 – 8/2006
Amount: \$404,968
16. **Title:** *The Jumpstart Project: Transparent Optical Network Management and Routing with Just In Time Signaling*
Source: MCNC-RDI (NSA LTS) LTS
PIs: Dan Stevenson, George Rouskas, Harry Perros

Period: 1/2003 – 12/2004
Amount: \$327,103 (total budget: \$1,350,000)

17. **Title:** *Access Protocols for Multicasting in an Optical Burst Switching Metro Ring*
Source: Alcatel
PIs: Harry Perros, George Rouskas
Period: 1/2002 – 9/2003
Amount: \$44,972
18. **Title:** *The Jumpstart Project: Performance Analysis and Alternate Routing for Just In Time Optical Burst Switching Networks*
Source: MCNC-RDI (NSA LTS)
PIs: Dan Stevenson, George Rouskas, Harry Perros, Paul Franzon
Period: 1/2002 – 6/2003
Amount: \$437,645 (total budget: \$1,500,000)
19. **Title:** *The Jumpstart Project: Multicast Support for Just In Time Optical Burst Switching Networks*
Source: MCNC-RDI (NSA LTS)
PIs: Dan Stevenson, George Rouskas, Harry Perros, Paul Franzon
Period: 10/2000 – 3/2001
Amount: \$69,642 (total budget: \$500,000)
20. **Title:** *The Helios Project: Regional Testbed Optical Access Network for IP, Multicast, and Differentiated Service*
Source: MCNC-RDI (DARPA Next Generation Internet (NGI) Program)
PIs: Dan Stevenson (MCNC), George Rouskas
Period: 3/2000 – 3/2002
Amount: \$213,584 (total budget: \$1,800,000)
21. **Title:** *Performance Analysis of Wavelength Routed Wide Area Networks*
Source: NSF CISE/ANIR
PIs: George Rouskas, Harry Perros
Period: 9/1998 – 8/2002
Amount: \$255,384
22. **Title:** *Towards an All-Optical Network Infrastructure: Interconnection of Photonic WDM Broadcast-and-Select Local Area Networks*
Source: NSF CISE/NCR (CAREER)
PI: George Rouskas
Period: 9/1997 – 8/2002
Amount: \$200,000

Internal Grants

23. **Title:** *Lambda Scheduling for Grid Applications*
Agency/Program: CACC
PIs: George Rouskas
Period: 7/2007 - 6/2008
Amount: \$40,000
24. **Title:** *Learning with In-class Technology (LIT): The 15-Minute Learning Module Approach*
Program: NCSU LITRE
PIs: George Rouskas, Carol Miller
Period: 6/2006 – 5/2007
Amount: \$8,000
25. **Title:** *Engineering Online Student Access to Internet Lab*
Source: DELTA
PIs: George Rouskas
Period: 1/2003 – 6/2003
Amount: \$10,000
26. **Title:** *Research in Optical Burst Switching*
Source: NCSU Center for Advanced Computing and Communications (CACC)
PIs: Harry Perros, George Rouskas
Period: 7/2001 – 6/2002
Amount: \$43,402
27. **Title:** *The Apollo Project: Optical Burst-Switched Ring Networks*
Source: NCSU Center for Advanced Computing and Communications (CACC)
PIs: Harry Perros, George Rouskas
Period: 7/2000 – 6/2001
Amount: \$35,000
28. **Title:** *The MTCP Project: TCP-like Congestion Control for Reliable Multicast (continuation)*
Source: NCSU Center for Advanced Computing and Communications (CACC)
PIs: Injong Rhee, George Rouskas
Period: 7/1999 – 6/2000
Amount: \$55,439
29. **Title:** *The MTCP Project: TCP-like Congestion Control for Reliable Multicast*
Source: NCSU Center for Advanced Computing and Communications (CACC)
PIs: Injong Rhee, George Rouskas
Period: 7/1998 – 6/1999
Amount: \$22,400
30. **Title:** *All-Optical Solutions to ATM Switching*
Source: NCSU Center for Advanced Computing and Communications (CACC)
PI: George Rouskas
Period: 7/1995 – 6/1996
Amount: \$39,454

31. **Title:** *Multicasting for Multimedia Applications*
Source: NCSU Faculty Development and Research Support
PI: George Rouskas
Period: 1/1995 – 6/1995
Amount: \$4,237

Gifts

32. **Title:** *An Intelligent Second-Life VCL-Based Computing Lab*
Source: IBM Faculty Award
PIs: George Rouskas, Michael Young
Date of Award: 7/2007
Amount: \$30,000
33. **Title:** *Integration of Network Survivability Concepts in an MS in Computer Networking Curriculum*
Program: Microsoft Trustworthy Computing Curriculum
PIs: George Rouskas, Rudra Dutta
Duration: 1/2006 – 12/2006
Amount: \$50,000
34. **Title:** Optical Network Lab Equipment
Sponsor: MCNC-RDI
PI: George Rouskas
Date of Award: 8/2003
Amount: \$640,000 (six Optera WDM switches with SONET and Gigabit Ethernet interfaces)
35. **Title:** *Performance Evaluation of IPv6 Tunneling*
Program: IBM Faculty Award
PIs: Mike Devetsikiotis, George Rouskas, Harry Perros
Date of Award: 7/2001
Amount: \$40,000
36. **Title:** Networking Lab Equipment
Program: HP U.S. University Equipment Grants
PI: George Rouskas
Date of Award: 12/1999
Amount: \$159,190 (50 HP Kayak workstations and 3 laser printers)
37. **Title:** Internet Teaching Lab
Program: CAIDA Internet Teaching Laboratories (ITL) Initiative
PI: George Rouskas
Date of Award: 10/1999
Amount: \$100,000 (4 Cisco Routers)

3 Teaching and Advisory Activities

3.1 Courses Taught and Teaching Evaluations

Since I joined NCSU in the Fall 1994 semester, I have taught the following courses:

1. CSC/ECE 778 – OPTICAL NETWORKS (GRADUATE)
I created this course, and offered it for the first time in 2001.
2. CSC/ECE 772 – SURVIVABLE NETWORKS (GRADUATE)
I created this course, and offered it for the first time in 2007.
3. CSC/ECE 579 – INTRODUCTION TO COMPUTER PERFORMANCE EVALUATION (GRADUATE)
I reorganized this course in 1999, making computer simulation an integral part and adding a significant programming component, to achieve a good balance between theory and practice that was lacking previously.
4. CSC/ECE 573 – INTERNET PROTOCOLS (GRADUATE)
I created this course, and offered it for the first time in 1997. Since then, it has been one of the most successful course in the College with an approximate total enrollment of more than 2,000.
5. CSC 401 – COMPUTER NETWORKS (UNDERGRADUATE)
6. CSC 316 – DATA STRUCTURES (UNDERGRADUATE)

List of Courses Taught Per Semester

- Spring 2016L CSC 316
- Fall 2015: none (academic release)
- Spring 2015: none (academic release)
- Fall 2014: none (academic release)
- Spring 2014: none (academic release)
- Fall 2013: CSC 316, CSC/ECE 573
- Spring 2013: none (academic release)
- Fall 2012: CSC 316, CSC/ECE 573
- Spring 2012: CSC/ECE 772
- Fall 2011: CSC 316, CSC/ECE 573
- Spring 2011: CSC 401
- Fall 2010: CSC/ECE 579, CSC/ECE 778
- Spring 2010: CSC 401, CSC/ECE 772

- Fall 2009: none (academic release)
- Spring 2009: CSC 401, CSC/ECE 579
- Fall 2008: CSC/ECE 778
- Spring 2008: CSC 316, CSC/ECE 772
- Fall 2007: none (academic release)
- Spring 2007: CSC 316, CSC/ECE 579, CSC/ECE 772
- Fall 2006: none
- Spring 2006: CSC 316
- Fall 2005: CSC/ECE 778
- Spring 2005: CSC 316
- Fall 2004: CSC/ECE 778
- Spring 2004: CSC/ECE 579
- Fall 2003: CSC/ECE 778
- Spring 2003: CSC/ECE 579
- Fall 2002: CSC/ECE 778
- Spring 2002: CSC/ECE 579
- Fall 2001: CSC/ECE 778
- Spring 2000: on sabbatical
- Fall 2000: on sabbatical
- Spring 2000: CSC/ECE 573
- Fall 1999: CSC/ECE 579
- Spring 1999: CSC 316, CSC/ECE 573
- Fall 1998: CSC 401
- Spring 1998: CSC/ECE 573
- Fall 1997: CSC 401, CSC/ECE 579
- Spring 1997: CSC/ECE 573
- Fall 1996: CSC 401, CSC/ECE 579
- Spring 1996: CSC/ECE 676
- Fall 1995: CSC 401
- Spring 1995: CSC 316
- Fall 1994: CSC/ECE 579

Course Evaluations

At the end of each semester, NCSU Computer Science students rate the effectiveness of their teachers on a 1–5 scale, where 1 is poor and 5 is truly outstanding. My teaching evaluations for the past three years are listed in the table below.

I have received consistently high evaluations over time, across several different courses and large or smaller student enrollments. In many cases, my scores in course effectiveness, instructor effectiveness, and overall experience are close to a full point above the departmental average. More importantly, I have received such high evaluations *despite* the fact that students perceive my courses as presenting significantly more difficulty than average.

Table 1: Teaching Evaluations in the past three academic years

COURSE	SEMESTER	CLASS SIZE	INSTRUCTOR EXPLAINED DIFFICULT MATERIAL WELL	INSTRUCTOR WAS EFFECTIVE TEACHER	COURSE IMPROVED MY KNOWLEDGE OF SUBJECT	OVERALL COURSE WAS EXCELLENT
CSC 316	FALL 2016	80	4.3	4.5	4.7	4.4
DEPT AVG			3.9	4.0	4.3	3.8
CSC 573	FALL 2013	29	4.7	4.8	4.8	4.7
DEPT AVG			N/A	N/A	N/A	N/A
CSC 316	FALL 2013	94	4.6	4.8	4.7	4.5
DEPT AVG			3.8	3.8	4.3	3.8
CSC 579	FALL 2012	29	4.6	4.7	4.8	4.7
DEPT AVG			N/A	N/A	N/A	N/A
CSC 316	FALL 2012	94	3.9	4.0	4.5	4.0
DEPT AVG			3.8	3.9	4.2	3.7
CSC 772	SPRING 2012	22	4.8	4.8	4.8	4.7
DEPT AVG			4.0	4.2	4.4	4.1
CSC 573	FALL 2011	60	4.8	4.9	4.9	4.9
DEPT AVG			4.1	4.2	4.4	4.1
CSC 316	FALL 2011	100	4.5	4.5	4.9	4.6
DEPT AVG			3.9	4.0	4.2	3.8

3.2 Advisory Activities

3.2.1 Doctoral and Master's Theses in Progress

1. BHAT, SHIREESH (PhD)
Topic: The ChoiceNet Future Internet Architecture
Expected Graduation: December 2016
2. KRISHNAMURTHY, RAMESH (PhD)
Topic: Modeling of SIP Servers
Expected Graduation: May 2016
3. GAO, LINGNAN (PhD)
Topic: Network Virtualization
Expected Graduation: May 2017

3.2.2 Post Doctoral Fellows

1. YETGINER, EMRE, 2008-2009
Topic: Traffic Grooming for Green Optical Networking
Current Affiliation: Tubitak (National Science Foundation), Turkey
2. ZAIM, A. HALIM, 2001-2002
Topic: Implementation of Signaling Protocols for Optical Burst-Switched Networks
Current Affiliation: Vice President, Istanbul Ticaret (Commerce) University, Turkey
3. RAMESH, SHRIDHAR, 1999-2000
Topic: Performance Analysis of Wavelength Routed Networks
Current Affiliation: Texas Instruments

3.2.3 Doctoral Dissertations Directed

1. KRISHNAMURTHY, RAMESH, 2016
Topic: A Framework for Evaluating Server Performance: Application to SIP Proxy Servers
2. TALEBI, SAHAR, 2015
Topic: On Routing and Spectrum Assignment in Elastic Optical Networks
Current Affiliation: N/A (Defended October 23, 2015)
3. BABA OGLU, AHMET CAN, 2014
Topic: Verification Services for the Choice-Based Internet of the Future
Current Affiliation: Riverbed Technologies, San Francisco, CA
4. WANG, HUI, 2013
Dissertation: Efficient Decomposition Techniques for Traffic Grooming Problems in Optical Networks
Current Affiliation: Quantcast, San Francisco, CA
5. LIU, ZEYU, 2012
Dissertation: On Routing and Wavelength Assignment in WDM Networks
Current Affiliation: IBM, Dallas, TX

6. IYER, MOHAN, 2010
Dissertation: Providing Bandwidth on Demand Services Using Optical Network Design and the SILO Network Architecture
2009 Outstanding Teaching Assistant Award
Current Affiliation: Network Engineer, Oracle, San Jose, CA
7. LV, QIAN (2010)
Topic: Economic Models for Internet Tiered Services *Current Affiliation:* Network Engineer, Sierra Wireless, San Fiego, CA
8. WANG, ANJING, 2010
Topic: Optimization of Silo Services for the Future Internet
2009 Outstanding Teaching Assistant Award
Current Affiliation: Network Engineer, Ericsson, San Jose, CA
9. DWEKAT, ZYAD 2009
Topic: Practical Fair Queueing Schedulers: Simplification Through Quantization
Current Affiliation: Network Engineer, Sprint Network Services
10. CASTILLO, CLARIS, 2008
2008 College of Engineering Nancy G. Pollock PhD Dissertation Award
2007 Google Anita Borg Scholarship
2006 Outstanding Teaching Assistant Award
Dissertation: Scheduling and Resource Management in Grids
Current Affiliation: IBM T.J. Watson Research Center
11. YANG, LI, 2006
Dissertation: Congestion Control and Quality of Service (QoS) Provisions for Optical Burst Switched Networks
Current Affiliation: Scalable Networks, Los Angeles, CA
12. CHEN, BENSONG, 2005
2004 Outstanding Teaching Assistant Award
Dissertation: Hierarchical Traffic Grooming in Large-Scale WDM Networks
Current Affiliation: Google Labs, Mountain View, CA
13. TENG, JING, 2004
Dissertation: A Study of Optical Burst Switched Networks with the Jumpstart Just-In-Time Signaling Protocol
Current Affiliation: Microsoft Research, Redmond, WA
14. JACKSON, LAURA E., 2003 (**GAANN Fellow, 2000-2003**)
Dissertation: The Directional p -Median Problem with Applications to Traffic Quantization and Multiprocessor Scheduling
2004 College of Engineering Nancy G. Pollock PhD Dissertation Award
Current Affiliation: SAS Institute, Cary, NC
15. XIN, YUFENG, 2002
Dissertation: Topology Design of Large-Scale Optical Networks
Current Affiliation: MCNC, RTP, NC

16. XU, LISONG, 2002
Dissertation: Performance Analysis of Optical Burst Switched Networks
Current Affiliation: Associate Professor, CSE Department, University of Nebraska-Lincoln
2007 NSF CAREER Award
17. DUTTA, RUDRA, 2001
Dissertation: Virtual Topology Design for Traffic Grooming in Optical WDM Networks
Current Affiliation: Full Professor, Department of Computer Science, North Carolina State University
18. ZAIM, A. HALIM, 2001
Dissertation: Computing Call Blocking Probabilities in LEO Satellite Networks
Current Affiliation: Vice President, Istanbul Ticaret (Commerce) University, Turkey
19. ZHU, YUHONG, 1999
Dissertation: Computation of Blocking Probabilities in Wavelength Routing Networks
Current Affiliation: Independent Telecommunications Consultant, Boston, MA
20. BALDIN, ILYA, 1998
Dissertation: Dynamic Reconfiguration in Broadcast WDM Networks
Current Affiliation: Director, Network Research & Infrastructure, Renaissance Computing Institute (RENCI), NC
21. ORTIZ-LAUREANO, ZEYDY, 1998 (**NSA Fellow, 1994-1998**)
Dissertation: Techniques to Support Multicast Traffic in Single-Hop WDM Optical Networks
Current Affiliation: IBM, RTP, NC
22. MCKINNON, M. WILLIAM (BILL), 1997
Dissertation: Performance Analysis of a Class of Photonic Interconnection Architectures
Current Affiliation: Independent Telecommunications Consultant, Atlanta, GA
23. SHARMA, SUPRIYA S., 1997
Dissertation: Optimal Buffer Management for Shared Buffer ATM Switches
Current Affiliation: Alcatel, Plano, TX

3.2.4 Master's Theses Directed

1. VELLALA, MANOJ, 2008
Topic: Stack Composition for SILO Architecture
Current Affiliation: Cisco Systems, San Jose, CA
2. KHARE, SRIKRISHNA GIRISH, 2008
Thesis: Linux Implementation of Tiered Service Fair Queueing (TSFQ) Scheduling Disciplines
Current Affiliation: Sun Microsystems Systems, San Jose, CA
3. AMUDALA BHASKER, AJAY BABU, 2006
Thesis: Tiered-Service Fair Queueing (TSFQ): A Practical and Efficient Fair Queueing Algorithm
Current Affiliation: TapRoot Systems, RTP, NC
4. BARADWAJ, NIKHIL, 2005
Thesis: Traffic Quantization and its Application to QoS Routing

2006 Graduate School Nancy G. Pollock MS Thesis Award

Current Affiliation: Microstrategy, McLean, VA

5. IYER, VIJAY, 2002
Thesis: A Simulation Study of Wavelength Assignment and Reservation Policies with Signaling Delays
Current Affiliation: Cisco Systems, San Jose, CA
6. SINGHAI, MRUGENDRA, 2002
Thesis: Helios 2: An All-Optical Broadcast Local Area Network
Current Affiliation: MCNC, RTP, NC
7. BENGERI, SUDHIN, 2001
Thesis: Differentiated Services Support for the Helios Optical WDM Testbed
Current Affiliation: OPNET, Bethesda, MD
8. THAKER, DHAVAL, 2001
Thesis: Multicasting in a Partially Tunable Broadcast WDM Network
Current Affiliation: Lucent Technologies, Boston, MA
9. STUCKEY, JEFFREY J., 1998
Thesis: Worst-Case Cell Delay in an ATM Switch Using EDF Scheduling
Current Affiliation: Microsoft, Redmond, WA
10. HABERMAN, BRIAN K., 1997
Thesis: Cost, Delay, and Delay Variation Conscious Multicast Routing
Current Affiliation: Applied Physics Lab, Johns Hopkins University
11. BALDIN, ILYA, 1995
Thesis: Multicast Routing With End-to-End Delay and Delay Variation Constraints
Current Affiliation: Director, Network Research & Infrastructure, Renaissance Computing Institute (RENCI), NC
12. SIVARAMAN, VIJAY, 1995
Thesis: TDM Schedules For Broadcast WDM Networks With Arbitrary Tuning Latencies
Current Affiliation: Associate Professor, School of Electrical Engineering and Telecommunications, University of New South Wales, Australia

3.2.5 Preparing the Professoriate

1. CASTILLO, CLARIS, 2005-2006
2. JACKSON, LAURA E., 1999-2000

3.2.6 Teaching Assistant Mentoring

1. BATTISTILLI, LINA, 2001-2002

3.2.7 Certificate of Accomplishment in Teaching

1. LIU, ZEYU, 2010-2011

3.2.8 Visiting Scholars

1. *Dr. Batarfi, Omar*, 2014-2015
Topic: Visible Light Communications
Affiliation: King Abdulaziz University, Jeddah, Saudi Arabia

3.2.9 Visiting Doctoral Students

1. LIU, XIAOMIN, 2011-2012
Topic: Ethernet Passive Optical Networks
PhD degree from: Beihang University, China
2. CAO, CHANG, 2010-2011
Topic: *p*-Cycle Protection in MPLS Networks
PhD degree from: Beijing University of Posts and Telecommunications, China
3. VISWANATH, ARUN, 2007-2008 *Buffer Sizing in High-Speed Routers*
PhD degree from: University of New South Wales, Australia

3.2.10 Doctoral Dissertation Committees Outside NCSU

1. GEORGAKILAS, KONSTANTINOS N., January 2013
Institution: Aalborg University, Denmark
Dissertation: Delivery of Services in Multi-Layer Multi-Domain Optical Network Infrastructures
2. VENKATESH, SRI T., June 2009, Indian Institute of Technology, Madras, India
Dissertation: Estimation, Classification, and Analysis of Losses in Optical Burst Switching Networks
3. COUTELEN, THOMAS, June 2008, Concordia University, Montreal, Canada
Dissertation: Loss-Free Architectures in Optical Burst Switched Networks for a Reliable and Dynamic Optical Layer
4. CHOWDHARY, GIRISH V., August 2006, Indian Institute of Technology, Madras, India
Dissertation: Cost-Effective Multicast Traffic Grooming with Survivability Support in WDM Optical Networks
5. MOSHARAF, KAYVAN, December 2005, Carleton University, Canada
Dissertation: Resource Management and Service Differentiation in WDM Networks

3.2.11 Doctoral Dissertation Committees

1. PAMBUDI, SIGIT ARYO, in progress
Topic: Modeling and Evaluation of Cyber-Physical Threats in Emerging Interdependent Networks
2. UDECHUKWU, ROBINSON, in progress
Topic: ChoiceNet
3. GUPTA, ARPIT, in progress
Topic: Context awareness in mobile networks

4. WANG, YAOGONG, November 2013
Dissertation: Caching, Routing and Congestion Control in a Future Information-Centric Internet
5. WANG, GANGYAO, August 2013
Dissertation: Design, Development and Control of > 13kV Silicon-Carbide MOSFET based Solid State Transformer(SST)
6. BOLOOR, KEERTHANA, May 2012
Dissertation: Management of SOA-Based, Data-Intensive Applications Deployed in a Distributed Cloud Subject to Response Time Percentile Service Level Agreements
7. SUN, LEI, April 2012
Dissertation: Understanding the Performance and Topology of Wireless Cognitive Radio Networks
8. LUO, HUAN, August 2010
Dissertation: Efficient Traffic Engineering with Close-to-Optimal Performance
9. SUBRAMANIAN, SURESHKUMAR, June 2010
Dissertation: Measurements and Analysis of the Performance Characteristics of SIP Proxy Servers
10. HONG, SEONGIK, April 2010
Dissertation: Human Movement Patterns, Mobility Models and Their Impacts on Wireless Applications
11. SHIN, KYUYONG, November 2009
Dissertation: Preventing Misbehavior in Cooperative Distributed Systems
12. HA, SANGTAE, October 2009
Dissertation: Improving TCP Congestion Control for High Bandwidth and Long Distance Networks
13. WON, HYUNG SUK, October 2009
Dissertation: Multicast in Wireless Networks
14. LIM, MIN YEOL, August 2009
Dissertation: Improving Power and Performance Performance Efficiency in Parallel and Distributed Computing Systems
15. HU, SHUANG, October 2008
Dissertation: Multicast Routing Protocols in Mobile Ad Hoc Networks
16. TAGGART, CHRISTOPHER S., August 2008
Dissertation: Average Packet Delay Analysis of Ultra Wideband Wireless Networks of Simple Wireless Nodes
17. SAWANT, AMIT PRAKASH, December 2007
Dissertation: Perceptual Display Hierarchies for Visualization
18. KIM, SANGMIN, October 2007
Dissertation: Internet Topology: Illusion and Reality
19. WANG, CHIH-CHIANG, March 2007
Dissertation: Managing Heterogeneity in Structured Peer-to-Peer Systems

20. ALDWAIRI, MONTHER, October 2006
Dissertation: Hardware-Efficient Pattern Matching Algorithms and Architecture for Fast Intrusion Detection
21. JUN, JANGEUN, August 2006
Dissertation: Networking in Wireless Ad Hoc Networks
22. PARK, SANGJOON, June 2006
Dissertation: Performance Analysis of Data Aggregation Schemes for Wireless Sensor Networks
23. SUBRAMANIAM, KAMALA, December 2005
Dissertation: Radio Resource Management in UMTS-WCDMA Systems
24. AKIN, OZDEMIR, December 2004
Dissertation: Active Queue Management and Scheduling Methods for Packet-Switched Networks
25. WANG, XINYUAN, July 2004
Dissertation: Tracing Intruders Behind Stepping Stones
26. WU, CHIEN-LUNG, September 2002
Dissertation: On Network-Layer Packet Traceback: Tracing Denial-of-Service (DoS) and Distributed Denial-of-Service (DDoS) Attacks
27. COZZO, CARMELA, March 2001
Dissertation: Joint Detection and Estimation in Space-Time Communications,
28. HARASZTI, ZSOLT, December 2000
Dissertation: Efficient Rare Event Simulation in Network Performance Analysis Using Direct Probability redistribution
29. ZHU, KAI, August 2000
Dissertation: Statistical Delay Bounds Oriented Packet Scheduling Algorithms in High Speed Networks
30. HAN, MANYOO, October 1999
Dissertation: Quality-of-Service Provisioning in Wireless Cellular Networks
31. MARTIN, JAMES, October 1999
Dissertation: RTT-Based Congestion Avoidance for High Speed TCP Internet Connections
32. VU, CHIEN, October 1999
Dissertation: Multicast Buffered ATM Switch
33. NARASIMHA, MURALI, August 1999
Dissertation: Probabilistic Verification Through Temporal Logics
34. CHANG, CHIH-JEN, July 1999
Dissertation: Performance Modeling and Evaluation of an MPLS Architecture Using the DTM Technology
35. FULP, ERRIN, July 1999
Dissertation: Resource Allocation and Pricing for QoS Management in Computer Networks

36. DENZ, PETER, April 1999
Dissertation: Performance of Error Control Coding Techniques and the Development of a Dynamic Error Control Coding Mechanism for Wireless ATM
37. WRIGHT, STEVEN, March 1999
Dissertation: Delay Bounds and Connection Admission Control for Burstiness-Class Queueing
38. IZQUIERDO, MICHAEL, October 1998
Dissertation: Modeling, Transmission, and Multiplexing of MPEG VBR Video Over Packet-Switched Networks
39. RAMESH, SRIDHAR, August 1998
Dissertation: A Multi-Layer Client-Server Queueing Network Model with Synchronous and Asynchronous Messages
40. BALAY, RAJESH, September 1995
Dissertation: A Lightweight Middleware Architecture and Evaluation of Middleware Performance

3.2.12 Master's Thesis Committees

1. APSANGI, CHANDAN, May 2013
Thesis: A Novel Power Efficient Scalable Locking Mechanism for Many Core Systems
2. ANANTHAKRISHNAN, SRINATH KRISHNA, May 2013
Thesis: Customized Scalable Tracing with In-Situ Data Analysis
3. KALLUMKAL, FNU GEORGY MATHEW, March 2013
Thesis: A Micro-cloud Model for Adaptable High Performance Computing
4. ZHANG, HUIJUN, May 2012
Thesis: Convergence of Random Variables
5. NIMBHORKAR, SANKALP, March 2012
Topic: Channel Width Adaptation in Back-Pressure Networks
6. DEUSKAR, GAURISH, May 2010
Thesis: Packet Aggregation Based Backpressure Scheduling in Multi-Hop Wireless Networks
7. BOLOOR, KEERTHANA, April 2009
Thesis: Multi-Point to Single-Point Service Traffic Shaping
8. KANDULA, DHEERAJ, February 2008
Thesis: End-to-End Behavior of Delay Tolerant Networks with Message Ferries.
9. KANDEKAR, KUNAL, May 2006
Thesis: TAO: A Topology-Adaptive Overlay Framework
10. SONI, ARVIND, August 2004
Thesis: Probabilistic and Non-Deterministic Systems
11. PYUN, YOUNG JUNE, August 2004
Thesis: Construction of Low-Diameter Topologies for Scalable Peer-to-Peer Systems

12. SRINIVASARAO, KOUNDINYA, August 2003
Thesis: Traffic Grooming in Translucent Optical Ring Networks
13. JIANG, ZONGLIANG, July 2003
Thesis: Symmetric Chain Decomposition and Independent Families of Curves
14. IYER, PRASHANT, May 2003
Thesis: The Complexity of Traffic Grooming in Optical Path Networks with Egress Traffic
15. HACIOMEROGLU, FATIH, March 2003
Thesis: On-Line Measurement-Based Capacity Allocation Schemes
16. HUANG, SHU, December 2002
Thesis: Traffic Grooming in Wavelength Routed Path Networks
17. JUN, JANGEUN, November 2002
Thesis: Capacity Estimation of Wireless Mesh Networks
18. ADHIKARI, AKSHAY, August 2002
Thesis: Voice Over IP Performance Diagnosis
19. KULKARNI, AMIT, August 2002
Thesis: An Investigation of Forwarding in the MPLS Support for Differentiated Services
20. KULKARNI, GIRISH, August 2002
Thesis: A Tabu Search Algorithm for the Steiner Tree Problem
21. GARG, ASHWAJEET, May 2002
Thesis: Assessing the Value of Agent Certification in Global Sourcing: An Exploratory Study in Apparel Sourcing
22. JONG, WUCHIEH, May 2002
Thesis: Multicast Access Protocols in an Optical Burst Switched WDM Ring Network
23. AKIN, OZDEMIR, December 2001
Thesis: Efficient Simulation of TCP/IP Networks Using DPR-Based Splitting
24. DWEKAT, ZYAD, September 2001
Thesis: Construction and Evaluation of a Service Level Agreement Test-Bed
25. ELHADDAD, MAHMOUD S., August 2001
Thesis: Adaptive Multipath Traffic Allocation in TCP/IP Networks
26. SRIVASTAVA, MANOJ, August 2001
Thesis: Security Overlay for RMI
27. JAYARAM, RANJITH S., July 2001
Thesis: Performance Evaluation of TEAR, a TCP-Friendly Flow Control Protocol, Over the Internet and Wireless Networks
28. ULANATT, VENUGOPALAN, June 2001
Thesis: Summary Representation for Service Discovery Protocols

29. HADDAD, REDA N., April 2000
Thesis: SLA to Controls Mapping in Differentiated Services
30. JOSHI, SRINATH R., February 2000
Thesis: Packet Loss Recovery for Unicast Interactive Video Transmission Over the Internet
31. KONDURI, RAVI KRISHNA, August 1999
Thesis: Discrete Element Modeling on a Cluster of Workstations
32. HAYATNAGARKAR, ABHIJIT, May 1999
Thesis: On Realizing Traffic-Driven Security Association Establishment for IPsec
33. WANG, HAINING, October 1998
Thesis: Refining TCP Congestion Control Schemes at End Hosts
34. QU, DIHENG, May 1998
Thesis: Statistical Anomaly Detection for Link-State Routing Protocols
35. HANSOTI, JATIN, May 1997
Thesis: Lava: Secure Delegation of Mobile Applets
36. CROWDER, WILLIAM, September 1995
Thesis: An Experimental Study of Switched Ethernet Networks

3.2.13 Computer Science Qualifying Exam Committees

1. CASSELL, BRAD, May 2013
2. UDECHUKWU, ROBINSON, January 2014
3. CHUNG, SEUNG EUN, May 2012
4. JIANG, HAIQING, March 2012
5. SLANKAS, JOHN, January 2012
6. LAKSHMINARASIMHAN, SRIRAM, May 2011
7. GOPALAN, RAMYA, April 2011
8. BALIK, SUZANNE, August 2010
9. WANG, YAOGONG, April 2010
10. ZHANG, YONGPENG, April 2010
11. LIU, YAO December 2008
12. DU, JUAN, August 2008
13. HA, SANGTAE, April 2008
14. MIN, JEONG KI, April 2008
15. WANG, CHAO, December 2006

16. LIM, MIN YEOL, August 2006
17. IRWIN, KEITH, December 2005
18. YOUNG, JUNE PYUN, August 2005
19. HUANG, SHU, August 2004
20. DAVIS, BRENT, December 2003

3.2.14 Chair, Master of Engineering Advisory Committees

1. KAKKAR, VIVEK, December 2007
2. KAMATH, ACHALA, December 2006
3. NGUYEN, TUYEN, December 2006

3.2.15 Graduate Independent Studies

1. DEY, PIYALI, Fall 2012
Topic: Interdomain Routing in Optical Networks
2. DEY, PIYALI, Spring 2012
Topic: Interdomain Routing in Optical Networks
3. ADAPPA, ABHISHEK, BHARGAVA, MITTU, Fall 2001
Topic: Simulation of a Class of Queueing Systems
4. RASMUSSEN GLENN, Fall 2000
Topic: Overview of Optical Switching Products: A Business Perspective

3.2.16 Undergraduate Independent Research

1. TITOV, NIKOLAY, Spring 2013
TOPIC: Scheduling Problems with Applications to Routing and Spectrum Assignment in Optical Networks
2. GOEL, JAY, Spring 2010
TOPIC: Implementing TCP Functionality in the SILO Architecture
3. HARDY, TREVOR, Spring 2010
TOPIC: Multithreaded Client-Server Message Board Application
4. ALBRIGHT, TRENT, CHRISTIE, DOUGLAS, WOMBLE, CHEYNE, Spring 1998
Topic: Implementation of a Distributed Distance-Vector Routing Algorithm
5. HENDERSON, DAVID, WILSON, SCOTT, Spring 1996
Topic: Implementation of a Graphical User Interface for Demonstrating the Operation and Performance of Broadcast Routing Algorithms for Packet-Switched Networks

4 Service Activities

4.1 Committee Appointments

UNIVERSITY COMMITTEES

1. CoE representative to the Administrative Board of the Graduate School (ABGS), 2016-2017
2. Judge, NC State Graduate Student Research Symposium, March 26, 2014
3. NC State review panel for Microsoft Research Faculty Fellowship program, 2012-2013
4. DELTA IDEA grant review committee, 2004-2005
Participated in the IDEA grant selection process for 2004-2005, and reviewed twelve (12) proposals
5. DELTA Advisory Committee, 2003-2005
Worked with DELTA leadership on policies related to teaching and learning with technology; suggested strategies to increase and improve faculty activities in the area of teaching with technology; recommended areas of investment in distance education and learning technologies;
6. CHAIR, DELTA Subcommittee on Intellectual Property, 2003-2005
Advised DELTA leadership on intellectual property rights issues related to distance education
7. 2004 Alumni Outstanding Research Awards Selection Committee
As a recipient of the 2003 Alumni Outstanding Research Award, I served on the University committee which selected the 2004 Award winners

COLLEGE OF ENGINEERING COMMITTEES

1. CoE University Faculty Scholar Committee, 2012-2014
2. CoE ALCOA Awards Committee, 2012-2013
3. CoE Reappointment, Promotion, and Tenure (RPT) Committee, 2008-2011
4. CoE Research Committee, 2007-2008
Advised Associate Dean for Research and Graduate Programs on identifying and promoting major research thrust areas for the College; encouraged and promoted cross-disciplinary research efforts; reviewed research policies and procedures and identified improvements to enhance faculty success in obtaining research funding; and assisted the Associate Dean in the review and oversight of CoE Research Centers.
5. CSC Head Search Committee, 2004-2006
I was elected by the faculty to the department head search committee in March 2004.
During the Fall 2005 semester, the committee reviewed applications for the position, conducted telephone interviews with the references of the leading candidates, and solicited letters of recommendation.
During the Spring 2005 semester, the three CSC members of the committee held meetings with faculty, lecturers, and staff, to solicit input regarding the search process. The whole committee (including the three external members) also met regularly (biweekly), created and published an advertisement for the open position, and solicited applications.
During the Spring 2006 semester, the committee interviewed the four leading candidates. The top candidate, Prof. Vouk accepted the Dean's offer and serves as the department head.

6. Engineering Online Advisory Committee, 2003-2005
Suggested and advised the Director of Engineering Online on strategies to improve the College's distance education programs
7. CSC Review Survey Committee, 1998-1999
Coordinated and carried out the evaluation of the Department Head, Prof. Alan Tharp; specific tasks included: consulting with the departmental constituencies; preparing the evaluation form; collecting and analyzing the results; and preparing a report to Dean Masnari.
8. Admissions Standards Committee, MS in Computer Networking, 1998-1999
Studied the criteria for admitting MS students to the CSC and ECE Departments, respectively; suggested and implemented changes to ensure that admissions criteria for MSCN students are identical in both departments

DEPARTMENT OF COMPUTER SCIENCE COMMITTEES

1. Strategic Planning Committee, 2009-2012 (Chair, 2010-2012)
In the 2010-12 academic years, I served as the chair of the SPC. The SPC prepared a new strategic plan for the department for the ten years to 2020 that was approved by the faculty in March 2012. I presented part of the plan at the Spring 2011 Strategic Advisory Board meeting. The SPC also continued to organize the faculty lunch series every Thursday during the academic year, with several seminars and presentations by CSC faculty and external speakers.
2. Graduate Student Admissions Committee, 2011-2012
3. Awards Committee, 2009-2012
4. Networks research coordinator, Graduate program review, March 2010
5. Faculty Recruiting Committee, 2008-2009
6. Course Coordinator for CSC 316 (Data Structures), 2005-present
In Spring 2006, I led the assessment effort for CSC 316. The assessment material for my section of the course are available online at:
<http://www.csc.ncsu.edu/faculty/rouskas/Courses/CSC316/assessment-spring-2006.html>
7. Computing Infrastructure Committee, 2006-2010
8. CHAIR, Minority Recruiting Committee, 2006-2007
9. Committee for External Evaluation Visit, Fall 2004
In the Fall 2004 semester, the three CSC members of the Head search committee were responsible for organizing the visit by the external reviewers commissioned by Dean Masnari. The responsibilities included: preparing a long report on the state of the department; putting the agenda together; and hosting the visitors. To prepare for the visit, the committee had regular weekly meetings for two months (September and October). Following the visit, I continued to interact extensively with the reviewers until the submission of the report in late December 2004.
10. Strategic Planning Committee, 2003-2004
Developed the departmental compact plan for 2003-2004. The highest priority item, namely the allocation of **ten new TAs**, was **fully funded** by the College. The committee also planned the January 2004 faculty retreat, and suggested candidates for the position of Director of Undergraduate Programs to the Department Head.

11. Research Productivity Committee, 2003-2004
Developed a set of policies to improve the department's research productivity, including the **new course buyout policy** which was adopted overwhelmingly by the faculty
12. Strategic Planning Committee, 2002-2003
The committee put together a 25-page compact plan document which outlined a set of strategic directions for the department (I contributed about 80% of this document). The two highest priority items identified by the committee, namely the hiring of **nine (9) new faculty** in strategic areas and the allocation of **five (5) new TAs**, were **fully funded** by the College). The committee also crafted **new vision and mission statements** for the department, which were adopted overwhelmingly by the faculty, planned the January 2003 faculty retreat, and led the discussion on strategic issues.
13. CHAIR, Faculty Recruiting Committee, 2001-2002
Succeeded in hiring our top candidate, Prof. Khaled Harfoush
14. CHAIR, Faculty Recruiting Committee, 2000-2001
Succeeded in hiring our top candidate, Prof. Rudra Dutta
15. Peer Evaluation Committees: Conducted teaching evaluations of
 - Prof. Vincent Freeh (2014)
 - Prof. Kristy Boyer (2013)
 - Prof. Sarah Heckman (2013)
 - Prof. Rudra Dutta (2012)
 - Prof. Khaled Harfoush (2012)
 - Prof. Matthias Stallmann (2011)
 - Prof. Helen Gu (2011)
 - Prof. Nagiza Samatova (2008)
 - Prof. Munindar Singh (2008)
 - Prof. Purush Iyer (2007)
 - Prof. Frank Mueller (2007)
 - Prof. Vincent Freeh (2005)
 - Prof. Jaewoo Kang (2005)
 - Prof. Richard Mayr (2005)
 - Prof. Peng Ning (2005)
 - Prof. Injong Rhee (2002)
 - Prof. Munindar Singh (2002)
 - Prof. Purush Iyer (2001)
 - Prof. Robert StAmant (2000)
 - Prof. Injong Rhee (1999)
16. Graduate Student Admissions Committee, 1996-1998
17. PhD Qualifying Exam Committee, 1994-1996

OPERATIONS RESEARCH COMMITTEES

1. Graduate Student Admissions Committee, 2012-2013

2. Graduate Student Admissions Committee, 2005-2007

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING COMMITTEES

1. Faculty Recruiting Committee, 1999-2000
Succeeded in hiring our top candidate, Prof. Mike Devetsikiotis

4.2 State and Regional Activities

- PROMOTION OF COMPUTER SCIENCE RESEARCH AND EDUCATION PROGRAMS

I have held a large number of meetings and discussions with local industry, including Alcatel, Cisco, IBM, Lucent, Marconi, Nortel, etc., to promote the department's research and degree programs, and I have held several informational sessions for prospective students

- DISTANCE EDUCATION COURSES

I have offered several courses through NCSU's Engineering Online (formerly Video Based Engineering Education - VBEE) program, which have been well-received by distance education students in the State of North Carolina

- EXTENSION COURSE

In Spring 1998, I offered INTERNET PROTOCOLS (CSC/ECE 573) as an extension course at RTI, RTP; more than twenty (20) part-time students enrolled

4.3 National and International Activities

I have been, and continue to be, involved in numerous national and international activities in various roles:

- APPOINTED POSITIONS

1. Chair, IEEE Communications Society Distinguished Lecturer Selection Committee, 2016-2017
2. Vice Chair, IEEE Communications Society Technical and Educational Activities Council, 2016-2017
3. Vice Chair, IEEE Communications Society TCs Recertification Committee, 2016-2017

- ELECTED POSITIONS

1. CHAIR, IEEE Optical Networking Technical Committee (ONTC), 2016-present
2. MEMBER, Advisory Board, H2020 European Project FALCON, 2014-present
3. MEMBER, International Advisory Committee, Scuola Superiore Sant'Anna, Pisa, Italy, 2013-2014
4. VICE CHAIR, IEEE Optical Networking Technical Committee (ONTC), 2014-2015
5. SECRETARY, IEEE Optical Networking Technical Committee (ONTC), 2012-2013

- EDITORIAL BOARDS

1. FOUNDING EDITOR-IN-CHIEF, *Optical Switching and Networking*, Elsevier, 2004-present
The *Optical Switching and Networking* (OSN) journal started publication in January 2005. The planning process for the journal took more than eighteen months, during which I participated in a market research study by Elsevier; I defined the aims and scope of the journal; I invited Prof. Fabio Neri to serve as co-Editor-in-Chief and together assembled an excellent editorial board; I engaged in extensive marketing efforts; I put together the first issue; and I worked with the BROADNETS 2004 organizers to publish a special issue with the best papers from the conference. The OSN journal has been well-received by the research community. It received an impact factor of 1.000 for 2011 (JCR Thomson Reuters)
2. *IEEE/OSA Journal of Communications and Networking*, 2010-2012
3. *JCM Journal of Communications*, Special Issue on the “Advances in Communications and Networking,” vol. 6, no. 9, December 2011.
4. *IEEE/ACM Transactions on Networking*, 2000-2004
5. *Computer Networks*, 2001-2004
6. *Optical Networks*, 2000-2004
7. *IEEE Journal on Selected Areas in Communications*, Special Issue on “Protocols for Next Generation Optical WDM Networks,” vol. 18, no. 10, October 2000.

- CONFERENCE ORGANIZING COMMITTEES

1. TECHNICAL PROGRAM CO-CHAIR, *IEEE ICC 2017, Optical Networks and Systems (ONS) Symposium*, Paris, France, May 21-25, 2017.
2. GENERAL CO-CHAIR, *IEEE ICNP 2014*, Raleigh, NC, October 21-24, 2014.
3. GENERAL CHAIR, *ICCCN 2013*, Nassau, Bahamas, July 30-August 2, 2013.
4. TECHNICAL PROGRAM CO-CHAIR, *ICCCN 2011*, Maui, Hawaii, August 1-4, 2011.
Under my leadership, the event set a number of records in ICCCN history. The main conference received a record 452 paper submissions to twelve tracks. The TPC generated more than 1330 reviews, and a record 134 papers were accepted for an acceptance rate of 29.6%. Including workshop submissions, more than 600 papers were submitted (another record) and the event was attended by more than 350 registered participants (also a record).
5. TECHNICAL PROGRAM CO-CHAIR, *IEEE Globecom 2010, Optical Networks and Systems (ONS) Symposium*, Miami, FL, November 28-December 3, 2010.
Under my leadership, the ONS Symposium set several records in *Globecom/ICC* history, including number of submissions (148), number of accepted papers (48), number of reviews per paper (3.75), and TPC size.
6. TECHNICAL PROGRAM CO-CHAIR, *IEEE ICCCN 2009, Internet Services, Systems and Applications (ISSA) Track*, San Francisco, CA, August 2-6, 2009.
Under my leadership, the ISSA track received a record number of submissions for the 2009 event.
7. GENERAL CO-CHAIR, *4th IEEE International Conference on Broadband Communications, Networks, and Systems (IEEE BROADNETS 2007)*, Raleigh, NC, September 10-13, 2007
The conference continued to expand and received a record number of submissions for the 2007 edition. It was by far the largest conference in the field of computer networking to ever take place in the Research Triangle area, attracting attendees from more than twenty countries.

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

Following the tradition of the *IEEE LANMAN Workshop*, after serving as the Technical Program Chair in 2004, I served as the General Chair for the 2005 workshop. Specifically, I was involved in several activities: I recruited K.K. Ramakrishnan of AT&T Labs, a well-known researcher recently elevated to IEEE Fellow, to serve as Technical Program Chair; I recruited Prof. Michael Paterakis to serve as General co-Chair with a focus on local arrangements; I worked with IEEE and the technical committee on computer communications (TCCC) to secure full financial sponsorship by the IEEE Communications Society; I engaged in extensive marketing efforts; I secured two corporate sponsors, Intel and Ericsson Southeast Europe; I was involved in the paper review process; and I led and coordinated all efforts to put together an excellent program, including inviting a keynote speaker and organizing panels on important current research topics.

The workshop set another **record** by receiving **112 submissions**, despite both increasing the paper length and having the meeting at a site which is a bit out-of-the-way. The committee selected 36 papers for presentation. The keynote speech was delivered by Dr. James Roberts of France Telecom. A panel on “Ethernet Everywhere” included experts from Cisco, Intel, Accton, and McData, Tacit Networks, and Copan Systems.

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

This was the first ever workshop on Traffic Grooming, and attracted sixteen submissions from five countries, nine of which were selected for presentation at the workshop and were published in the proceedings. The workshop included a panel on “Future Trends in Traffic Grooming” in which four of the best-known experts in the field participated: Prof. Biswanath Mukherjee (University of California, Davis), Dr. Ori Gerstel (Cisco), Prof. Galen Sasaki (University of Hawaii), and Dr. Slobodanka Tomic (Technical University of Vienna).

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

The workshop received a **record 109 submissions**, an increase of **73%** over the 63 submissions received by the previous organization. The committee selected 48 papers for presentation, and also selected two papers to share the best paper award. The keynote speech was delivered by Dr. Lawrence Roberts, Chairman and CTO of Caspian Networks, an Internet pioneer who is widely considered as one of the four “fathers of the Internet.”

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

The conference received a **record 539 submissions**, an increase of **71%** over the 315 submissions received by the previous organization, and **30%** more than the 416 submissions received by the next conference, *Networking 2005*. I chaired the track on “Networking Technologies, Services, and Protocols,” which received the most submissions (224). The committee selected 104 papers for full presentation and 40 papers for poster presentation. One paper was selected for the best paper award. Three keynote speeches were delivered by Prof. Ian Akyildiz, Dr. Jim Roberts, and Prof. Leandros Tassioulas. The program also included 8 tutorials and 4 workshops.

- Committee of Visitors (CoV)

1. DoE Networking Research Program, October 10-11, 2011

- NATIONAL SCIENCE FOUNDATION:

1. Research Planning

- (a) US-EC research planning in Next Generation Internet, 2017
- (b) US-EC research planning in Optical Networking, 2005

2. Panel Participation

- (a) NeTS Small panel, April 2016
- (b) NeTS Medium panel (virtual), April 2015
- (c) NeTS Medium panel (virtual), April 2014
- (d) NeTS MRI panel (virtual), April 2013
- (e) NeTS panel (virtual), April 2013
- (f) NeTS panel, April 2012
- (g) NeTS panel, December 2009
- (h) NeTS panel, May 2009
- (i) NeTS panel, June 2008
- (j) CPATH panel, May 2008
- (k) SBIR/STTR panel, September 2005
- (l) SBIR/STTR panel, August 2003
- (m) ITR panel, May 2003
- (n) ANR panel, December 2002
- (o) Special Programs in Networking Research panel, May 2001
- (p) NCR CAREER panel, November 1997

• BEST PAPER AWARD COMMITTEES:

- 1.
- 2. IEEE Communications Society Charles Kao Award for Best Optical Communications and Networking Paper, 2015-18
- 3. IEEE ICC 2016
- 4. ICNC 2015
- 5. ACP 2012
- 6. IEEE INFOCOM 2011
- 7. IEEE ANTS 2010
- 8. ACP 2009

• TECHNICAL PROGRAM COMMITTEE (TPC) MEMBER:

2017

- 1. IEEE GLOBECOM 2017, Singapore
- 2. OSA NETWORKS 2017, New Orleans, LA
- 3. IEEE ICC 2017, Paris, France
- 4. IEEE LANMAN 2017, Osaka, Japan
- 5. 21st Conference on Optical Network Design and Modeling (ONDM) 2017, Budapest, Hungary

6. European Conference on Networks and Communications (EuCNC) 2017, Oulu, Finland

2016

1. IEEE ICC 2016, Kuala Lumpur, Malaysia
2. IEEE GLOBECOM 2016, Washington, DC
3. IEEE LANMAN 2016, Rome, Italy
4. Networks 2016, Montreal, Canada
5. 20th Conference on Optical Network Design and Modeling (ONDM) 2016, Cartagena, Spain
6. ACM CoNEXT Cloud-Assisted Networking (CAN) Workshop 2016, Irvine, CA
7. International Conference on Telecommunications and Multimedia (TEMU) 2016, Heraklion, Crete
8. European Conference on Networks and Communications (EuCNC) 2016, Athens, Greece

2015

1. IEEE ICC 2015, London, UK
2. IEEE GLOBECOM 2015, San Diego, California
3. Design and Reliable Communication Networks (DRCN) Conference 2015, Kansas City, Missouri
4. 19th Conference on Optical Network Design and Modeling (ONDM) 2015, Pisa, Italy
5. IEEE LANMAN 2015, Beijing, China
6. European Conference on Networks and Optical Communications (NOC) 2015, London, UK
7. European Conference on Networks and Communications (EuCNC) 2015, Paris, France
8. IEEE Conference on Network Function Virtualization and Software Defined Networks (NFV-SDN) 2015, San Francisco
9. International Broadband and Photonics Conference (IBP) 2015, Bali, Indonesia

2014

1. IEEE ICC 2014, Sydney, Australia
2. IEEE GLOBECOM 2014, Austin, Texas
3. International Conference on Telecommunications and Multimedia (TEMU) 2014, Heraklion, Crete
4. IEEE LANMAN 2014, Reno, Nevada
5. 18th Conference on Optical Network Design and Modeling (ONDM) 2014, Stockholm, Sweden
6. European Conference on Networks and Optical Communications (NOC) 2014, Milan, Italy

2013

1. IEEE INFOCOM 2013, Torino (advisory TPC member, with additional responsibilities)
2. IEEE International Conference on Network Protocols (ICNP) 2013, Goettingen, Germany
3. IEEE GLOBECOM 2013, Atlanta, Georgia
4. IEEE ICC 2013, Budapest, Austria
5. IEEE LANMAN 2013, Brussels, Belgium

6. International Teletraffic Congress (ITC) 2013, Shanghai, China
7. Workshop on “Software-Defined Networking on Optics”, co-located with IEEE GLOBECOM 2013
8. International Workshop on Optical Networking (iWON 2013), co-located with IEEE GLOBECOM 2013

2012

1. IEEE INFOCOM 2012, Orlando, Florida
2. IEEE GLOBECOM 2012, Anaheim, CA
3. IEEE ICC 2012, Ottawa, Canada
4. IFIP NETWORKING 2012, Prague, Czech Republic
5. International Conference on Computer Communications and Networks (ICCCN) 2012, Munich
6. IEEE INFOCOM Workshop on High Speed Networks 2012, Orlando, Florida
7. Networks 2012, Rome, Italy
8. International Conference on Telecommunications and Multimedia (TEMU) 2012, Heraklion, Crete
9. International Conference on Computing, Networking and Communications (ICNC) 2012, Maui, Hawaii

2011

1. IEEE INFOCOM 2011, Shanghai, China (area TPC member, with additional responsibilities)
2. IEEE GLOBECOM 2011, Houston, Texas
3. IEEE ICC 2011, Kyoto, Japan
4. Euro NGI 2011, Kaiserslautern, Germany
5. Design and Reliable Communication Networks (DRCN) Conference 2011, Krakow, Poland
6. Advanced Networks and Telecommunication Systems (ANTS) 2011, Bangalore, India
7. IEEE LANMAN Workshop 2011, Chapel Hill, USA
8. Workshop on Reliable Networks Design and Modeling (RNDM) 2011, Budapest, Hungary
9. International Conference on Communications (ICT) 2011, Ayia Napa, Cyprus

2010

1. IEEE INFOCOM 2010, San Diego, CA
2. IEEE GLOBECOM 2010, Miami, Florida
3. IEEE ICC 2010, Cape Town, South Africa
4. IFIP NETWORKING 2010, Chennai, India
5. Euro NGI 2010, Paris, France
6. OFC/NFOEC 2010, San Diego
7. INFORMS Telecom 2010, Montreal, Canada
8. Asia Communications and Photonics (ACP) 2010, Shanghai, China
9. Networks 2010, Warsaw, Poland

10. IEEE LANMAN Workshop 2010, New Jersey, USA
11. Workshop on Reliable Networks Design and Modeling (RNDM) 2010, Moscow, Russia
12. Workshop on Re-Architecting the Internet (ReArch) 2010, Philadelphia, PA

2009

1. IEEE INFOCOM 2009, Rio de Janeiro, Brasil
2. IEEE GLOBECOM 2009, Honolulu, HI
3. IEEE ICC 2009, Dresden, Germany
4. OFC/NFOEC 2009, San Diego
5. 13th Conference on Optical Network Design and Modeling (ONDM) 2009, Braunschweig, Germany
6. Euro NGI 2009, Aveiro, Portugal
7. Design and Reliable Communication Networks (DRCN) Conference 2009, Washington, DC
8. Advanced Networks and Telecommunication Systems (ANTS) 2009, New Delhi, India
9. Workshop on Re-Architecting the Internet (ReArch) 2009, Rome, Italy
10. Workshop on Optical Burst Switching (WOBS) 2009, Madrid, Spain

2008

1. IEEE INFOCOM 2008, Phoenix, Arizona (area TPC member, with additional responsibilities)
2. IEEE GLOBECOM 2008, New Orleans, LA
3. IEEE ICC 2008, Beijing, China
4. IEEE International Conference on Network Protocols (ICNP) 2008, Orlando, Florida
5. OFC/NFOEC 2008, San Diego
6. Euro NGI 2008, Krakow, Poland
7. Networks 2008, Budapest, Hungary
8. Advanced Networks and Telecommunication Systems (ANTS) 2008, Mumbai, India
9. IEEE INFOCOM Workshop on High Speed Networks 2008, Phoenix, Arizona
10. IEEE LANMAN Workshop 2008, Cluj-Napoca, Romania

2007

1. IEEE INFOCOM 2007, Anchorage, Alaska
2. IEEE GLOBECOM 2007, Washington, DC
3. IEEE ICC 2007, Glasgow, UK
4. IEEE LANMAN Workshop 2007, New York, USA
5. IFIP NETWORKING 2007, Atlanta, Georgia
6. International Workshop on GRID over Optical Burst Switching Networks (GOBS) 2007, Athens, Greece

2006

1. IEEE GLOBECOM 2006, San Francisco, CA

2. IEEE ICC 2006, Istanbul, Turkey
3. IFIP NETWORKING 2006, Coimbra, Portugal
4. International Conference on Computer Communications and Networks (ICCCN) 2006, Arlington, Virginia
5. BROADNETS 2006, San Jose, CA

2005

1. IEEE GLOBECOM 2005, St. Louis, Missouri
2. IFIP NETWORKING 2005, Waterloo, Canada
3. IFIP Conference on Optical Network Design and Modeling (ONDM) 2005, Milan, Italy
4. BROADNETS 2005, Boston, MA
5. IEEE Workshop on High Performance Switching and Routing (HPSR) 2005, Hong Kong
6. IEEE Workshop on Community Networks and First Mile Solutions (COMNETS) 2005, Boston
7. Workshop on Optical Burst Switching (WOBS) 2005, Boston, MA
8. International Workshop on Optical Networks Control and Management (ONCM) 2005, Oslo, Norway

2004

1. IEEE INFOCOM 2004, Hong Kong
2. IEEE GLOBECOM 2004, Dallas, Texas
3. BROADNETS 2004, San Jose, CA
4. IEEE Workshop on High Performance Switching and Routing (HPSR) 2004, Phoenix, Arizona
5. Workshop on Optical Burst Switching (WOBS) 2004, San Jose, CA
6. International Workshop on Optical Networks Control and Management (ONCM) 2004, Montreal, Canada

2003

1. IEEE GLOBECOM 2003, San Francisco, CA
2. IEEE ICC 2003, Anchorage, USA
3. OPTICOMM 2003, Dallas, Texas
4. IEEE Workshop on High Performance Switching and Routing (HPSR) 2003, Torino, Italy
5. Workshop on Optical Burst Switching (WOBS) 2003, Dallas, Texas
6. International Workshop on Optical Networks Control and Management (ONCM) 2003, Kaohsiung, Taiwan

2002

1. OPTICOMM 2002, Boston, MA

2001

1. OPTICOMM 2001, Denver, Colorado

2000

1. OPTICOMM 2000, Dallas, Texas

1999

1. SPIE Conference on All-Optical Networking 1999, Boston, MA

1998

1. IEEE INFOCOM 1998, San Francisco, CA
2. SPIE Conference on All-Optical Networking 1998, Boston, MA

1997

1. IEEE INFOCOM 1997, Kobe, Japan
2. IEEE International Conference on Network Protocols (ICNP) 1997, Atlanta, Georgia

1996

1. IEEE INFOCOM 1996, San Francisco, CA

- WORKSHOPS CHAIR, OPTICOMM 2002
- SESSION CHAIR at several conferences and workshops
- PANEL ORGANIZER at several conferences and workshops
- REFERENCE for elevation to IEEE Fellow for:
 1. Prof. Tarek El-Bawab, Jackson State University, 2017
 2. Prof. Mario Pickavet, Ghent University, Belgium, 2017
 3. Prof. Lena Wosinska, KTH Royal Institute of Technology, Sweden, 2017
 4. Prof. Dimitra Simeonidou, University of Bristol, 2015
 5. Prof. Tilman Wolf, UMass, 2014, 2015
 6. Prof. Debasish Datta, Indian Institute of Technology, Kharagpur, 2012, 2013, 2015
 7. Prof. Admela Jukan, Technical University of Braunschweig, 2013, 2014
 8. Prof. Suresh Subramaniam, George Washington University, 2013, 2014
 9. Dr. Puneet Sharma, HP Labs, 2013
 10. Prof. Krishna Sivalingam, Indian Institute of Technology, Madras, 2013
 11. Prof. Lakshman Tamil, University of Texas at Dallas, 2012
- EXTERNAL REVIEWER for the promotion to Full Professor for:
 1. Prof. Piero Castoldi, Scuola Superiore Sant'Anna, 2016
 2. Prof. Vijay Sivaraman, University of New South Wales, 2016
 3. Prof. James Martin, Clemson University, 2015
 4. Prof. Lan Wang, University of Memphis, 2015
 5. Prof. Hamed M. K. Alazemi, Kuwait University, Kuwait, 2014

6. Prof. Nail Akar, Bilkent University, Turkey, 2014
 7. Prof. Abdallah Shami, University of Western Ontario, 2013
 8. Prof. Chadi Assi, Concordia University, 2012
 9. Prof. Nasir Ghani, University of New Mexico, 2012
 10. Prof. Yao Liang, Indiana University-Purdue University Indianapolis (IUPII), 2012
 11. Prof. Xiaobo Zhou, University of Colorado, Colorado Springs, 2012
 12. Prof. Neo Antoniadis, City University of New York, 2012
 13. Prof. Ezhan Karasan, Bilkent University, Turkey, 2011
 14. Prof. Ibrahim Matta, Boston University, 2011
 15. Prof. Byrav Ramamurthy, University of Nebraska, Lincoln, 2010
 16. Prof. Jason Jue, University of Texas, Dallas, 2009
 17. Prof. Bin Wang, Wright State University, 2009
 18. Prof. Arunita Jaekel, University of Windsor, 2007
 19. Prof. Michael H. MacGregor, University of Alberta, 2007
 20. Prof. Suresh Subramaniam, George Washington University, 2007
 21. Prof. Krishna Sivalingam, University of Maryland, 2005
 22. Prof. Andrea Fumagalli, University of Texas, Dallas, 2004
- EXTERNAL REVIEWER for the promotion to Associate Professor with tenure for:
 1. Prof. Fatna Belqasmi, Zayed University, UAE, 2017
 2. Prof. Mark Feuer, City University of New York, 2016
 3. Prof. Eric Manley, Drake University, 2014
 4. Prof. Mouhammd Al-Kasassbeh, Mutah University, Jordan, 2013
 5. Prof. Jamal Nahar Banih Salameh, Mutah University, Jordan, 2013
 6. Prof. Spyros Denazis, University of Patras, Greece, 2013
 7. Prof. Murat Yuksel, University of Nevada, Reno, 2011
 8. Prof. Yuhua Chen, University of Houston, 2010
 9. Prof. John Doucette, University of Alberta, Canada, 2010
 10. Prof. Nasir Ghani, University of New Mexico, 2009
 11. Prof. Georgios Ellinas, University of Cyprus, 2009
 12. Prof. Martin Maier, Institut National de la Recherche Scientifique (INRS), Montreal, 2009
 13. Prof. Vinod Vokkarane, University of Massachusetts, Dartmouth, 2009
 14. Prof. Lu Ruan, Iowa State University, 2008
 15. Prof. James Martin, Clemson University, 2007
 16. Prof. Srinivasan Ramasubramanian, University of Arizona, 2007
 17. Prof. Anwar Alyatama, Kuwait University, 2006
 18. Prof. Yao Liang, Virginia Tech, 2006

19. Prof. Oliver Wu, University of Illinois at Chicago, 2005
 20. Prof. Mike MacGregor, University of Alberta, 2004
 21. Prof. Bin Wang, Wright State University, 2004
 22. Prof. Jason Jue, University of Texas, Dallas, 2003
 23. Prof. Ezhan Karasan, Bilkent University, Turkey, 2003
 24. Prof. Byrav Ramamurthy, University of Nebraska, Lincoln, 2002
 25. Prof. Suresh Subramaniam, George Washington University, 2002
 26. Prof. Andrea Fumagalli, University of Texas, Dallas, 2000
- REVIEWER for several books:
 1. Medhi, D., Ramasamy, K. “Network Routing: Algorithms, Protocols, and Architectures.” Morgan Kaufmann, 2014.
 2. Janevski, T. “Next Generation Networks and Future Internet.” John Wiley and Sons, 2012.
 3. Chiang, M. The Connected World: A Tour of Networked Life in 20 Questions. Cambridge University Press, 2011.
 4. Murthy, C.S.R., Tamarapalli, V. Optical Burst Switching Networks: An Analytical Approach. Springer, 2010.
 5. Venugopal, S. Data Structures Outside-In Wiley, 2006.
 6. Mukherjee, B. Optical WDM Networks. Springer, 2005.
 7. Zhu, K., Zhu, H., Mukherjee, B. Traffic Grooming in Optical WDM Mesh Networks. Springer, 2005.
 8. Jue, J., Vokkarane, V. Optical Burst Switching Networks. Springer, 2005.
 9. Labourdette, J.F. Survivable Routing in WDM Networks. Wiley, 2005.
 - REVIEWER for the NSF, all major journals and conferences in the networking field
 - PANELIST, IEEE Admission and Advancement Meeting
 - March 2007
 - March 2002

4.4 Media Coverage

- COVERAGE OF THE “SCALABLE OPTICAL NETWORK DESIGN” PROJECT

This project, funded by NSF in 2011, has been featured in national and international media:

1. “Model Finds Optimal Fiber Optic Network Connections 10,000 Times More Quickly.” NC State News Release, June 28, 2011.
2. “Making the high-speed connection.” NC State Technician, July 13, 2011.
3. OSA Spotlight on Optics featured Journal Article #7 in September 2011 (<http://www.opticsinfobase.org/spotlight/summary.cfm?uri=jocn-3-7-577>)
4. Partial list of online references (links available from my homepage):
Physics Inventions – Science Daily – R&D Mag – PhysOrg.com – My Tech Voice – Space Daily – Silo Breaker – First Science News – OptoIQ – Softpedia – Science ’n’ Technology Updates – Lab Spaces – Red Orbit – EurekAlert – Heavy Reading – Light Reading

- COVERAGE OF THE “NETWORK INNOVATION THROUGH CHOICE” PROJECT

This collaborative project involves PI teams from four institutions: NC State, RENCI, University of Kentucky, and University of Massachusetts. It was funded by the NSF in September 2011 for a total of \$2.7M (\$644K to NC State).

1. “The Future of the Internet is...a la Carte.” NC State News Release, August 9, 2012. Also on ACM TechNews, August 13, 2012.
2. “NC State Part Of Grant To Design Blueprint For Future Internet.” NC State News Release, October 12, 2011.
3. “Re-twinning the Future Internet.” NC State Technician, November 8, 2011.
4. UNC Public Radio interviewed the three local PIs (Rouskas, Dutta, Baldine).

- COVERAGE OF THE “JUMPSTART” PROJECT

Our NSA-funded Jumpstart project on optical burst switching (OBS) has received extensive coverage world-wide. A partial list of online references to Jumpstart includes:

1. Local Tech Wire: <http://www.localtechwire.com/article.cfm?u=6591>
2. Lightwave Media (search under key “MCNC”)
3. Light Reading: http://www.lightreading.com/document.asp?site=lightreading&doc_id=45541
4. Government Computer News: http://www.gcn.com/vol1_no1/daily-updates/24549-1.html
5. ACM: <http://www.acm.org/technews/articles/2004-6/0109f.html#item2>
6. Telephony Online: http://telephonyonline.com/news/telecom_new_optical_protocol/index.html

- THE NEWS AND OBSERVER

1. “Internet’s future under construction,” Christina Dyrness, March 13, 2000
A one-half page profile of my research, in the Business Section
2. “Aiming high with low profile,” Dan Egbert, August 29, 2000
A two-page article highlighting our MCNC-NCSU HELIOS project on Optical Networks

3. “People,” November 4, 1997

An announcement of my NSF CAREER Award appeared in the ONCAMPUS Section

4. “Light division”, Christina Dyrness, March 13, 2000

I was interviewed for, and quoted in, this article on Optical Network research and development in the Triangle area

5. “Two acquisitions put Cisco in fiber-optic game,” Christina Dyrness, August 27, 1999

I was interviewed for, and quoted in, this article on Cisco’s entrance in the Optical Network arena

6. “Lucent exits Centennial; most workers lose jobs,” Dan Egbert, August 24, 2001

I was interviewed for, and quoted in, this article on the closing of Lucent’s facility on Centennial campus

7. “Lucent may leave Centennial space,” Dan Egbert, August 17, 2001

I was interviewed for, and quoted in, this article on the closing of Lucent’s facility on Centennial campus

8. “Lucent brings its act here,” Chris O’Brien, April 14, 1999

I was interviewed for, and quoted in, this article on Lucent’s move to Centennial campus

9. “Lucent eyes Centennial Campus,” Dudley Price and Chris O’Brien, January 29, 1999

I was interviewed for, and quoted in, this article on Lucent’s move to Centennial campus

- UNC PUBLIC TV

1. February 3, 1999, and May 12, 1999

I was interviewed for a documentary on the history and development of the Research Triangle Park