CURRICULUM VITAE

Anthony Ephremides

BIOGRAPHICAL

Birth:	September 19, 1943; Athens, Greece
Status:	Married; U.S. citizen
Occupation:	Cynthia Kim Eminent Professor of Information Technology Electrical and Computer Engineering Department University of Maryland College Park, Maryland 20742 (permanent joint appointment with the Institute of Systems Research of the University of Maryland) Telephone: (301) 405-3641 FAX: (301) 314-9281 e-mail: tony@eng.umd.edu
Home Address:	5809 Nicholson Lane, #1004 N. Bethesda, Maryland 20852 Telephone: (301) 881-7713
Education:	1. Ph.D., Princeton University, August 1971 Electrical Engineering. Dissertation Title: "On the Multiplicity of Random Processes and Its Applications," Advisor: J. B. Thomas. 2. M.A., Princeton University, May 1969. 3. B.S., National Technical University of Athens, June 1967; Electrical and Mechanical Engineering 4. High School, Athens College, June 1962.

EXPERIENCE IN HIGHER AND CONTINUING EDUCATION

0. Univesity of Maryland, August 2003-present, Cynthia Kim Eminent Professor of Information Technology.

1. University of Maryland, August 1981-present, Professor of Electrical and Computer Engineering.

2. University of Maryland, January 1975-July 1981, Associate Professor of Electrical Engineering.

3. University of Maryland, September 1871-December 1974, Assistant Professor of Electrical Engineering.

4. University of Maryland, 1972-present, Member of the Applied Math Faculty.

5. University of Maryland, Institute for Systems Research, (previously known as Systems Research Center), 1984-present, founding member and joint appointment with Electrical Engineering since 1987.

6. Princeton University, 1967-1968, 1970-1971, Research Assistant.

7. George Washington University, taught short courses in the Continuing Engineering Education Program, 1978-1985.

8. University of Toronto, taught special intensive graduate course, 1977.

9. Continuing Education Institute, Los Angeles, California, taught short courses, 1981-1984.

10. 1982 Conference on Decision and Control, Orlando, Florida, taught Special Pre-Conference Tutorial on Communication Networks.

11. National Technical University of Athens, Greece, Fall term of academic year 1978-1979, Department of Electrical Engineering (on sabbatical leave).

12. University of California, Berkeley, CA, third quarter of academic year 1978-1979, Department of Electrical Engineering (on sabbatical leave).

13. Director of the Fairchild Scholars Program (a cooperative Graduate Education and Research Program between the University of Maryland and Fairchild Industries established in 1980 with an annual budget of approximately $200,000 and a full staff), 1980-1985.

14. MIT, Laboratory for Information and Decision systems, Visiting Professor, Fall 1985 (on sabbatical leave).

15. Swiss Federal Institute of Technology (ETH), Zurich, Switzerland, Visiting Professor, Spring 1986 (on sabbatical leave).

16. Member of the Educational Activities Board of the IEEE, 1989, 1990.

17. University of Maryland, University College, Continuing Education Program, 1985-present.

18. ABET Evaluation Visitor for Accreditation, 1990-on (visited Worcester Polytechnic Institute (1990), University of Colorado at Boulder (1993)). October 1990).

19. Member of the Advisory Council of the University of Thessalia, Volos, Greece, 2000-present.

20. Member of the University of Maryland Academy for Excellence in Teaching and Learning (AETL), 2002-2005.

EXPERIENCE OTHER THAN HIGHER EDUCATION (Industrial, Administrative, Consulting)

1. CERN (Centre Europeen pour la Recherche Nucleaire), Geneva, Switzerland; Computer Programmer and Analyst; Summer 1966.

2. Hewlett-Packard, Edinburgh, Scotland; Circuit Design; Summer 1966.

3. Eriksbergs Mekaniska Verkstat, Gothenburg, Sweden; Naval Design; Summer 1965.

4. VOEST (Vereinigte Osterreichische Eisen und Stahlwerke), Linz, Austria; Motor Design; Summer 1964.

5. Princeton University, Researcher Assistant, Summers of 1968, 1969, 1970, and 1971.

6. Naval Research Laboratory, consultant since 1977 (Information Technology Division).

7. INRIA (institut National de Recherche Informatique et Automatique), Rocquencourt, France; Winter 1979 (on sabbatical leave).

8. Consultant to SEPI (Systems Engineering for Power), NSWC (Naval Surface Weapons Center), APL (Applied Physics Laboratory), Litton Amecom, CONTEL, Meteor Communications Corporation, and other Industry and Government agencies.

9. Pontos, Inc., a Washington based consulting firm (President and Founder) since 1980.

10. Industrial Liaison for the Communications Program at the University of Maryland; Head of the Advisory Committee on Communications (1983).

11. Computer Institute of Crete, in Iraklion, Greece, advisory Board Member (since 1984).

12. Computer Institute of Crete, EEC Research and Development Program RACE for the development of Integrated Broadband Networks in Europe, 1987-1990, consultant.

13. Co-founder of Center on Commercial Development of Space (CCDS) on Satellite and Hybrid Communication Networks (a 5-year, $5M, NASA and Industry funded consortium at the University of Maryland), 1991-present, Co-Director 1991-1995.

14. Member of Scientific Council for the Hellenic Foundation of Research and Technology (FORTH), 1997-present.

15. Member of the Advisory Committee of the Demokritos Research Center in Athens, Greece (2004-present).

16. Member of the Advisory Committee of the Univrersity of Cyprus (2005-present).

17. Invited Panelist for European Union Future Emerging Technologies Proposal Evaluations (April 2005, April 2006).

18. External Examiner for Ph.D. Defense at KTH, Stockholm, Sweden.

19. Evaluation of the ECE Program at the University of Toronto (November 2005).

20. Consultant to the University of Pennsylvania on Hiring Practices in their ECE Department (November 2005).

MEMBERSHIP IN HONORARY AND PROFESSIONAL SOCIETIES

1. IEEE (Institute of Electrical and Electronics Engineers) - Fellow
2. HKN
3. Sigma Xi
4. AAAS (American Association for the Advancement of Science)
5. AAUP (American Association of University Professors)
6. Greek Technical Chamber
7. Greek Mathematical Society
8. URSI
9. Cosmos Club, Washington, DC

LISTINGS

1. Who's Who in Engineering
2. Personalities of the South
3. Who's Who in the East
4. International Who's Who in Education
5. Who's Who in Greek Scientists in the U.S.
   and many others

THESES DIRECTED

1. M.S.

i. **Royce Snyder**, "Modeling of High Error Rate Binary Communication Channels," May 1973.

ii. **John Bonnano**, "A Comparative Analysis of the Power Spectrum and Quasi-Singular Classification Algorithms," May 1974.

iii. **James Dempsey**, "Off-Line Stochastic Approximation Techniques for Phase Data Analysis," May 1974.

iv. **Thomas Dobry**, "Real-Time Altitude Prediction for Airplace Safety Based on Kalman Techniques," July 1974.

v. **Chalmers Congdon**, "Aspects of Routing and Scheduling in Communication Networks," May 1977.

vi. **Edward P. Greene**, "Distributed Reservation Control Protocols for Random Access Broadcasting Channels," May 1980.

vii. **Jonathan Cohen**, "A Real Time Space Integrating Optical Ambiguity Processor," May 1980.

viii. **Ki Hong**, "Spread Spectrum Multiple Access Systems," May 1982.

ix. **Ramesh Rao**, "A Decision Directed Approach to the Target Discrimination Problem," Dec. 1982.

x. **Richard Evans**, "Interference in a Narrowband Satellite Digital Communications Channel from a Co-Channel Frequency Modulated Television System," Dec. 1982.

xi. **George DerChin**, "Delay Analysis of a Time Assignment Speech Interpolation System with State Dependent Talkspurt Service," Dec. 1982.

xii. **Jim Cantor**, "Information Theoretic Analysis for a Multi-Server Queueing System of Equilibrium," May 1984.

xiii. **Paul Hershey**, "Performance of RS-BCH Concatenated Codes on an Interference Satellite Channel," Dec. 1984.

xiv. **David Wang**, "A Combined Kalman Filter and Viterbi Algorithm Receiver to Recover Data Embedded in Speech with Frequency Inversion Scrambling," Dec. 1984.

xv. **Ioannis Viniotis**, "Optimal Control of a Multiserver Queueing System with Heterogeneous Servers," Aug. 1985.

xvi. **Margaret Bates**, "A Simulated Performance Study of some Distributed Routing Algorithms for Mobile Radio Networks," Jan. 1986.

xvii. **Minas Karatzoglou**, "On the Stability and Performance of Multiple Access Channels with a Finite Number of Buffered Terminals," Dec. 1986.

xviii. **Julie A.B. Tarr**, "Packet Error Probability of Unslotted FH-CDMA Systems and Performance Evaluation of a Distributed Reservation Scheme for FH-CDMA Channels," May 1988.

xix. **Leandros Tassiulas**, "Scheduling and Routing in Radio Networks," August 1989.

xx. **Apostolos Kountras**, "Complexity Analysis of Optimum Scheduling in Packet Radio Networks," May 1989.

xxi. **Eitan Modiano**, "Communication Complexity of Secure Distributed Computation in the Presence of Noise," July 1989.

xxii. **Scott Corson**, "A Distributed routing algorithm for Mobile Radio Networks and its Performance Evaluation," July 1989.

xxiii. **Kim Potter**, "Optimal Resource Allocation for a Controller with Two Resource Types," July 1989.

xxiv. **Amelia DelaRosa**, "Distributed Scheduling Algorithms for Changing Topologies," 1992.

xxv. **Daniel Friedman**, "Error Control for Satellite and Hybrid Communication Networks," 1995.

xxvi. **Dimitris Stamatelos**, "Spectral Efficiency and Optimal Base Placement for Indoor Wireless Networks," 1995.

xxvii. **K.A. Khan**, "Admission Control Policies for Integrated Cellular Communication Systems Supporting Voice and Data Traffic," 1996.

xxviii. **Sonjai Gupta**, "Dynamic Bandwidth Allocation for Voice and Data Traffic Over a Satellite Channel," 1996.

xxix. **Deepak Ayyagari**, "Blocking Analysis and Simulation Studies in Satellite-Augmented Cellular Networks," 1996.

xxx. **Anastasios Michail**, "A Distributed Routing Algorithm for Supporting Connection Oriented Service in Wireless Networks with Changing Connectivity," 1997.

xxxi. **Tamer Dogu**, "Covert Information Transmission through the Use of Standard Collision Resolution Algorithms," 1998.

xxxii. **Ruplu Battacharya**, "A Distributed Protocol for Establishing Multicast Connections in Static Wireless Networks," 1999.

xxxiii. **Haifeng Zeng**, "Energy Efficiency of Dynamic Channel Allocation Schemes in the Cellular Radio System," 1999.

xxxiv. **Tolga Girici**, 2002

xxxv. **Anna Pantelidou**, 2004.

xxxvi. **Adarsh Sridhar**, 2005.

2. **Ph.D.**

   i. **Robert Corn**, "Differential Point Process Games," Dec. 1974.

   ii. **Kevin Demartino**, "Entropy Approach to Radar Detection," December 1975.

   iii. **Osama Mowafi**, "A New Class of Multiple Access Schemes for Packet-Switched Broadcast Channels," Aug. 1978.

   iv. **Jeffrey Wieselthier**, "A New Class of Multi-Access Protocols for Packet Communication over a Satellite Channel," March 1979.

v. **Tarek Saadawi**, "The Queueing Problem in Multiple Access Schemes", Aug. 1980.

vi. **Ramesh Rao**, "Multiple Access Systems with Variable Feedback Structure," Dec. 1984.

vii. **Ioannis Viniotis**, "Optimal Control of Integrated Communication Systems Via Linear Programming Techniques," Aug. 1988.

viii. **Partha Bhattacharya**, "Real-Time Scheduling Problems with Applications to Communication Networks," August 1989.

ix. **Minas Karatzoglou**, "The Effect of Buffering and Finite Propagation Delay on the Collision Channel," August 1989.

x. **Leandros Tassiulas**, "Dynamic Link Activation Scheduling in Multihop Radio Networks with Fixed or changing Connectivity ", 1991.

xi. **Eytan Modiano**, "Security and Performance Issues in Distributed Protocols ", 1992.

xii. **Scott Corson**, "Distributed Multi-Receiver Multiple Access Algorithms for Mobile Radio Networks ", 1992.

xiii. **Deepak Ayyagari**, "Capacity and Admission Control Schemes in Multi-media, DS-CDMA Wireless Networks," 1998.

xiv. **Shih-Tsung Yang**, "On the Design of Wireless Networks and Come Associated Problems," 1999.

xv. **Wei Luo**, "Multiple Random Access and Multiusesr Detection in Wireless Networks," 1999.

xvi. **Chandrasekhar Sankaran**, "Multiuser Detection Techniques and Applications to Wireless Multicasting in CDMA Systems," 1999.

xvii. **Tamer Elbatt**, "On the Design of Satellite-Terrestrial Hybrid Wireless Systems," 20001.

xviii. **Anastasios Michail**, "Routing and Scheduling Algorithms in resource-Limited Wireless Multihop Networks," 2000.

xix. **Kamran Sayrafian-Pour**, "Space-Division and Scheduling in Multiple Access and Some Information-Theoretic Approached to Problems in Networking," 2000.

xx. **Daniel Friedman**, "Error Control for Multicasting in Satellite and Hybrid Communication Networks," 2000.

xxi. **Steve Borbash**, 2004

xxii. **Yun Li**, 2004

3. **Other Advising**

Regular Graduate Advisor (1971-present), Undergraduate Advisor (1975-present)

Supervised dozens of Scholarly Papers; participated in dozens of doctoral examinations in different departments; served regularly on Ph.D. Guidance Committees.

GRANTS AND CONTRACTS

1. **National Science Foundation Research Initiation Grant** GK-32709; "On the Prewhitening of Random Waveforms Using the Multiplicity Approach"; April 1, 1972-Mar. 31, 1974; **$15,900**.

2. **Research Board Award** (University of Maryland; "Differential Point Process Games"; Summer 1974, **$2,500**.

3. **Minta Martin Fund Award** (College of Engineering, University of Maryland); Special EE Colloquium (with J. Baras and R.W. Newcomb); Fall 1974; **$500**.

4. **Minta Martin Fund Award** (College of Engineering, University of Maryland); "Air Traffic Analysis in the Context of Point Process Games"; Summer 1975; $3,711.

5. **Minta Martin Fund Award** (College of Engineering, University of Maryland); Special EE Colloquium (with J. Baras and L. Weiss); academic year 1975-1976; **$600**.

6. **National Science Foundation Grant**; "Signal Filtering with Quantum Mechanical Measurements," (with J. Baras and R.O. Harger), April 1, 1976-Mar. 31, 1978; **$40,000**.

7. **Minta Martin Fund Award** (College of Engineering, University of Maryland); Special EE Colloquium, (with J. Baras); academic year 1976-1977; **$1,000**.

8. Miscellaneous International Travel Grants (**NSF, Minta Martin Fund, NATO**, etc.); 1971-present.

9. **National Science Foundation Grant**; "Adaptive Flow Control in Computer Communication Networks," April 1, 1978-Aug. 31, 1980; **$54,000**.

10. **Minta Martin Fund Award** (College of Engineering, University of Maryland); Special EE Colloquium, (with J. Baras); academic year 1977-1978; **$900**.

11. **Office of Naval Research Grant**; "Modeling of Scattering Returns and Discriminations of Distributed Targets"; July 1, 1978-Aug. 30, 1979; **$30,000**, (with J. Baras).

12. **Minta Martin Fund Award** (College of Engineering, University of Maryland); Special EE Colloquium, (with J. Baras and and G. Blankenship); academic year 1979-1980; **$1,500**.

13. **Office of Naval Research Grant**; "Detection, Identification, and Stochastic Stability Problems in Radar Tracking Systems," 1980-81; **$33,082**, (with J. Baras).

14. **Office of Naval Research Grant**; "Multiple Access Communications Without Acknowledgements"; 1982-84, **$34,000**.

15. **Fairchild Industries Contract**; "Interference at Earth Stations Due to Closer Spacing of Geostationary Satellites," 1983, **$35,000**, (with P. Narayan).

16. **National Science Foundation**; "Workshop on Multi-User Information Theory and Systems," 1983, **$5,300** (Hot Springs, VA), (with P. Narayan).

17. **Naval Research Laboratory**; 2 Fellowships at **$15,000** each, 1982-1983 and 1983-1984.

18. **Minta Martin Fund Award** (College of Engineering, University of Maryland); "Satellite Communication and Control Problems, **$50,000**, 1983-1984, (with J. Baras, S. Belbas, A. Makowski,and P. Narayan).

19. **Office of Naval Research**; "Distributed Robust Communication Control in Radio Networks Subject to Topological Changes," July 1, 1984-June 30, 1987, **$379,916**, Principal Investigator, (with A. Makowski, Co-Principal Investigator).

20. **Fairchild Industries**; "Orthogonal Codes," Jan. 1-Dec. 31, 1985 (3rd year), **$30,000**, Principal Investigator, (with P. Narayan, Co-Principal Investigator).

21. **Minta Martin Fund** (College of Engineering, University of Maryland); "Design and Performance Evaluation of Communication Satellites with Large Flexible Antennae," July 1, 1984-June 30, 1985, **$50,000**, Co-Principal Investigator, (with J. Baras, N. Farvardin, P. Krishnaprasad, A. Makowski,and P. Narayan).

22. **Office of Naval Research/Naval Research Laboratory**; "NRL/University of Maryland Resident Graduate Student Program," Sept. 25, 1984-Aug. 25, 1985, **$16,440**, Project Director.

23. **Engineering Research Center of the University of Maryland**; "Signal Processing Laboratory," **$151,000**, awarded Feb. 1985 for the establishment of a Signal Processing Laboratory, Co-Investigator with N. Farvardin.

24. **National Science Foundation**; "Systems Research Center," **$1,500,000** for 1st year, and **$16,000,000** for 5-year period, effective May 1, 1985, contributor and center executive committee member, (ongoing and extended to 1996).

25. **National Science Foundation and Department of Defense**; "Department Equipment," contributor (approximately **$200,000** awarded in '84-'85).

26. **Office of Naval Research/Naval Research Laboratory**; "NRL/University of Maryland Resident-Graduate Student Program," Oct. 1, 1985-Sept. 30, 1986, **$80,000**, Project Director.

27. **Minta Martin Fund** (College of Engineering, University of Maryland); "Design and Performance Evaluation of Communication Satellites with Large Flexible Antennae," July 1, 1985-June 30, 1986, **$25,000**, Co-Principal Investigator, (with N. Farvardin, P. Krishnaprasad, A. Makowski, and P. Narayan).

28. **Department of Defense University Instrumentation Program**; "Versatile Channel Simulator Facility," awarded 1986, **$97,000**, (with L. Davisson, N. Farvardin, and E. Geraniotis), with *Industrial Contributions* (CONTEL, Martin Marietta): **$100,000** matched by the Engineering Research Center with another **$100,000**.

29. **Office of Naval Research/Naval Research Laboratory**; "NRL/University of Maryland-Graduate Student Program," Sept. 1, 1987-Aug. 31, 1988, **$75K**, (with E. Geraniotis and J. Baras).

30. **CONTEL** (Sustaining Partner to the Systems Research Center at **$200,000**/year initiated February 1987, ongoing, Coordinator of the entire program and Principal Investigator for a Project on Reconfigurable Networking and Integrated Services, **$40,000** per year, 1987-1990.

31. **NASA** Proposal for Establishment of a Center for the Commercial Development of Space with a theme on "On-Board Processing for Space Communications," **$6,000,000** for 5 years, Director. (Submitted April '87, not funded.)

32. **Office of Naval Research/NOSC** (Subcontract through San Diego State University), "Distributed Communication Network Protocol Validation," January 1, 1988-December 31, 1988, **$98,000**, Principal Investigator.

33. **Office of Naval Research**, "Communications Under Tight Timeliness Constraints," April 1, 1988-Mar. 31, 1990, **$194,606**, Principal Investigator.

34. **Systems Research Center, $31K**, 1987-88.

35. **Office of Naval Research/Naval Research Laboratory**; "NRL/University of Maryland-Graduate Student Program," Sept. 1, 1988-Aug. 31, 1989, **$75K**, (with E. Geraniotis and J. Baras), extended September 1, 1990 - August 31, 1991.

36. **Naval Research Laboratory**, "Computer Communication Security," Sept. 1, 1988-Aug. 31, 1989, **$25K**, 1990, **$28K**, 1991, **$30K**.

37. **CONTEL**, "Cellular Communications," 1989, **$25K**, 1990, **$12.5K**.

38. **Westinghouse**, "In-Door Communications for Manufacturing," 1990, **$25K**, 1991, **$20K**, 1992, **$20K**, 1993, **$20K**.

39. **Office of Naval Research**, "Novel Problems in Radio Networks," July 1, 1990 - December 31, 1994, **$280K**.

40. **Systems Research Center/Institute of Systems Research**, **$20K**, 1988-1989, **$20K**, 1989-1990, **$20K**, 1990-1991, **$20K**, 1991-1992, **$20K**, 1992-1993, **$15K**, 1993-1994.

41. **Research Board Award**, University of Maryland, 1990-1991, Distinguished Faculty Research Award, **$5K**, plus total release from teaching.

42. **NASA**, "Center for Commercial Development of Space for Satellite and Hybrid Communications," at about **$1M/yr**, awarded in 1991 for and continuous until now, **co-founder and co-director** (plus augmentations from various sources around **$250K/yr.**).

43. **Systems Research Center/Institute of Systems Research**, Permanent Joint Appointment, since 1988-present (40% of academic-year salary).

44. **Office of Naval Research (ONR)**, "Multicasting in Wireless Networks," 1996, **$50K**.

45. **Westinghouse**, "Indoor Wireless Networks," 1996, **$20K**.

46. **Army Research Laboratory (ARL)**, "Advanced Telecommunication and Information Research Program," (ATIRP) under the "Federated Laboratory Program," 1995-2001 **$5M**, (Co-PI for six years, leading the Wireless Communications Factor at aboutr **$300K/yr**).

47. **Maryland Industrial Partnerships (MIPS) with Tektron, Inc.**, "Anti-Multipath Remote Microphone Project," 1996-1997 **$60K**.

48. **Office of Naval Research (ONR)**, "Integrated Signal Processing Techniques," 1997 **$80K**.

49. **Department of Defense (DoD)**, "Defense University Research Instrumentation Program,' (DURIP), 1997 **$300K**.

50. **GTE Labs**. "Dynamic Channel Assignment," 1997, **$20K**.

51. **Office of Naval Research (ONR)**, "Novel Networking Techniques," 1998-1999, **$100K**.

52. **National Science Foundation (NSF)**, "Control and Performance Trade-Offs in Multihop Wireless Networks," 1999-2002, **$672K**.

53. **Northrop/Grumman**, "System of Systems," 1999-2000, **$40K**.

54. **Office of Naval Research (ONR)**, "Wireless Networking," 1999-200, **$60K**.

55. **National Security Agency (NSA)**, "Problems in Wireless Networks," 1999-2000, **$50K**.

56. **Office of Naval Research (ONR)**, "QoS-Aware Access and Routing Control," 2000-2001, **$130K**.

57. **Army Research Office (ARO)**, "Distributed Immune Systems for Information Assurance," University Research Initiative (URI) Program, 2001-2006, **$5M**.

58. **Army Research Lab** Communication Technology Alliance (CTA), 2001-2006, **$899K/yr** (co-PI).

59. **Army Research Office** URI on Information Assurance, 2001-2006, **$4M total** (co-PI).

60. **NSF** Control and Performance Trade-Offs in Wireless Networks, 1999-2002, **$655K total** (PI).

61. **Office of Naval Research** QoS-Aware Access & Routing Control, 2000-2001, **$65K/yr**. (PI).

62. **NSF** Vertical Protocol Integration in Ad-Hoc Wireless Networks, pending, 1995-1998, **$1.4M (3 years)**, (co-PI).

63. **ARL via Telcordia** Design and Development of a Mobile Ad-Hoc Network, 2001-2002, **$350K** (co-PI).

64. **NSF** Control & Performance Tradeoffs in Wireless Networks, 1999-2003, **$675K total** (PI).

65. **NSF-ITR Program** Vertical Protocol Integration in Wireless Networks (new award), 2002-2005, **$1.5M** (PI).

66. **ONR** Holistic Energy Efficiency in Wireless Networks (new award) 2002-2004 **$80K/yr.** (PI).

67. **NASA** Center for Hybrid and Satellite Communication Networks, 1991-2006, **$900K/yr.** (co-PI).

68. **ONR**, Network Coding for Sensor Networks, 2005-2007, **$300K** (PI).

69. **ARO**, Information Assurance URI, 2002-2006, **$150K/yr** (Co-PI).

70. **NSF** Major Research Instrumentation Award, 2005, **$400K** (PI).

71. **ARL, CTA**, 2006-2008, **$ 120K/yr**, (Co-PI).

72. **Fujtsu USA** Power Control in Cellular Networks, 2006, **$50K** (PI).

73. **National University of Yokohama** Ultra-Wide Band for Medical Applications, 2005-2006, **$50K/yr** (PI).

74. **ARO**, MURI, Dynamic Ad Hoc Wireless Networks (DAWN), 2005-2009, **$150K/yr** (Co-PI).

75. **NSF** NETS, Cross-Layer Networking, 2006-2005, **$100K/yr** (CO-PI).

COURSES TAUGHT

A. Undergraduate

1. ENEE 204, Systems and Circuits I	Fall '73, Fall '76	
2. ENEE 300, Principles of Elec. Eng.	Fall '71	
3. ENEE 304, Systems and Circuits II	Spring '74, Fall '79, Fall '74, Fall '75	
4. ENEE 320, Engineering Probability	Spring '72	
or 324 & 324H	Spring '73, Fall '70, Spring '75	
	Summer '81, Spring '76, Spring '78 Spring '90,	
	Spring '95, Fall '95, Fall '97, Spring '98	
	Spring '01, Spring '02, Fall '03, Fall '04	
5. ENEE 420, Communication Theory	Fall '71	
6. ENEE 322, Signals and Systems	Fall '77, Fall '91, Spring '97, Spring '99	
7. ENEE 488F, Communication Networks	Fall '83	
(New Course)		
8. ENES 240, Engineering Computation	Fall '86	
9. ENEE 426, Communication Networks	Spring '88, Spring '90, Fall '97	
10. ENEE 418, Undergraduate Research	Fall '96	
	Projects	

B. Graduate

1. ENEE 608C, Graduate Seminar in	Spring '72, Fall '72, Spring '73,
Communications (varying content)	

2. ENEE 620, Random Processes in

Fall '72, Spring '73, Fall '75, Fall '76,
Fall '79, Spring '81, Fall '84, Fall '87, Fall '94, Spring
Fall '05

3. ENEE 721, Information Theory

Fall '72, Fall '73, Fall '74, Fall '98, Fall '00, Fall '02

4. ENEE 728, Advanced Topics in

Spring '72, Spring '74, Fall '80. Spring '77
Spring '78, Spring '84, Spring '85

5. ENEE 772, Mathematical Models in
   Estimation Theory (New Course -
   also in Applied Math Program)

Spring '75, Fall '77

6. ENEE 621, Detection and Estimation
   Theory

Spring '76, Spring '77, Spring '80, Spring '96,
Spring '06

7. ENEE 625, Multi-User Communications

Fall '81, Fall '82, Fall '86, Fall '88, Fall '93
Fall '96

8. ENEE 799

Continuously

9. ENEE 899

Continuously

10. ENEE 625

Fall '01, Spring '05

11. ENEE 724, Digital Signal Processing

Spring '82

12. ENEE 722, Error Correcting Codes

Spring '83

13. ENEE 623, Digital Communications

Spring '89, Spring '94
(also taught as 728A
in Spring '84 and Spring '85).

New Courses introduced by Dr. A. Ephremides, originally taught under the Special Topics label (ENEE 728 or ENEE 488), and subsequently adopted as regular courses are:

1) ENEE 426, Communication Networks, (1998),
2) ENEE 623, Digital Communications, (1989),
3) ENEE 625, Multi-User Communication Systems, (1981), and
4) ENEE 772, Mathematical Models in Estimation Theory, (1995).

SERVICES

A. **Department/Institute**

1. Graduate Studies Research Committee

1972-73, 1973-74, 1974-75, 1994-1995,
2000-2001

2. Academic Affairs Committee

1973-74, 1979-80

3. Chairman of Communications Specialty Area

1973-74

4. Committee on Applied Mathematics

1972-73, 1973-74, 1974-75, 1975-76
1976-77

5. Administrator of Ph.D. Qualifying Exam

1972-73 and subsequent years

6. Faculty Affairs Committee

1974-75

7. Ad Hoc Advisory Committee to the Dean

1974-75

8. Committee for Graduate Studies and Research

1975-76 (Chairman), 1976-77,
1977-78, 1980-83

9. General Academic Affairs Committee

1975-76, 1976-77, 1977-78

10. Ad Hoc Faculty Hiring Committee

1982-83, 1986-87

11. Strategic Advisory Committee

1992-93

12. MS Professional Communications Program
    Committee

1992-present

13. Miscellaneous other Ad Hoc Committees

(such as Promotion Committees, Search Committee, Student Advisory Committees, etc.)

14.	Appointment Promotion and Tenure Committee (ISR)	1995-present
15.	Facilities Committee	1996-1998
16.	Ph.D. Qualifying Exam Panel	1997-1998
17.	Salary Committee	(EE Department 1993 and ISR 1998)
18.	ISR Education Committee	(2000-2001)
19.	Awards Committee	(2000-2001)

B. College-University

1.	Committee on Statistics Programs on Campus	1972-73, 1973-74
2.	Adjunct Committee on Faculty Appointments, Promotions, and Tenure	1973-74
3.	University Speakers Bureau	1972-present
4.	General Committee on Faculty Affairs	1974-75
5.	College of Engineering Council	1974-75, 1975-76, 1976-77, 1977-78, 1982-1984
6.	Chairman of Faculty Affairs Standing Committee	1974-75
7.	Ad Hoc Committee for Professional School Evaluation	1975-76, 1976-77
8.	MPSE Division Council	1975-76, 1976-77, 1979-80
9.	Division PCC Committee	1975-76, 1976-77, 1979-80, 1981-82, 1980-81, 1982-83, 1977-78 (Chairman), 1983-1984
10.	MPSE Promotion and Tenure Review Committee	1976-77, 1977-78
11.	Faculty Advisor to the Campus Newspaper *Diamondback*	1981-83
12.	Advisory Committee on Communications	1985
13.	Systems Research Center Executive Committee	1986-1987
14.	Systems Research Center Executive Committee	1986-87, 1987-88
15.	Systems Research Center Research Committee	1987-88
16.	Minta Martin Chair Search Committee	1989-1990
17.	Applied Mathematics Graduate Committee	1990-1991, 1991-1992, 1992-1993
18.	Electrical Engineering Department Review Committee	1995
19.	University Appeals Committee	1997
20.	Information Technology Advisory Committee	2000-2001
21.	ISR Director Review Committee	2000-2001
22.	Education Committee of the ISR (elected)	
23.	Graduate Studies and Research Committee of the ECE (elected)	
24.	Awards Committee of the ECE (Chair) (appointed)	
25.	ISR Director Review Committee (appointed by the Dean) 2003	
26.	ITAC (Information Technology Committee) (appointed by the Dean)	
27.	ISR Appointments and Tenure Committee	
28.	ISR Facilities Committee	
29.	"Netcentricity" Program	
30.	Member of the University Speakers Bureau	
31.	ECE Dept.: GSRC, Ph.D. Qualifying Review Committee, Faculty Mentor, Awards Committee	

32. ISR: Education Committee, Facilities Committee
33. Campus: Academy of Teaching and Learning, ITAC (Information Technology Committee)
34. Academy of Excellence in Teaching and Learning
35. Graduate Studies and Research Committee
36. Active Participation in Revision of Ph.D. Qualifying Exam
37. ISR Education Committee
38. ISR APT Committee
39. Faculty mentor

C. National - International

1. Ad Hoc Committee of IEEE-IT for US-USSR Cooperation Program	1976-77, 1977-78
2. Treasurer of the Board of Governors of the Information Theory Group of IEEE	1978-81
3. Member of the IDC of the Control Society of the IEEE, Associate Editor of IEEE *Trans. on Automatic Control for Estimation*	1979, 1980
4. Member of TEB of the Control Society of IEEE, Associate Editor of the *IEEE Trans. on Automatic Control for Queueing Networks*	1986, 1987
5. External Ph.D. Examiner at the University of Toronto	1981, 1985
6. Member of the Board of Governors of the Information Theory Group of the IEEE	1981-1983
7. Organizer of the 1983 Workshop on Multi-User Information Theory and Systems	1983
8. Member of International Committee for the Election of Faculty of the University of Crete	1984, 1986
9. Reelected to Board of Governors of the Information Theory Group of the IEEE	1984-1986
10. Elected 2nd Vice-President of the Information Theory Group of the IEEE	1985
11. Elected 1st Vice-President of the Information Theory Group of the IEEE	1986
12. General Chairman of the 25th Conf. on Decision and Control	1986
13. Member of the International Advisory Committee of the the Computer Science Institute of Crete	1986
14. Elected President of the Information Theory Group of the IEEE	1987
15. Member of the Technical Activities Board of the IEEE	1987
16. Board of Governors of the Control Systems Society	1987
17. Review Panel of the National Science Foundation for Evaluation of Engineering Research Centers	Fall 1986
18. Review Panel for the Evaluation of NASA Research Programs at Goddard Flight Space Center	Spring 1987
19. NSF Review Panel for Research Initiation Grants	Spring 1988
20. NSF Review Panel for Research in Communications and Networks Program	Fall 1988
21. Elected Director of Division X of IEEE - Member of Board of Directors (see section on "Office" for details)	1989, 1990

22. Fellow Evaluation Committee of Control systems Society	1989
23. Richard Hamming Medal Award Committee	1990, 1991, 1992, 1993
24. NSF Review Panel for Presidential Fellows Program	1992
25. IEEE Information Theory Best Paper Award Committee	1992, 1993
26. IEEE TAB Strategic Planning Committee	1991-1996
27. IEEE TAB Representative to RAB	1994
28. ABET Evaluator	since 1990
29. Member of Technical Program Committee for INFOCOM	1995, 1996, 1998
30. Member of Technical Program Committee for IEEE ISIT	1995, 1997, 1998
31. Member of the Board of Governors of the IEEE Information Theory Society	1991-1993
32. Chair of Fellows Evaluation Committee of the IEEE Information Theory Society	1995
33. Editorial Board of Beltzer's Journal on Wireless Networks	1996-present
34. Historian of the Information Theory Society	1990-present
35. IEEE Fellows Evaluation Committee	1996-1999
36. Guest-Editor of Special Issue of the Journal of Wireless Networks on Satellite Systems	1997-98
37. Guest-Editor of IEEE JSAC Special Issue on Satellite and Hybrid Networks	1998-2999
38. Chair of Technical Program Committee for the IEEE Infocom, New York, NY	1999
39. Chair of Technical Program Committee for the IEEE ISIT, 1998 Sorrento, Italy	
40. Member of Technical Program Committee of the IEEE Int'l Symposium on Computer Communications, Cairo, Egypt	1998
41. Chair of Panel for Foreign Technology Assessment in Wireless Communications - sponsored by NSF/DARPA/ONR/NIST/ DoD and operated by WTEC of Loyola University	1999-2000
42. North American Editor of the International Journal of Satellite Communications	1999-present
43. Member of NSF Research Award Panels (repeatedly over the last 25 years	
44. Member of the Advisory Committee to the University of Thessalia, Volos, Greece	1999-present
45. Member of the Scientific Council of the Hellenic Foundation of Research and Technology (FORTH)	1997-present
46. Member of the Faculty Election Committee of the University of Cyprus, Nicosia, Cyprus	2000

47. Member of the Board of Governors of the IEEE Information Theory Society
48. Member of the Fellows Evaluation Committee of the IEEE Information Theory Society
49. North-America Editor of the International Journal of Satellite Communications
50. Invited Panelist on NSF Research Panel
51. Invited Participant in NSF's workshop on future directions in communications and networking research
52. Historian of the IEEE Information Theory Society
53. Member of the Advisory Committee to the University of Thessalia, Volos, Greece
54. Member of the Advisory Committee to the Institute of Computer Science of the Foundation of Research and Technology Hellas (FORTH)

55. Member of the Technical Program Committee of the IEEE Infocom
56. Member of the Technical Program Committee of the IEEE/ACM Mobicom
57. Member of the Technical Program Committee of the ACM Mobicom 2002
58. Technical Program Chair of the ACM MOBIHOC
59. Technical Program Chair of the WiOpt Workshop in Sophia-Antipolis, France and WiOpt 2004, Cambridge, England
60. Guest Editor for 2 special issues of the IEEE Journal on Special Areas of Communications (JSAC)
61. Evaluator of Education on Development Proposals forthe European Union
62. Reviewer of proposals and papers for dozens of agencies, journals, and conference
63. Member of the Ethics and Member Conduct Committee Hearing Panel of the IEEE
64. Member of the IEEE Division X committee on nominations and appointments
65. Member of the IEEE Institute-wide Fellows committee
66. Member of the TPC of the Networking 2004 conference
67. **Continuing Member of Editorial Boards and Technical Conferences too numerous to list anymore**

D. Community

1. Member of Opera Guilds in Washington and New York   Since 1971
2. Free-lance writer for opera publications   Since 1974
3. Supernumerary in Metropolitan Opera performances   1976, 1977
4. Speakers Bureau of the University of Maryland   Since 1973
5. Member of the Montgomery County Community Liaison   2000-present
   Committee for the Montgomery County Conference Center

PUBLICATIONS

A. Books and Book Chapters

1. *Random Processes - Multiplicity Theory and Canonical Decompositions*, Benchmark Papers in Electrical Engineering and Computer Science, Dowden, Hutchinson & Ross, Inc., May 1973 (co-editor with J.B. Thomas).

2. *Random Processes, Part II - Poisson and Jump Point Processes*, Benchmark Papers in Electrical Engineering and Computer Science, Dowden, Hutchinson & Ross, Inc., May 1975 (editor).

3. "Optical Communications", chapter of seven invited lectures in *The Information Theory Approach to Communications*, CISM Summer School, Udine, 1977.

4. "Secure Network Communications," chapter of five invited lectures in *Secure Digital Communications*, the CISM Summer School, Udine, 1982.

5. "The Routing Problem in Communication Networks," Chapter in *Communications and Networks: A Survey of Recent Advances*, Springer-Verlag, New York, Feb. 1986, (edited by I. Blake and V. Poor).

6. "Worldwide Wireless Communication," co-editor, published by the International Engineering Consortium, Decembver 1995.

7. "Satellite Augmented Cellular Network concept," with D. Ayyagari), Chapter in *Multiaccess, Mobility and Teletraffic for Personal Communications,"* (eds., B. Jabbari, P. Godlewski, X. Lagrange), Kluwer. 1996).

8. "Stochastic Comparison Methods in Communication Networks," Chapter in *Stochastic Processes and Related Topics: In Memory of Stamatis Combanis*, ed. I. Karatzas, Birkhauser, Boston (Spring 1998 (invited)).

9. Area Editor of *Encyclopedia of Electrical Engineering and Computer Science* for Communications and Control, Oxford University Press and IEEE Press.

10. "Some Wireless Networking Problems with a theoretical Conscience," Chapter in *Codes, Curves, and Signals: Common Threads in Communication*, ed. A. Vardy, Kluwer, October 1998.

11. Trading-off Capture Against Packet Separation for Throughput and Energy Efficiency in Random Access Systems, (with W. Luo), Chapter in *Multiaccess Mobility, and Teletraffic in Wireless Communications*, Vol. 4, Kluwer, 1999.

12. "Cutting Across the Network Layers in the Wireless Environment," Chapter in *Progress in Informatics*, World Scientific 2000.

13. "Information theory and Communication Networks: An Unconsummated Union," (with B. Hajek), Chapter in *Information Theory: 50 years of Discovery*, eds. S. Verdu, S. McLaughlin, IEEE Press, 1999.

14. *Wireless Technologies and Information Networks*, World Technology (WTEC) Panel Report of the International Technology Research Institute (ITRI), July 2000 (A. Ephremides: Panel Chair) - sponsored by Dod, DARPA, ONR, NIST, NASA, andNSF.

15. "An Information - Theoretic Analysis to Evaluate Joint Time and Space Slitting in Random Access Algorithms," (with K. Sayrafianpour) Chapter in *Multiaccess, Mobility and Teletraffic in Wireless Communications*, vol. 5, pp. 1-12, Kluwer Academics Publishers, December 2000.

16. "Source Coding and Parallel Routing, in Advances in Network Information Theory", **DIMACS Series in Discrete Mathematics and Theoreticl Computer Science**, American Mathematical Society, 2004 (with A. Faridi, M. Alasti, K. Sarafianpour).

17. "Detection, Energy, and Robustness in Wireless Sensor Networks", Chapter 4, in *Mobile, Wireless, and Sensor Networks: Technology, Applications, and Future Directions*, John Wiley, and Sons.

B. **Journal Articles**

1. "Multiplicity Considerations in Linear Least Mean Square Estimation," SIAM Journal on Applied Mathematics, *Vol. 22*, No. 2, pp. 162-172, Mar. 1972, (with J.B. Thomas), also in *Statistical Theory and Method Abstracts* and in *Zentralblatt fur Matematik* (abstracts).

2. "On the Multiplicity of a Class Multivariate Random Processes," *Annals of Mathematical Statistics, Vol. 43*, No. 6, pp. 1-7, Dec. 1972, (with J.B. Thomas).

3. "On the Reconstruction Error of Sampled Data Estimates," *IEEE Transactions on Information Theory, Vol. IT-19*, No. 3, pp. 365-367, May 1973, (with L.H. Brandenburg).

4. "On the Lattice Structure of σ-finite Measures," *Bulletin of Greek Mathematical Society, Vol. 14*, pp. 1-4, 1973.

5. "On Random Processes Linearly Equivalent to White Noise," *Information Sciences, Vol. 7*, pp. 133-156, Jan. 1974 (with J.B. Thomas). Also in *Zentralblatt fur Matematik* (abstract).

6. "On the Rank of the Projection of a Random Process," *Theory of Probability and Applications, Vol. 2*, pp. 431-433, 1975.

7. "Linear Innovation Theorems," *Information Sciences, Vol. 10*, pp. 81-93, 1976.

8. "A Property of Random Processes with Multiplicity One," *Journal of Multivariate Analysis, Vol. 7*, No. 4, pp. 525-534, Dec. 1977.

9. "Extension of an Adaptive Distributed Routing Algorithm to Mixed Media Networks," *IEEE Trans. on Communications, Vol. 26*, No. 8, Aug. 1978.

10. "On the 'Bursty Factor' as Measure for Characterizing Data Traffic," *IEEE Trans. on Communications, Vol. 26*, No. 10, Oct. 1978.

11. "A Derivation of the Steady-State Random Access Results Without the Poisson Assumption," *Information Sciences*, April 1979.

12. "A Simple Dynamic Routing Problem," *IEEE Trans. on Automatic Control*, (with P. Varaiya and J. Walrand), Aug. 1980.

13. "A New Class of Protocols for Multiple Access in Satellite Networks," *IEEE Trans. on Automatic Control*, (with J. Wieselthier), Oct. 1980.

14. "Comments on a Study of Users' Buffer Variations in Random Access Satellite Channels," IEEE Trans. on Communications, Aug. 1980, (with T. Saadwai).

15. "Distributed Reservation Control Protocols for Random Access Broadcasting Channels," *IEEE Trans. on Communiations*, (with E.P. Greene), May 1981, pp. 726-735.

16. "Analysis, Stability, and Optimization of Slotted Aloha," *IEEE Trans. on Automatic Control*, (with T. Saadawi), June 1981.

17. "A Distributed Algorithm for the Organization of Mobile Radio Networks," *IEEE Trans. on Communications*, (with D. Baker), Nov. 1981.

18. "Analysis of Hybrid Access Scheme for Buffered Terminals - Probabilistic Time Division," *IEEE Trans. on Software Engineering*, (with O. Mowafi), Jan. 1982.

19. "Modeling of High Error Rate Binary Communication Channels," *IEEE Trans. on Information Theory*, (with R. Snyder), May 1982.

20. "The Fairchild Scholars Program - A New Form of Industry-University Cooperation," *IEEE Trans. on Education*, Nov. 1982, (with L. Davisson, H. Boroson, E. Fthenakis, and R. Goodacre).

21. "Design Concepts for a Mobile-User Radio Network," *Computers and Electrical Engineering, Vol. 40*, No. 3, p. 127, Nov. 1983.

22. "The Design and Simulation of Mobile Radio Networks with Distributed Control," *IEEE Journal on Special Topics on Communications*, (special issue), (with D. Baker and J. Flynn), Jan. 1984.

23. "Comments on 'Analysis, Stability, and Optimization of Slotted ALOHA with a Finite Number of Buffered Users'", author's reply, *IEEE Trans. on Automatic Control*, March 1985.

24. "Throughput Increase in FH Multiple Access Channel by means of Discrimination against Partially Overlapping Interference," *IEEE Trans. on Communications*, (with J. Wieselthier), Feb. 1986.

25. "Information Theoretic Analysis for a General Queueing System at Equilibrium With Application to Queues in Tandem," *ACTA Informatica*, (with J. Cantor and D. Horton), *Vol. 23*, pp. 657-678, Oct. 1986.

26. "A Design Concept for Reliable Mobile Radio Networks with Frequency Hopping Signaling," *Proceedings of the IEEE*, (with D. Baker and J. Wieselthier), special all-invited issue, *Vol. 75*, No. 1, pp. 56-73, Jan. 1987.

27. "Delay Analysis of Intercting Queues With an Approximate Model," *IEEE Trans. on Communications*, (with R. Zhu), *Vol. 35*, No. 2, pp. 194-201, Feb. 1987.

28. "Performance of RS-BCH Concatenated Codes and BCH Single-Stage Codes on an Interference Satellite Channel," *IEEE Trans. on Communications*, (with P. Hershey and R. Khatri), *Vol. 35*, pp. 550-556, May 1987.

29. "Extension of the Optimality of the Threshold Policy on Heterogeneous, Multiserver Queueing Systems," *IEEE Trans. on Automatic Control*, (with I. Viniotis), *Vol. 33*, pp. 104-109, Jan. 1988.

30. "A Distributed Reservation-Based CDMA Protocol that Does Not Require Feedback Information," *IEEE Trans. on Communications*, (with J. Wieselthier and J. Tarr), *Vol. 36*, pp. 913-924, Aug. 1988.

31. "On the Stability of Interacting Queues in a Multiple Access System," *IEEE Trans. on Information Theory*, (with R. Rao), *Vol. 34*, pp. 918-931, September 1988.

32. "An Exact Analysis and Performance Evaluation of Framed ALOHA with Capture," *IEEE Trans. on Communications*, (with J. Wieselthier and L. Michaels), Feb. 1989.

33. "Optimal Scheduling with Strict Deadlines," *IEEE Trans. on Automatic Control*, (with P. Bhattacharya), pp. 721-728, July 1989.

34. "Control and Optimization Methods in Communication Network Problems," *IEEE Trans. on Automatic Control*, (with S. Verdu), pp. 930-942, September 1989.

35. "The Role of Information Sciences in Automation Control and Computation," *Information Sciences*, Vol. 55-56, pp. 1-12, January 1990.

36. "Calculation of the Steady State Probability Distribution of Interacting Queues," *IEEE Trans. on Information Theory*, (with T. Nakasis), Vol. 36, pp. 334-346, March 1990.

37. "Scheduling Broadcasts in Multihop Radio Networks," *IEEE Trans. on Communications*, (with T. Truong), Vol. 38, No. 4, pp. 456-460, April 1990.

38. "Packet Error Probability Analysis for Unslotted FH-CDMA Systems with Error Control Coding," *IEEE Trans. on Communications*, (with J. Tarr and J. Wieselthier), Vol. 39, No. 11, pp. 1987-1993, November 1990.

39. "Stochastic Monotonicity Properties of Multi-Server Queues with Impatient Customers," *Journal of Applied Probability*, (with P. Bhattacharya), Vol. 28, pp. 673-682, October 1991.

40. "Optimal Allocation of a Server Between Two Queues with Due Times," *IEEE Trans. on Automatic Control*, (with P. Bhattacharya), Vol. 36, pp. 1417-1424, December 1991.

41. "Jointly Optimal Routing and Scheduling in Packet Radio Networks," *IEEE Trans. on Information Theory*, (with L. Tassiulas), Vol. 38, pp. 165-169, January 1992.

42. "Communication Complexity of Secure Distributed Computation in the Presence of Noise," *IEEE Trans. on Information Theory*, (with E. Modiano), Vol. 38, pp. 1193-1203, July 1992.

43. "Stability Properties of Constrained Queueing Systems and Scheduling Policies for Maximum Throughput in Multihop Radio Networks," *IEEE Trans. on Automatic Control*, Vol. 37, pp. 1936-1949, December 1992 (with L. Tassiulas).

44. "Dynamic Server Allocation to Parallel Queues with Randomly Varying Connectivity," *IEEE Transactions on Information Theory*, (with L. Tassiulas), Vol. 39, No. 2, pp. 466-478, March 1993.

45. "Dynamic Scheduling for Minimum Delay in Tandem and Parallel Constrained Queueing Models," *Anuals of Operations Research*, Vol. 48, No. 1, pp. 333-355, January 1994, (with L. Tassiulas).

46. "A Neural Network Approach to Routing without Interference in Multihop Radio Networks," *IEEE Trans. on Communications*, p. 1-12, January 1994, (with J. Wieselthier and C. Barnhart).

47. "Efficient Algorithms for Performing Packet Broadcasts in a Mesh Network," *IEEE/ACM Trans. on Networking*, submitted (with E. Modiano).

48. "Throughtput Properties of a Queueing Network with Distributed Dynamic routing and Flow Control," *Applied Probability*, submitted (with L. Tassiulas).

49. "A Distributed Routing Algorithm for Mobile Radio Networks," *IEEE/ACM Trans. on Networking*, submitted (with S. Corson).

50. "Fixed- and Movable-Boundary Channel-Access Schemes for Integrated Voice/Data Wireless Networks," *IEEE Trans. on Communications*, accepted (with J. Wieselthier).

51. "A Neural Network Approach to solving the Link Actuation Problem in Multihop Radio Networks," *IEEE Trans. on Communications*, submitted (with C. Barnhart and J. Wieselthier).

52. "Dynamic Scheduling for Minimum Delay in Tandem and Parallel Constrained Queueing Models," *Annals of Operations Research*, Vol. 48, pp. 333-355, March 1994, (with L. Tassiulas).

53. "Fixed- and Moveable-Boundary Channel-Access Schemes for Integrated Voice/Data Wireless Networks," *IEEE Trans. on Communications*, Vol. 43, No. 1, pp. 64-74, January 1995, (with J. Wieselthier).

54. "Hybrid Satellite and Terrestial Networks," *Int'l Journal of Satellite Communications*, Vol. 12, pp. 313-327, May 1994, (with S. Gupta, P. Chitre).

55. "A Distributed Routing Algorithm for Mobile Wireless Networks," *Journal of Wireless Networks*, Vol. 1, pp. 61-82, February 1995, (with S. Corson).

56. "A Neural Network Approach to Solving the Link Activation Problem in Multihop Radio Networks," *IEEE Transactions on Communications*, April 1995, pp. 1277 - 1283 (with C. Barnhart, J. Wieselthier).

57. "Standard Clock Simulation and Ordinal Optimization Applied to Admission Control in Integrated Communication Networks," *Journal of Discrete Event Dynamic Systems*, July 1995, pp. 243-279 (with C. barnhart, J. Wieselthier) - (Invited).

58. "Admission Control Policies for Multihop Wireless Networks," *ACM Journal on Wireless Network*, December 1995, pp. 373-387 (with C. Barnhart, J. Wieselthier).

59. "Review of the Collected Papers of Claude E. Shannon," *IEEE Trans. on Information Theory*, Vol. 42, No. 1, January 1996, pp. 324-326.

60. "Efficient Algorithms for Performing Packet Broadcasts in a Mesh Network," *IEEE/ACM Transactions on Networking*, August 1996, pp. 639-649 (with E. Modiano).

61. "Data-delay Evaluation in Integrated Wireless Networks Based on Local Product-form Solutions for Voice Occupancy," *Wireless Networks*, December 1996, pp. 289-297 (with J. Wieselthier and C.M. Barnhart).

62. "Special Efficiency and Optimal Base Placement for Indoor Wireless Networks," *IEEE Journal on Selected Areas in Communications*, May 1996, pp. 651-661 (with D. Stamatelos).

63. "Innovative Networking Concepts Tested on the Advanced Communications Technology Satellite," *International Journal of Satellite Communications*, June 1996, pp. 201-217 (with D. Friedman, S. Gupta, C. Zhang).

64. "Admission Control Schemes for Spot-Beam Satellite Networks," *Journal of High Speed Networks*, March 1996, pp. 73-87 (with S. Ramseier).

65. "A Simple Analysis of Average Queueing Delay in Tree Networks," *IEEE Transactions on Information Theory*, March 1996, pp. 660-664 (with E. Modiano and J. Wieselthier).

66. "Throughput Properties of a Queueing Network with Distributed Dynamic Routing and Flow Control," *Advances in Applied Probability*, March 1996, pp. 285-307 (with L. Tassiulas).

67. "Optical Scheduling with Deadline Constraints in Tree Networks," *IEEE Trans. on Automatic Control*, December 1997, pp. 1703-1705 (with P. Bhattacharya and L. Tassiulas).

68. "A Satellite-Augmented Cellular Network Concept," *Journal of Wireless Networks*, February 1998, pp. 189-199 (with D. Ayyogari).

69. "Solving a Class of Optimum Multiuser Detection Problems with Polynomial Complexity," *IEEE Transactions on Information Theory* (with C. Sankaran).

70. "Information Theory and Communication Networks: An Unconsummated Union," *IEEE Transactions on Information Theory*, special commemorative issue of the 50th Anniversary of Information Theory, October 1998 (with B. Hajek).

71. M. Hadjitheodosion, A. Ephremides, D. Friedman, "Broadband Access via Satellite," *Computer Networks and ISDN Systems*, (invited).

72. T. Elbatt, A. Ephremides, "Optimization of Connection-Oriented Mobile, Hybrid Network Systems," *IEEE Journal of Special Areas in Communications (JSAC)*.

73. "Cellular Multicode CDMA Capacity for Integrated Services," *Journal on Mobile Networking and Applications (MONET)*, October 1999, pp. 209-218 (with D. Ayyagari).

74. "Stability of N Interacting Queues, in an ALOHA System," *IEEE Transactions on Information Theory*, July 1999, pp. 1579-1588, (with W. Luo).

75. "Communication Protocolas for Secure Distributed Computation of Binary Functions," *Information and Computation*, Vol. 158, pp. 71-97, July 2000 (with E. Modiano).

76. "Algorithms for Energy-Efficient Multicasting In Static Ad Hoc Wireless Networks," **Journal on Special Topics in Mobile Networking And Applications**, (Monet), vol. 6-3, pp. 251-263, June 2001 (with J.E. Wieselthier, G.D. Nguyen).

77. "Indecomposable Error Sequences in Multi-user Detection," **IEEE Transactions on Information Theory**, vol. 47, no. 1, pp. 284-295, January 2001 (with W. Luo).

78. "Multiple Description Coding in Networks With Congestion Problem," **IEEE Transactions on Information Theory**, vol. 47, no. 3, pp. 891-903, (with M. Alasti, K. Sayrafianpour, N. Farvardin.

79. "Energy-Aware Wireless Networking with Directional Antennas: The Care of Session-Based Broadcasting and Multicastin," **IEEE Trans. On Mobile Computing**, Vol. 1., No. 3, July-September 2002, (with J. Wieselthier, G. Nguyen).

80. "Design Aspects of Satellite-Cellular Hybrid Wireless Systems," **International Journal of Satellite Communications**, Vol. 20, pp. 121-150, April 2002, (with T. Elbatt).

81. "Circuit-Switched Network Capacity under QoS Constraints," **Journal of Communications and Networks**, Vol. 4, No. 3, Sept. 2002, pp. 230-246, (with J. Wieselthier, G. Nguyen).

82. "Energy-Efficient Broadcast and Multicast Trees in Wireless Networks," **Journal of Mobile Networks and Applications**, Vol. 7, No. 6, December 2002, pp. 481-493, (with J. Wieselthier, G. Nguyen).

83. "Power Control for Link Quality Protection in Cellular PS-CDMA Networks with Integrated (Packet and Circuit) Services," **Journal of Wireless Networks**, Vo. 8, No. 6, November 2002, pp. 549-557, (with D. Ayyagari).

84. "Power Levels and Packet Lengths in Random Multiple Access," **IEEE Trans. On Information Theory**, Vol. 48, No. 1, January 2002, pp. 46-59, (with W. Luo).

85. "Application of Optimization Techniques to a Nonlinear Problem of Communication Network Design with Nonlinear Constraints," **IEEE Trans. On Automatic Control**, Vol. 47, No. 6, June 2002, pp. 1033-1039, (with J. Wieselthier, G. Nguyen).

86. "The Use of Multiuser Detectors for Multicasting in Wireless Ad Hoc CDMA Networks," **IEEE Trans. On Information Theory**, Vol. 48, No. 11, Nov. 2002, pp. 2873-2888, (with C. Sankaran).

87. Corrections to "Scheduling Broadcasts in Multihop Radio Networks," **IEEE Trans. On Communications**, Vol. 50, No. 4, April 2002, pp. 686-687, (with T.V. Truong).

88. "Ad Hoc Networks: Not an Ad Hoc Field Anymore," Invited Lead Article in Special Issue of **Wireless Communications and Mobile Computing**, Vol. 2, No. 5, August 2002, pp. 441-448.

89. "Energy Concerns in Wireless Networks," (invited), special issue of **IEEE Wireless Communications Magazine**, vol. 9, No. 4, August 2002, pp. 48-59.

90. "Energy-Efficient Multicasting of Session Traffic in Bandwidth- and Transceiver-Limited Wireless Networks," **Journal of Cluster Computing**, Vol. 5, No. 2, April 2002, pp. 179-193, (with J. Wieselthier, G. Nguyen).

91. "Resource Management in Energy-Limited, Bandwidth-Limited, Transceiver-Limited Wireless Networks," **Computer Networks**, Vol. 39, No. 2, April 2002, pp. 113-131, (with J. Wieselthier, G. Nguyen).

92. "Optimal Admission Control in Cellular DS-CDMA Systems With Multimedia Traffic", **IEEE Trans. On Wireless Communications**, Vol. 2, No. 1, pp. 195-203, January 2003, (with D. Ayyagari).

93. "Energy-efficient Routing for Connection-oriented Traffic in Wireless Ad Hoc Networks", **Journal of Special Topics in Mobile Networking and Applications (Monet)**, March, 2003, pp. 1-18, (with A. Michail).

94. "Energy-efficient MAC in Ad Hoc Networks Inspired by Conflict Resolution Concepts", **Journal of Ad Hoc Networks**, July 2003, Vol. 1, No. 1 (Inaugural Issue), pp. 65-87, (with Y. Sagduyu).

95. "Linear Multiuser Detectors for Incompletely Known Symmetric Signals in CDMA Systems", **IEEE Transactions on Information Theory**, Vol. 50, no. 6, June 2004, pp. 1009-1026, (with Yun Li).

96. "Joint Scheduling, and Power Control for Wireless Ad Hoc Networks", **IEEE Transactions on Wireless Communications**, Vol. 3, no. 1, January 2004, pp. 74-68, (with T. Elbatt).

97. "The Problem of Medium Access Control in Wireless Sensor Networks", **IEEE Wireless Communications Magazine**, Vol. 11, No. 6, pp. 44-53, December 2004, (with Yalin Sagduyu).

98. "Simple Rate Control for Fluctuating Channels", **IEEE Transactions on Communications**, (with Yun Li).

99. "Standard and Quasi-standard Stochastic Power Control Algorithms", **IEEE Transactions on Information Theory**, (with Jie Luo, S. Ulukus).

100. "Power Levels and Packet Lengths in Random Multiple Access with Multipacket Reception Capability", **IEEE Transactions on Information Theory**, (with Jie Luo).

101. "Optimal Sequences and Sum Capacity of Symbol Asynchronous CDMA Systems", **IEEE Transactions on Information Theory**, (with Jie Luo, S. Ulukus).

102. "Using Bandwidth SpacePartitioning to Improve Cell Coverage and Near-Far Unfair Access Problem in a Noise-limited CDMA Cellular Network", **Journal of Wireless Networks**, (with S.T. Yang).

103. "A Game-theoretic Look at a Simple Relay Channel", **Wireless Networks Journal**, Vol. 12, No. 5, pp. 531-544, October 2006, (with Y. Sagduyu).

104. "On the Throughput, Capacity, and Stability Regions of Random, Multiple Access", **IEEE Transactions on Information Theory**, Vol. 52, no. 6, June 2006, pp. 2593-2608, (with J. Luo).

105. "The Feasibility of Matchings in a Wireless Network", **IEEE Transactions on Information Theory**, Vol. 52, no. 6, June 2006, pp. 2749-2756, (with S. Borbash).

106. "Wireless Link Scheduling with Power Control and SINR Constraints", **IEEE Transaction on Information Theory**, Vol. 52, no. 11, November 2006 (accepted), (with S. Borbash).

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108. "Comparison of Satellite and Cellular Architectures for Downlink Broadcast Data Transmission", **International Journal of Satellite Communications**, 2006 (accepted), (with A. Sridhar).

109. "An Asynchronous Neighbor Discovery Algorithm for Wireless Sensor Networks", **Journal of Ad Hoc Networks**, 2006 (accepted), (with S. Borbash).

C. Conference Presentations

1. "On the Applications of Random Signals with Multiplicity One," *Proc. of the 8th Annual Allerton Conf. on Circuits and Systems*, pp. 589-598, Oct. 1970, (with J.B. Thomas).

2. "On the Isomorphism Between the Linear Spans of Two Random Processes," *Proc. of the IEEE International Symposium on Information Theory*, p. 3, Asilomar, Jan. 1972, (with J.B. Thomas).

3. "A New Type of Error in the Reconstruction of Discretized Random Waveforms," *Proc. of the 6th Annual Princeton Conf. on Information Sciences and Systems*, pp. 695-699, March 1972.

4. "Point Process Games," *Proc. of IEEE Conf. on Decision and Control and 11th Symposium on Adaptive Processes*, New Orleans, p. 198, Dec. 1972, (with R. Corn).

5. "Hilbert Space Methods in Non-Linear Estimation," *Proc. of the 7th Annual Princeton Conf. on Information Sciences and Systems*, pp. 334-338, March 1973, (with J. Fillion).

6. "A Zero-Sum Game on Poisson Rates," Proc. of the 3rd International Symposium on Information Theory, *Vol. 1*, pp. 169-172, Tallin, USSR, June 1973.

7. "The Canonical Form of Finite Energy Processes," *Proc. of the 3rd International Symposium on Information Theory, Vol. 1*, pp. 173-175, Tallin, USSR, June 1973.

8. "A Property of the Cramer-Hida Representation in Signal Processing," *Proc. of the IEEE International Symposium on Information Theory*, Israel, June 1973.

9. "Lattices of Measures and Applications," *Proc. of the Carathedory Symposium*, pp. 101-105, Athens, Greece, Sept. 1973 (invited).

10. "The Analysis of the Border Violation Problem as a Point Process Game," *Proc. of the 11th Annual Allerton Conf. on Circuit and System Theory*, pp. 505-515, Oct. 1973, (invited).

11. "Differential Point Process Games," *Proc. of the IEEE Conf. on Decision and Control and 12th Symposium on Adaptive Processes*, p. 301, San Diego, Dec. 1973, (with R. Corn).

12. "Information Patterns in Stochastic Point Process Differential Games," *7th Prague Conf. on Information Theory*, Aug. 1974.

13. "Recursive Filtering of Operator Values Processes in Quantum Estimation," *International IEEE Symposium on Information Theory*, Notre Dame, Oct. 1974 (with J. Baras and R.O. Harger).

14. "On the Denseness of Continuous Random Processes in the Space of Finite Energy Processes," *5th Conf. on Stochastic Processes and Their Applications*, p. III D, College Park, June 1975.

15. "Linear Structural Properties of Stochastic Systems," *International Symposium on Operator Theory of Networks and Systems*, Montreal, Aug. 1975.

16. "A Non-Standard Approach to Point Process Control and Games," *Bolyae Janos Colloquium on Information Theory*, Kezthely, Hungary, Aug. 1975.

17. "Filtering at Optical Frequencies," *Joint US-USSR Workshop on Information Theory*, Moscow, USSR, Dec. 1975, in special IEEE Publication of the Proc.

18. "A Differential Game on Point Processes," *Proc. of the 2nd Kingston Conf. on Differential Games*, Kingston, R.I., June 1976.

19. "Application of Information Theory to Radar," *9th Hawaii International Conf. on System Sciences*, Jan. 1976, (with K. Demartino).

20. "Optimal Traffic Direction in Communication Networks," *International IEEE Symposium on Information Theory*, Ronneby, Sweden, June 1976, and *International Symposium on Information Theory*, Leningrad, USSR, June l976.

21. "Optimal Routing Strategies in a Class of Networks," *Proc. of the IEEE Conf. on Decision and Control*, Clearwater, Florida, Dec. l976.

22. "Node Level Control of Routing and Scheduling in Communication Networks," *Joint Automatic Control Conference*, San Francisco, June 1977.

23. "Distributed Routing in Mixed Media Networks," *NATO Advanced Study Institute*, Darlington, England, Aug. 1977.

24. "Extension of an Optimal Distributed Routing Algorithm to Mixed-Media Networks," *International IEEE Symposium on Information Theory*, Ithaca, NY, Oct. 1977.

25. "Generalization of an Optimal Routing Algorithm to Mixed-Media," *NBS Symposium on Computer Networks*, Gaithersburg, MD, Dec. 1977.

26. "Multiple Access Schemes for Packet-Switched Channels with Queueing," *Johns Hopkins Conf. on Information Sciences and Systems*, Baltimore, MD, March 1978 (with O. Mowafi).

27. "Two Adaptive Multiple Access Protocols," *International Symposium on Information Theory*, Grignano, Italy, June 1979.

28. "Queueing Analysis of Random Access Protocols," *INFO-II Proc.*, Patras, Greece, July 1979 (invited).

29. "A Simple Analysis of the CSMA Protocol," *Allerton Conf. Proc.*, Allerton, IL., Oct. 1979 (with E. Gelenbe).

30. "The Buffering Delay Problem in Random Access Communications," *National Radio Science Meeting*, Boulder, CO, Nov. 1979 (invited).

31. "A New Multiple Access Protocol for Satellite Communication Networks," *Proc. of the 18th IEEE CDC*, Ft. Lauderdale, FL, Dec. 1979 (with J. Wieselthier).

32. "Analysis of a Reservations Scheme for Multiple Access," *Proc. of the 14th Princeton Conf.*, Princeton, NJ, March 1980, (with T. Saadawi).

33. "The Interaction between Routing and Multiple Access in Mixed Media Networks," *2nd IFAC LSSTA Symposium Proc.*, Toulouse, France, June 1980.

34. "Multiple Access Protocols, (A Survey), the IFFO Protocols (A Case Study)," *Proc. of NATO ASI*, Norwich, England, Aug. 1980 (with J. Wieselthier).

35. "'Regularity' and Delay in Queueing Systems," *Allerton Conf.*, Oct. 1980.

36. "Analysis of a Hybrid Access Scheme-Probabilities Time Division," *Proc. of NTC*, Houston, Dec. 1980 (with O. Mowafi).

37. "Analysis, Optimization and Stability of Slotted Aloha," *CDC Proc.*, (invited session), Albuquerque, Dec. 1980 (with T. Saadawi).

38. "Packet Waiting Time for Multiple Access Channels," *International Symposium on Information Theory*, Los Angeles, Feb. 1981, (with T. Saadawi).

39. "A Distributed Algorithm for the Organization of Mobile Radio Networks," Proc. of Conf. on Distributed Systems, Paris, April 1981, (with D. Baker).

40. "An Alternative Algorithm for the Distributed Organization of Mobile Users," *Proc. of Johns Hopkins Conf.*, Baltimore, MD, March 1981, (with D. Baker).

41. "Analysis of the Tree Algorithm with a finite number of Buffered Users," *ICC Proc.*, Boulder, CO, June 1981, (with T. Saadawi).

42. "Survey of Routing Algorithms," *Bilateral Seminar on Control Systems*, Shanghai, PRC, Aug. 1981.

43. "Link Activation in Distributed Radio Nets", *Proc. of the Allerton Conf.*, Urbana, IL, Oct. 1981, (with D. Baker and J. Wieselthier).

44. "The HF ITF Network," *MIT Workshop on C^3*, June 1981, (with D. Baker and J. Wieselthier).

45. "The Capture Effect in Spread Spectrum Multi-Access Communications," *Proc. of the Princeton Conf.*, Princeton, March 1982.

46. "Multi-Access Communications without Acknowledgements," *International Symposium on Information Theory*, Les Arcs, France, June 1982.

47. "Distributed Algorithm for the Activation of Radio Links in a Mobile User Network," *Proc. of ICC*, June 1982, (with D. Baker).

48. "Distributed Network Reconfiguration in Response to Jamming at HF," *Proc. of MIL-COM*, Boston, Oct. 1982 (with D. Baker, D. McGregor and J. Wieselthier).

49. "Inventing, Analyzing, and Validating Multiple Access Protocols," *Proc. of International Seminar on Computer System Modeling and Performance Evaluation*, Paris, Jan. 1983, (invited).

50. "A Simulated Performance Study of Some Distributed Routing Algorithms for Mobile Radio Networks," *Proc. of Johns Hopkins Conf.*, Baltimore, MD, March 1983, (with M. Weber).

51. "Parameter Estimation Under Uncertainty as it Arises in a Ternary Detection Problem," *Proc. of Johns Hopkins Conf.*, Baltimore, MD, March 1983, (with R. Rao).

52. "A Scheme to Increase Throughput in Frequency Hopping Multiple Access Channels," *Proc. of Johns Hopkins Conf.*, Baltimore, MD, March 1983, (with J. Wieselthier).

53. "The Importance of Feedback in Multiple Access Systems," *Proc. of MELECON*, Athens, Greece, May 1983.

54. "Distributed Protocols for Mobile Radio Networks," *NATO Advanced Study Institute*, Chateau Bonas, France, July 1983 (2 hour invited).

55. "A Reduced Interference Model for an M-ary FSK Frequency Hopping Multiple Access System," *IEEE Int'l. Symposium on Information Theory*, St. Jovite, Canada, Sept. 1983, (with J. Wieselthier).

56. "A Distributed Reservation Scheme for Spread Spectrum Multiple Access Channels," *Proc. of GLOBECOM*, pp. 659-666, San Diego, CA, Nov. 1983, (with J. Wieselthier).

57. "A Causal Multiple Access Protocol for the Collision Channel with Feedback," *Proc. of the Conf. Information Sciences and Systems*, Princeton, NJ, March 1984, (with R. Rao).

58. "A Combinatorial Technique for the Analysis of Framed Contention MA Protocols," *Proc. of the Princeton Conf. on Information Sciences and Systems*, Princeton, NJ, March 1984, (with I. Wieselthier).

59. "The Fiarchild Scholars and Doctoral Fellows Program," *Proc. of the ASEE Conf.*, Salt Lake City, Utah, June 1984.

60. "Feedback Structures in Multiple Access Protocols," *IEEE Int'l. Workshop on Information Theory*, Caesaria, Israel, July 1984, (invited speaker).

61. "Adaptive Routing in Communication Networks," *Proc. of the First European Workshop on Real Time Control of Large Scale Systems*, Patras, Greece, July 1984, (invited).

62. "Performance Analysis of Frequency Hopping Multiple-User Systems that may or may not tolerate Partially Overlapping Interference," *Proc. of XXIst URSI General Assembly*, Florence, Italy, Sept. 1984, p. 103, official delegate of the United States, (with J. Wieselthier).

63. "Performance Evaluation of a Multiple Access System Using an Approximate Model," *Proc. of the 22nd Annual Allerton Conf. on Communication, Control and Computing*, Monticello, IL, Oct. 1984, pp. 11-19, (with R. Zhu), (invited).

64. "Application of Countable Markov Chain Theory to the Transient and Asymptotic Behavior of Multiple Access Protocols," *Proc. of the 23rd Conf. on Decision and Control*, Las Vegas, NV, Dec. 1984, p. 1158, (with R. Rao), (invited).

65. "Networking Concepts for HF Naval Applications," *Proc. of the 3rd Int'l. Conf. on HF Communication Systems and Techniques*, London, England, Feb. 1985, (with D. Baker, D. McGregor, and J. Wieselthier).

66. "Steady State Behavior of Interacting Queues - Stability Results and Numerical Approach," *Proc. of the 1985 Conf. on Information Sciences and Systems*, Baltimore, MD, March 1985, (with T. Nakasis).

67. "Stability Regions for Asymmetric Aloha Systems - Is There a Relationship to Information Theory?", *Proc. of the 2nd Joint Swedish-USSR Int'l. Workshop on Information Theory*, Granna, Sweden, April 1985, pp. 177-182.

68. "Bounds for the Ergodicity Region of M Interacting Queues," *IEEE Int'l. Symposium on Information Theory*, Brighton, England, June 1985, p. 63, (with R. Rao).

69. "An Optimization Problem in a Multi-Server Queue," *Proc. of the 23rd Allerton Conf. on Communication, Control and Computing*, Monticello, IL, Oct. 1985, pp. 555-564, (with I. Viniotis).

70. "Approximate Performance Evaluation of Multiple Access Protocols," *Proc. of the Melecon '85*, Madrid, Spain, Oct. 1985, pp. 535-537, (with R. Zhu).

71. "Some Problems in Multiple Access Communication Systems," *Proc. of the '85 TIMS/ORSA Conf.*, Atlanta, GA, Nov. 1986, p. 9.

72. "Performance of RS-BCH Concatenated Codes on an Interference Satellite Channel," *Proc. of Globecom '85*, New Orleans, LA, Dec. 1985, pp. 432-438, (with P. Hershey).

73. "Problems in Spread-Spectrum Radio Networks," *Proc. INRIA Advanced Seminar on Real-Time Local Area Networks*, Bandol, France, April 1986, pp. 225-230.

74. "A Numerical Approach to the Analysis of Interacting Queues," *Proc. of ICC*, Toronto, Canada, June 1986, pp. 1858-1862, (with T. Nakasis).

75. "Limitations of Queueing Models in Communication Networks," *NATO Adv. Study Inst. on Performance Limits in Comm. Theory and Practice*, Il Ciocco, Italy, July 1986.

76. "An Exact Analysis of a Distributed Reservation-Based CDMA Scheme," *IEEE Int'l. Symposium on Information Theory*, Ann Arbor, MI, Oct. 1986, (with J. Wieselthier and J. Tarr).

77. "The Problem of Distributed Scheduling Radio Links," *Symposium on C3 Research*, National Defense University, Washington, DC, July 1987.

78. "Some Partially Solved or Unsolved Problems in Coupled Queueing Systems," *Int'l. Workshop on Control of Queueing Networks*, Paris, France, July 1987.

79. "A No Feedback Distributed Reservation Protocol for CDMA Channels," *IEEE MILCOM '87*, Washington, DC, Oct. 1987, (with J. Wieselthier and J. Tarr).

80. "A (Not So) Simple Routing Problem," *Proc. of 25th Allerton Conf. on Communication, Control, and Computing*, Monticello, IL, Oct. 1987, (with P. Bhattacharya and I. Viniotis).

81. "The Decomposition of a Multiple Access Network of M Users into Subnets - Effect on Maximum Stable Throughput," *Proc. of the 25th Allerton Conf. on Communication, Control, and Computing*, Monticello, IL, Oct. 1987, (with M. Karatzoglou).

82. "The Effect of Capture on the Performance of Framed Aloha Protocols," *IEEE GLOBECOM '87*, Tokyo, Japan, Nov. 1987 (with J. Wieselthier and L. Michaels).

83. "Optimal Switching of Voice and Data at a Network Node," *26th IEEE CDC*, Los Angeles, CA, Dec. 1987, (with I. Viniotis), invited.

84. "Ergodicity of M-dimensional Random Walks and Random Access Systems," *26th IEEE CDC*, Los Angeles, CA, Dec. 1987, (with M. Karatzoglou).

85. "Optimal Scheduling of the Transmission of Messages with Strict Deadlines," *Proc. of 1988 Conf. on Information Sciences and Systems*, Princeton, NJ, March 1988, pp. 623-628, (with P. Bhattacharya).

86. "Packet-Error Probability in Unslotted FH-CDMA Systems: Exact Analysis, Bounds, and Approximations," *Proc. of 1988 Conf. on Information Sciences and Systems*, Princeton, NJ, March 1988, pp. 976-980, (with J. Tarr and J. Wieselthier).

87. "Distributed Algorithm for Efficient and Interference-Free Broadcasting in Radio Networks," *Proc. of IEEE Infocom '88*, New Orleans, LA, March 1988, pp. 1119-1124, (with T. Truong).

88. "On the Optimal Dynamic Switching of Voice and Data in Communication Networks," *Proc. of IEEE Computer Networking Symposium*, Washington, DC, April 1988, pp. 8-15, (with I. Viniotis).

89. "Routing in Reconfigurable Radio Networks," *Proc. of 1988 Symposium on Command and Control Research*, Monterey, CA, June 1988, pp. 209-212.

90. "Optimal Scheduling of the Transmission of Messages with Strict Deadlines," *Proc. of 1988 IEEE Int'l Symposium on Information Theory*, Kobe, Japan, June 1988, p. 222, (abstract), (with P. Bhattacharya).

91. "The Collision Channel-Aloha-Feedback-Delay: Stability Questions," *Proc. of 1988 Int'l. Forum on Information Theory and Applications*, pp. LT-2-1 to LT-2-10, Tokyo, Japan, June 1988.

92. "On the Stability and Analysis of Multi-Queue Systems," *Proc. of 1988 Beijing Int'l. Workshop on Information Theory*, Beijing, China, July 1988, pp. BII-7.1 to BII-7.4.

93. "Linear Programming as a Technique for Optimization of Queueing Systems," *Proc. of 27th IEEE CDC*, Austin, TX, Dec. 1988, (with I. Viniotis).

94. "Solving Hard Optimization Problems Arising in Packet Radio Networks using Hopfield's Nets," *Proc. Johns Hopkins Conference on Information Sciences and Systems*, Baltimore, MD, March 1989, (with L. Tassiulas and J. Gunn).

95. "A Distributed routing Algorithm for Mobile Radio Networks," *Proc. Johns Hopkins Conference on Information Sciences and Systems*, Baltimore, MD, March 1989, (with S. Corson and J. Gunn).

96. "The Problem of routing in Packet Radio Networks," *Proc. of SHAPE Technical Center Symposium on Packet Radio*, The Hague, Netherlands, April 1989.

97. "A Distributed Routing Algorithm for Mobile Radio Networks and its Performance Evaluation," *Proc. of 1989 Symposium on C^3 Research*, Washington, DC, June 1989, (with S. Corson).

98. "Distributed Algorithm for Link-Activation in Radio Networks and the Joint Routing-Scheduling Problem," *Proc. of the American Control Conference*, Pittsburgh, PA, June 1989, invited, (with L. Tassiulas).

99. "A Property of Two-Domensional Random Walks Useful in Multiple Access Theory," *Proc. of Fourth Joint Swedish-USSR International Workshop on Information Theory*, Visby, Sweden, August 1989, (with M. Karatzoglou).

100. "A Distributed routing Algorithm," *Proc. of the IEEE MILCOM*, Boston, MA, October 1989, (with S. Corson).

101. "Two Competing Queues with Time-Critical Customers – Optimal Server Assignment," *Proc. of IEEE Conference on Decision and Control*, Tampa, FL, December, 1989, (with P. Bhattacharya).

102. "Optimal Scheduling of Servers in a Queueing System with Contraints," *Proc. of IEEE Conference on Decision and Control*, Tampla, FL, December 1989, (with L. Tassiulas).

103. "Control and Optimization Methods in Communication Network Problems," *Proc. of IEEE Conference on Decision and Control*, Tampa, FL, December 1989, invited, (with S. Verdu).

28

104. "Steady State Behavior of Interacting Queues," *Proc. of Workshop on Numerical Solution of Markov Chains*, Raleigh, NC, January 1990, (with T. Nakasis).

105. "Some Markov Chain Problems in the Evaluation of Multiple Access Protocols," *Proc. of Workshop on Numerical Solution of Markov Chains*, Raleigh, NC, January 1990, (with J. Wieselthier).

106. "The IFFO Protocols Revisited: An Extension for Integrated Communications," *IEEE International Symposium on Information Theory*, San Diego, CA, January 1990, (with J. Wieselthier).

107. "Communication Complexity of Secure Distributed Computation in the Presence of Noise," *IEEE International Symposium on Information Theory*, San Diego, CA, January 1990, (with E. Modiano).

108. "Stochastic Monotonicity Properties of Multi-server Queues with Impatient Customers," *IEEE International Symposium on Information Theory*, San Diego, CA, January 1990, (with P. Bhattacharya).

109. "Routing and Scheduling in Packet Radio Networks: a Hopfield Network Approach," *Proc. of 1990 Conference on Information Sciences and Systems*, March 21-23, 1990, Princeton, NJ, (with J. Wieselthier and C. Barnhart), p. 185.

110. "The Use of Multiple Protocols in Multi-Hop Radio Networks," *Proc. of 1990 IEEE International Communications Conference*, April '90, Tampa, FL, (with W. Thoet and D. Baker).

111. "Two Aspects of Routing in Packet Radio Networks," *Proc. of 4th International Conference on Data Communication Systems and Their Performance*, June 20-22, 1990, Barcelona, Spain.

112. "Joint Routing Scheduling in Multihop Packet Radio Networks," *Proc. of 1990 Bilkent International Conference on New Trends in Communication, Control, and Signal Processing*, July 2-5, 1990, Ankara, Turkey, (with L. Tassiulas), pp. 135-140.

113. "Linear Programming as a Tool for Control and Optimization of Queueing Networks," *Proc. of Joint Conference on New Trends in Systems Theory*, July 9-11, Genoa, Italy, (with I. Viniotis).

114. "Erodicity of a Stochastic Flow and an Alternative Proof of the Maxflow-Mincut Theorem," *Proc. of 28th Annual Allerton Conference on Communication, Control, and Computing*, Oct. 3-5, 1990, Allerton, Illinois, (with L. Tassiulas).

115. "Stability Properties of Constrained Queueing Systems and Scheduling Policies for Maximum Throughput in Multi-Hop Rado Networks," *Proc. of 29th IEEE CDC*, December 5-7, 1990, Honolulu, Hawaii, (with L. Tassiulas), pp. 2130-2133.

116. "Channel Access Control for Integrated Voice/Data Networks," *Proc. of 29th IEEE CDC*, Dec. 5-7, 1990, Honolulu, Hawaii, (with J. Wieselthier), pp. 921-925.

117. "Neural Network Techniques for Scheduling and Routing Problems in Multihop Radio Networks," (with C. Barnhart, J. Wieselthier), *Proc. of IEEE MILCOM*, pp. 407-413, McLean, VA, November 1991.

118. "The Effect of the Transmission Range on the Throughput of a Multihop Radio Network," (with L. Tassiulas,) *Proc. of 25th Annual Conference on Information Sciences and Systems*, p. 718, Baltimore, MD, March 1991.

119. "Comparison of Transmission Strategies in CSMA/CD Multiaccess Systems," (with L. Tassiulas), *Proc. of 25th Annual Conference on Information Sciences and Systems*, p. 952, Baltimore, MD, March 1991.

120. "A Neural Network Approach to Routing in Multihop Radio Networks," (with C. Barnhart and J. Wieselthier), *IEEE INFOCOM Proceedings*, pp. 1074-1083, Miami, FL, April 1991.

121. "A Movable Boundary Channel Access Scheme for Integrated Voice/Data Networks," (with J. Wieselthier), *IEEE INFORCOM Proceedings*, pp. 721-731, Miami, FL, April 1991.

122. "On the Secrecy-Complexity of Distributed Computation of a Binary Function on Non-Uniformly Distributed Variables," (with E. Modiano), *Proc. of IEEE International Symposium on Information Theory*, p. 213, Budapest, Hungary, June 1991.

123. "Allocation of a Single Server to a Set of Parallel Queues with Time-Dependent Demand," (with L. Tassiulas), *Proc. of IEEE International Symposium on Information Theory*, p. 208, Budapest, Hungary, June 1991.

124. "Sequential Link Activation in Multihop Radio Networks by Means of Hopfield Neural Network Techniques", (with C. Barnhart and J. Wieselthier), *Proc. of IEEE International Symposium on Information Theory*, p. 155, Budapest, Hungary, June 1991.

125. "The Use of Hopfield Neural Nets in Combinatorial Optimization Problems Arising in Radio Communication Networks," (with C. Barnhart and J. Wieselthier), *Proc. of TIMS XXX-Sobrapo II Joint International Meeting*, p. 40, Rio de Janeiro, Brazil, July 1991.

126. "Two Stability Problems in Wireless Communication Networks," (with L. Tassiulas), *30th IEEE CDC Proc.*, p. 828, Brighton, England, December 1991.

127. "Efficient Routing Algorithms for Multiple Boardcasts in a Mesh," *Proc. 1992 Conference on Information Sciences and Systems*, pp. 929-935, Princeton, NJ, March 1992, (with E. Modiano).

128. "A Distributed Scheduling Algorithm for a Changing Topology," *Proc. 1992 Conference on Information Sciences and Systems*, pp. 947-949, Princeton, NJ, March 1992, (with A. Delarosa).

129. "Multiple Access Protocols for Meteor Burst Communications," *Proc. 1992 Conference on Information Sciences and Systems*, pp. 473-479, Princeton, NJ, March 1992, (with S. orson).

130. "Problems of Scheduling, Admission, and Routing in Radio Networks," *IEEE International Workshop on Information Theory*, p. 4, Salvador, Brazil, June 1992.

131. "Mobile-User Networking: the Satellite Alternative," *Symposium on Worldwide Advances in Communication Networks*, George Mason Univ., Fairfax, VA, May 1992, (with J. Wieselthier), pages unavailable yet, (Proceedings not yet published).

132. "A Multiple Access Protocol for Indoor Wireless Communication in Factories," *Proc. 3rd Int'l. Symposium on Personal, Indoor, and Mobile Radio Communications*, pp. 296-302, Boston, MA, October, 1992, (with S. Corson).

133. "Optimal Admission Control in Circuit-Switched Multihop Radio Networks," *Proc. 31st IEEE Conference on Decision and Control*, pp. 1011-1014, Tucson, AZ, December 1992, (with J. Wieselthier and C. Barnhart).

134. "A Model for the Approximation of Interacting Queues that Arise in Multiple Access Schemes," *Proc. IEEE International Symposium on Information Theory*, p. 324, San Antonio, TX, January, 1993, (with E. Modiano).

135. "Use of the Standard Clock to Improve Simulation Efficiency: A Quantitative Study Based on the M/M/1/K Queue," *Proc. of the 1993 Conference on Information Sciences and Systems*, March 1993, Baltimore, MD, pp. 112-119, (with C. Barnhart, J. Wieselthier).

136. "An Approach for the Analysis of Packet Delay in an Integrated Mobile Radio Network," *Proc. of the 1993 Conference on Information Sciences and Systems*, March 1993, Baltimore, MD, pp. 138-139, (with E. Modiano, J. Wieselthier).

137. "Performance Analysis of Fixed-and Movable-Boundary Channel-Access Schemes for Integrated Voice/Data Wireless Networks," *Proc. of 1993 IEEE INFOCOM*, April 1993, San Francisco, CA, pp. 1204-1213 (with J. Wieselthier).

138. "An Approach to Voice Admission Control in Multihop Wireless Networks," *Proc. of 1993 IEEE INFOCOM*, April 1993, San Francisco, CA, pp. 246-256 (with J. Wieselthier, C. Barnhart).

139. "An Analysis of Multireceiver, Non-Adaptive, Slotted Aloha with Capture for Wireless Communications in Factories," *Proc. of 1993 IEEE INFOCOM*, April 1993, San Francisco, CA, pp. 421-428, (with S. Carson).

140. "A Method for Delay Analysis of Interacting Queues in Multiple Access Systems," *Proc. of 1993 IEEE INFOCOM*, April 1993, San Francisco, CA, pp. 447-455, (with E. Modiano).

141. "A Protocol for Satellite Access via Use of Spot Beams," *Proc. of JPL International Conference on Mobile Satellite Communications*, June 1993, Pasadena, CA, pp. 443-448, (with S. Ramseier).

142. "Toward an Analytical Approach to Integrated Networking," *Proc. of International Swedish-Russian Workshop - On Information Theory*, August, 1993, Molle, Sweden, pp. 84-86.

143. "Scheduled Access with a Space Component," *Proc. of the 1993 Allerton Conference*, October 1993, Allerton, Illinois, pp. 21-24, invited.

144. "Improvement in Simulation Efficiency: A Quantitative Study Based on the M/M/1/K Queue," *Proc. of the 32nd IEEE CDC*, December 1993, San Antonio, TX, pp. 2217-2224, (with C. Barnhart, J. Wieselthier).

145. "Modeling, Performance Evaluation, and Ordinal Optimization of Integrated Voice/Data Networks," *Proc. of the 2nd MASCOTS Conference*, January 1994, Durham, NC, pp. 37-44, (with C. Barnhart, J. Wieselthier), invited.

146. "Hybrid Terrestrial and Satellite Networks, *Proc. of the AIAA Conference on Satellite Communications*, San Diego, CA, pp. 171-179, (with P. Chitre).

147. "Admission Control Schemes for Hopping-Beam Satellite Networks," *Proc. of the AIAA Conference on Satellite Communications*, San Diego, CA, March 1, 1994, pp. 1053-1060 (with S. Ramseier).

148. "Ordinal Optimization of Admission Control in Wireless Multihop Voice/Data Networks via Standard Clock Simulation," *Proc. of the IEEE INFOCOM'94*, Toronto, Ontario, June 14, 1994, pp. 29-38, (with C. Barnhart, J. Wieselthier).

149. "A Simple Derivation of Queueing Delay in a Tree Network of Discrete-Time Queues with Deterministic Service Time," *Proc. of the IEEE International Symposium on Information Theory*, Trodheim, Norway, June 1994, pp. 372, (with E. Modiano, J. Wieselthier).

150. "On the Problems of Data-Delay Evaluation and Minization in Wireless Integrated Voice/ Data Networks," *Proc. of the IEEE International Symposium on Information Theory*, Trondheim, Norway, June 1994, pp. 407, (with J. Wieselthier, C. Barnhart).

151. "Multiple Access Capability of Indoor Wireless Networks Using Spatial Diversity," *Proc. of the Personal, Indoor, and Mobile Radio Communications (PIMRC) Conference*, The Hague, The Netherlands, September 1994, pp. 1271-1276, (with D. Stamatelos).

152. "Satellite-Augmented Cellular Networks," *Proc. of 9th Annual IEEE Workshop on Computer Communications*, Marathon, Florida, October 1994, pp. 76-80.

153. "Ordinal Optimization by Means of Standard Clock Simulation and Crude Analytical Models," *Proc. of 33nd IEEE Conference on Decision and Control (CDC)*, Orlando, Florida, December 1994, pp. 2645-2648, (with C. Barnhart, J. Wieselthier).

154. "Enhancement of Cellular Service via the Use of Satellite Capacity," *Proc. of Conference of NASA Centers for Commerical Development of Space*, Albuquerque, NM, January 1995, pp. 33-38, (with D. Ayyagari).

155. "Innovative Networking Concepts Tested on the Advanced Communications Technology Satellite," *Proc. of Conference of NASA Centers for Commerical Development of Space*, Albuquerque, NM, January 1995, pp. 63-68 (with D. Friedman, S. Gupta, C. Zhang).

156. "A Mini-Product-Form-Based Solution to Data-Delay Evaluation in Wireless Integrated Voice/Data Networks," *Proc. IEEE INFOCOM*, Boston, MA, April 1995, pp. 1044-1052, (with C. Barnhart, J. Wieselthier).

157. "In Search of Models for New Realities: From "Bits-and-Queues" to "Bits-in-Space","" *Proc. IEEE Information Theory Workshop on Multiple Access and Queueing*, St. Louis, MO, April 1995, pp. 13-14 (invited).

158. "Platform-Related Limitations to Efficiency in Standard Clock Simulation on Sequential Machiens," *Proc. of 1995 Summer Simulation Conference*, Ottawa, Ontario, July 1995, pp. 15-20 (with C. Barnhart, J. Wieselthier).

159. "ACTS Experiments at the Center for Satellite & Hybrid Communication Networks," *ACTS Results Conference Proceedings*, Cleveland, OH, September 1995, pp. 3.1-3.25 (with D. Friedman, S. Gupta, C. Zhang).

160. "The Extension of Optimality of threshold Policies in Queueing Systems with Two Heterogeneous Constant-Rate Servers," *Proc. IEEE Information Theory Symposium*, Whistler, B.C., September 1995, pp. 105-106 (with A. Traganitis).

161. "Admission Control and Bandwidth Allocation in High-Speed Networks as a System Theory Control Problems," *Proc. of the 34th IEEE Conference on Decision and Control*, New Orleans, LA, December 1995, pp. 359-365, (with J. Wieselthier and C. Barnhart), (invited).

162. "Review of the VSAT ACTS Experiments at the Center for Satellite and Hybrid Communication Networks," *Proc. of the Space Technology and Applications International Forum*, Albuquerque, NM, January 1996, pp. 479-483 (with De. Friedman, S. Gupta, C. Zhang).

163. "Experiments in Hybrid Networking with the Advanced Communications Technology Satellite," *Proc. of 16th International Communication Satellite Systems Conference*, Washington, DC, February 1996, pp. 467-475 (with D. Friedman, S. Gupta, C. Zhang).

164. "Role of Satellites in the Future Communications Infrastructure," *Panel Discussion of the IEEE INFOCOM*, Boston, MA, April 1995 (Moderator).

165. "An Experiment on ACTS for Interconnection of LANs," *Cost 226 Integrated Space and Terrestrial Networks Symposium*, Budapest, Hungary, May 1995 (invited).

166. "The Role of Satellites in Future Personal Communications," *6th IFIP Conference on Performane of Computer Networks*, Istanbul, Turkey, October 1995 - (Invited Plenary Talk).

167. "Stochastic Comparisons as an Engineering Tool," *Memorial Conference for S. Cambania*, Athens, Greece, December 1995 (Invited).

168. "Use of Satellites to Enhance the Performance of Communication Networks," *1995 International Symposium on Communications*, Taipei, Taiwan, December 1995 (invited Plenary).

169. "Constrained Optimization Networks for Admission Control and Offered Load in Communication Networks," *Proc. of the 30th Annual Conference on Information Sciences and Systems*, Princeton, NJ, March 1996, pp. 686-691 (with C. Barnhart, J. Wieselthier).

170. "A Problem of Constrained Optimization for Bandwidth Allocation in High-Speed and Wireless Communication Networks," *Proc. of the 35th IEEE Conference on Decision and Control*, Kobe, Japan, December 1996, pp. 1347-1348, (with J. Wieselthier, A. Nguyen, C. Barnhart).

171. "When is Complete Sharing Optimal?," *Prof. of the 30th Annual Conference on Information Sciences and Systems*," Princeton, NJ, March 1996, pp. 711-717, (with S.T. Yang).

172. "Algorithms for Establishing and Maintaining Sessions in Wireless Networks with Changing Connectivity," *Proc. of the 35th Allterton Conference on Communication Control and Computing*, Urbana, IL, October 1996 (with A. Michail).

173. "Blocking Analysis and Simulation Studies in on Personal, Indoor, Mobile, Radio Communications (PIMRC), Taipei, Taiwan, October 1996, pp. 437-442 (with D. Ayyagari).

174. "Threshold Control Policies for Bandwidth Allocation Problems in Communication Networks," *Proc. of the IEEE Globecom*, London, England, November 1996, pp. 106-111, (with A. Traganitis, S.T. Yang).

175. "On the Optimality of Complete Sharing Policies of Resource Allocation," *Proc. of the 35th IEEE Conference on Decision and Control*, Kobe, Japan, December 1996, pp. 299-300, (with S.T. Yang).

176. "Routing Algorithms in All-Mobile, Wireless Networks," *Proc. of ATIRP Annual Conference*, College Park, MD, Janaury 1996, pp. 119-125, (with A. Michail).

177. "Multicast Routing and Resource Allocation in a Mobile Wireless Digital Battlefield Network," *Proc. of ATIRP Annual Conference*, College Park, MD, January 1996, pp. 149-155, (with R. Battacharya).

178. "Combating Performance Degradation In Highly Mobile Wireless Digital Battlefield Network," *Proc. of ATIRP Annual Conference*, College Park, MD, January 1996, pp. 315-321, (with D. Stamatelos).

179. "Efficient Evaluation and Control of DEDS via Standard Clock Simulation and Ordinal Optimization Techniques," invited paper at the 1996 *INFORMS* (abstract only), Washington, DC, May 1996, (with C. Barnhart).

180. "Optimization of Admission Control in Wireless Networks," *ONR/NCCOSC Workshop on New Techniques for Radio Communications*, San Diego, CA, September 1996, (abstract only), (with J. Wieselthier, C. Barnhart).

181. "Wireless Networks Overview," *Workshop on System and Control Issues in Communication Networks,* NSF/ARO/HK Univ. of Sci. & Tech., Airlie, VA, August 1996.

182. "Some Uses of Stochastic Comparisons in Communication Networks," *Workshop on Mathematical Trends in Communication Networks*, BRIMS, Hewlett-Packard Labs, Bristol, England, June 1996.

183. "Design Problems for Mobile Wireless Networks," *ONR/NCCOSC Workshop on New Techniques for Radio Communications*, San Diego, CA, September 1996 (abstract only).

184. "Lagrangian Techniques for Optimizing Throughput in Wireless Communication Networks Subject to QoS Constraints," *Proc. Conference on Information Sciences and Systems*, Baltimore, MD, March 1997, pp. 405-410, (with G. Nguyen, J. Wieselthier).

185. "Ordinal Optimization of Discrete-Event Dynamic Systems: A Comparison of Standard-Clock and Common-Random-Number Methods," *Proc. Conference on Information Sciences and Systems*, Baltimore, MD, March 1997, pp. 654-659, (with J. Wieselthier, C. Barnhart).

186. "A Scheme to Improve Throughput for ARQ-Protected Satellite Communication," *Proc. International Mobile Satellite Conference*, Pasadena, CA, June 1997, pp. 39-43, (with D. Friedman).

187. "Can Spatial Separation Increase Throughput of Conflict Resolution Algorithms?," *Proc. International Symposium on Information Theory*, Ulm, Germany, July 1997, pp. 318-319, (with K. Sayrafian-Pour).

188. "A Distributed Multicast Routing Protocol for Ad-Hoc (Flat) Mobile Wireless Networks," *IEEE Conference on Personal, Mobile, Indoor, Radio Communications* (PIMRC), Helsinki, Finland, September 1997, pp. 877-881, (with R. Battacharya).

189. "Effect of Packet Length and Power Level on Random Multiple Access," *Proc. 35th Annual Allerton Conference on Communication,. Control, and Computing*, Monticello, IL, September 1997, pp. 583-585, (with W. Luo).

190. "Three Techniques for Ordinal Optimization: Short Simulation, Crude Analytical Models, and Imprecise Simulation Models," *Prof. of 1997 International Conference on Intelligent Systems and Semiotics*, Gaithersburg, MD, September 1997, pp. 175-181, (with J. Wieselthier, C.Barnhart).

191. "Algorithms for Finding Optimal Offered Loan in Wireless Communication Networks," *Proc. IEEE MILCOM*, Monterey, CA, November 1997, Session 41.06, (with J. Wieselthier, G. Nguyen).

192. "Optimal Network Design: The Base Station Placement," *Proc. IEEE Conference on Decision and Control* (CDC), San Diego, CA, December 1997, pp. 2381-2386, (with S.T. Yang).

193. "Topological Design of Interconnected LANs Using Hopfield Neural Networks," *Proc. IEEE Conference on Decision and Control* (CDC), San Diego, CA, December 1997, pp. 3568-3573, (with S.T. Yang).

194. "Cellular DS-CDMA Capacity for Integrated Voice and Data Services," *Proc. 17th AIAA International Communication Satellite* Systems, Yokohama, Japan, February 1998, pp. 256-264, (with D. Ayyagari).

195. "Optimization of Connection-Oriented, Mobile, Hybrid Network Systems," *Proc. 17th AIAA International Communication Satellite Systems*, Yokohama, Japan, February 1998, pp. 256-264, (with T. Elbatt).

196. "Wireless Multicasting," *Panel Discussion, ARO-Workshop on Ad-Hoc Networking*, College Park, MD, March 1997, (invited).

197. "New Problems in Peer-to-Peer Networks," *Panel Discussion, ARO-Workshop on Special Advances in Wireless Communications*, Paris, France, April 1997, (invited).

198. "Wireless Networking," Plenary Talk, International Symposium on Computer Communications, Alexandria, Egypt, June 1997, (invited).

199. "Problems in Wireless Networks with a Theoretical Conscience," *Special Symposium in Honor of R. Blahut*, Urbana, IL September 1997, (invited).

200. "Multiuser Detection for CDMA Applications Using a Hopfield Neural Network," *Proc. of the 1998 Conference on Information Sciences and Systems (CISS)*, pp. 219-225, Princeton, NJ, March 1998, (with S. Sankaran).

201. "Distributed Routing and Resource Allocation for Connection-Oriented Traffic in Ad-Hoc Wireless Networks," *Proc. of the 1998 Conference on Information Sciences and Systems (CISS)*, pp. 371-377, Princeton, NJ, March 1998, (with A. Michail, W. Chen).

202. "Covert Information Transmission Through the Use of Standard Collision Resolution Algorithms," *Proc. of the 1998 Conference on Information Sciences and Systems (CISS)*, pp. 577-583, Princeton, NJ, March 1998, (with T. Dogu).

203. "Sizing of Network Throughput Capability Subject to QoS Constraints on Average Blocking Probability," *Proc. of the 1998 Conference on Information Sciences and Systems (CISS)*, pp. 757-759, Princeton, NJ, March 1998, (with J. Wieselthier, G. Nguyen).

204. "Error Control for Satellite Multicasting," *Proc. of NASA Workshop on Satellite Networks*, pp. 359-366, Cleveland, OH, June 1998, (with D. Friedman).

205. "A Distributed routing Algorithm for Supporting Connection-Oriented Service in Wireless Networks with Time-Varying Connectivity," *Proc. of IEEE International Symposium on Computer Communications (ISCS)*, pp. 587-592, Athens, Greece, July 1998, (with A. Michail).

206. "Stability of N Interacting Queues in Random Access," *Proc. of the 1998 IEEE International Symposium on Information Theory*, pp. 221-222, Cambridge, MA, August 1998, (with W. Luo).

207. "Optimum Multiuser Detection with Polynomial Complexity," *Proc. of the 1998 IEEE International Symposium on Information Theory*, pp. 343-344, Cambridge, MA, August 1998, (with C. Sankaran).

208. "Admission Control with Priorities: an Approach for Multi-rate Wireless Sytems," *Proc. IEEE International Conference on Universal Personal Communications*, pp. 401-408, Florence, Italy, October 1998, (with D. Ayyagari).

209. "Multicasting in Energy-Limited, Ad-Hoc Wireless Networks," *Proc. IEEE MILCOM*, Bedford, MA, October 1998, (with J. Wieselthier, G. Nguyen).

210. "On the Maximum Throughput of Wireless, Circuit-Switched Networks Under QoS Constraints," *Proc. of the MMT '98*, Washington, DC, OCtober 1998, (with J. Wieselthier, G. Nguyen).

211. "Stochastic Approximation and Directive Antennas in Wireless Networks," *Proc. of the 37th IEEE Conference on Decision and Control (CDC)*, pp. 1102-1106, Tampa, FL, December 1998, (with K. Sayrafian-Pour).

212. "Energy-Efficient Wireless Multicastin - A Beginning," *Proc. of the 3rd ATIRP Conference*, pp. 37-45, College Park, MD February 1999, (with J. Wieselthier, G. Nguyen).

213. Participant in the all-invited *Academy Coilloquium* on "Information Theory: The First 50 Years and Beyond," Amsterdam, The Netherlands, June 1998.

214. Invited Session Organizer on Communication Networks in the *1998 IEEE International Workshop on Information Theory*, Killarney, Ireland, June 1998.

215. Organizer of Invited Panel Discussion on "Whither Wireless Networking for the Military," *IEEE MILCOM*, Bedford, MA, October 1998.

216. Editorial, *Special Commenorative Issue of the IEEE Information theory Newsletter*, ed., August 1998.

217. Editor of Special Issue of *IEEE JSAC* on "Ka and Beyond Satellite-to-User Systems and Technology," February 1998.

218. "Indecomposable Error Sequences in Multiuser Detection," *Proc. of 1999 Conference on Information Sciences and Systems*, pp. 275-281, Johns Hopkins University, Baltimore, MD, March 1999.

219. "Energy-Efficient Multicasting in AD-Hoc Wireless Networks: The Impact of Transmitter Power," *Proc. of 1999 Confernece on Information Sciences and Systems*, pp. 300-305, Johns Hopkins University, Baltimore, MD, March 1999, (with G. Nguyen, J. Wieselthier).

220. "Cell Size in Hybrid Wireless Systems," *IEEE Vehicular Technology Conference (VTC) Proc.*, pp. 727-731, Houston, TX, May 1999, (with T. Elbatt).

221. "Frequency Reuse Impact on the Optimum Channel Allocation for a Hybrid Mobile System," *Proc. of International Mobile Satellite Conference*, pp. 322-327, Ottawa, Canada, June 1999, (with T. Elbatt).

222. "Enhanced Throughput for Satellite Multicasting," *Proc. of International Mobile Satellite Conference*, pp. 425-432, Ottawa, Canada, June 1999, (with D. Friedman).

223. "Power Control for Link Quality Protection in DS-CDMA Networks with Integrated Services," *Proc. of IEEE/ACM Mobicom*, pp. 96-101, Seattle, WA, August 1999, (with D. Ayyagari).

224. "Energy Efficiency of Multiuser Detection," *IEEE Wireless Communications and Networking Conference Proc.*, pp. 205-211, New Orleans, LA, September 1998 (with W. Luo).

225. "Power Control Based Algorithms for Maximizing throughput in DS-CDMA Networks with Multi-media Traffic," *IEEE Wireless Communications and Networking Conference Proceedings*, pp. 120-126, New Orleans, LA, Sept. 1999, (with D. Ayyagari).

226. "Energy-efficient Wireless Networking Techniques," *Proc. of NATO Symposium on Tactical Mobile Communications*, 5.1-5.13, Lillehammer, Norway, June 1999, (with J. Wieselthier, G. Nguyen).

227. "Covert Information Transmission Through the Use of Standard Collision Resolution Algorithms," *Proc. of the 3rd Workshop on Information Hiding*, pp. 100-108, Dresden, Germany, Oct. 1999, (with T. Dogu).

228. "Algorithms for Energy-Efficient Multicasting in Ad Hoc Wireless Networks," *Proc. of IEEE MILCOM*, Atlantic City, NJ, November 1999, (with J. Wieselthier, G. Nguyen).

229. "Wireless Multicasting USing CDMA and Multiuser Detection," *Proc. of IEEE Globecom*, pp. 412-417, Rio de Janeiro, Brazil, December 1999, (with C. Sankaran).

230. "Multicasting with Multiuser Detection I Ad-Hoc Wireless Networks," *Proc. of International Zurich Seminar on Broadband Communications*, pp. 47-55, Zurich, Switzerland, February 2000, (finalist for best paper award), (with C. Sanharan).

231. "Linking the Layers in Wireless Networking," *Plenary* talk in *IEEE International Symposium on Antennas and Propagation*, Orlando, FL, July 1999 (invited).

232. "Cutting Across the Network Layers in the Wireless Environment," *Plenary* talk in the *7th Hellenic Conference on Informatics*, Joannina, Greece, August 1999, (invited).

233. "Energy-Efficiency in Wireless Networking," *Plenary* talk in *IFIP WAG.3 Workshop*, Rethymno, Crete, August 1999 (invited).

234. "Results of the WTEC Study on Wireless Communications Worldwide," *invited* talk at the *1999 ATP National Meeting of NIST*, San Jose, CA, November 1999.

235. "Hybrid Mobile Networking Issues," *Plenary* talk at the *WOSBIS (Workshop on Satellite-Based Information Systems* Rio de Janeiro, Brazil, December 1999 (*invited*).

236. "Accessing: The Link Between Transmission and Networking", *Plenary* talk at the *3rd Information Theory Group Conference on Source and Channel Coding*, Munich, Germany, January 2000 (*invited*) (also in proceedings pp. 301-307).

237. "Cutting Across the Network Layers in the Wireless Environment," *Proc. 3rd ITG Conference on Source and Channel Coding*, January 2000, pp. 301-307, Munich, Germany (invited).

238. "Multicasting with Multiuser Detection in Ad-Hoc Wireless Networks," *Proc. of International Zuirch Seminar on Broadband Communications*, February 2000, pp. 47-59, Zurich, Switzerland (finalist for best paper award, (with C. Sankaran).

239. "The Effect of Bandwidth Limitations on Wireless Broadcasting and Multicasting," *Proc. Conference on Information Sciences and Systems*, March 2000, pp. Ta7a7-TA7a-12, Princeton, NJ, (with G. Nguyen, J. Wieselthier),

240. "The Effect of Multiple Description Coding on Delay-Dependent Distortion in Packet Networks," *Proc. Conference on Information Sciences and Systems*, March 2000, pp. WA86-1-WA86-6, Princeton, NJ, (with M. Alasti, K. Sayrafian-Pour, N. Farvardin).

241. "Energy-Efficient Routing for Connection-Oriented Traffic in Ad-Hoc Wireless Networks," *ARL Federal Laboratory 4th Annual Symposium Proceedings*, March 2000, pp. 23-29, College Park, MD, (with A. Michail).

242. "Distributed Algorithms for Energy Efficient Multicasting in Ad-Hoc CDMA Networks," *ARL Federal Laboratory 4th Annual Symposium Proceedings*, March 2000, pp. 47-53, College Park, MD, (with C. Sankaran).

243. "On the Construction of Energy-Efficient Broadcast and Multicast Trees in Wireless Networks," *Proc. of IEEE INFOCOM*, March 2000, pp. 585-594, Tel Avid, Israel, (with J. Wieselthier, G. Nguyen).

244. "A Unified Approach to Scheduling, Access, and Routing for Ad Hoc Wireless Networks," *Proc. IEEE Vehicular Technology Conference (VTC)*, May 2000, pp. 930-934, Tokyo, Japan, (with D. Ayyagari, A. Michail).

245. "Energy-Efficient Routing for Connection-Oriented Traffic in Ad Hoc Wireless Networks," *Proc. of 11th IEEE International Symposium on Personal Indoor and Mobile Radio Communications (PIMCR)*, September 2000, pp. 1-5, London, England, (with A. Michail).

246. "Interference-free Time-Frequency Broadcast Scheduling in Multihop Packet Radio Networks," *Proc. IEEE Wireless Communications and Networking Conference (WCNC)*, September 2000, pp. 101-106, Chicago, IL (invited), (with K. Sayrafian-Pour).

247. "Algorithms for Bandwidth-Limited Energy-Efficient Wireless Broadcasting and Multicasting," *Proc. of IEEE MILCOM*, October 2000, pp. 212-218, Los Angeles, CA (invited), (with J. Wieselthier, G. Nguyen).

   won the Best Paper Award

248. "Energy Efficiency, Energy Constraints, and Admission Control in Wireless Networks," *Proc. Annual Allerton Conference in Communications, Control, and Computing*, October 2000, pp. 41-46, Allterton, IL, (with J. Wieselthier, A. Nguyen).

249. "Multiuser Detectors for Incompletely Known Symmetric Signals," *Proc. Annual Allerton Conference on Communications, Control, and Computing*, October 2000, pp. 190-196, Allerton, IL, (with Yun Li).

250. "Sojourn Time in Graphs with Deflection Routing," *Proc. of International Symposium on Information Theory and its Applications*, November 2000, pp. 309-315, Honolulu, Hawaii, (with K. Sayrafian-Pour, M. Alasti).

251. "Hybrid Access and Multicasting," *Networking 2000*, May 2000, Paris, France (invited).

252. "Complicating Factors for the Use of Distributed Algorithms in Wireless Networks," *ICALP Congress*, July 2000, Geneva, Switzerland (invited).

253. "The Next 50 Years of Information theory," Moderator, panel discussion in the *IEEE International Symposium on Information Theory*, June 2000, Sorrento, Italy (Panelists: J. Ziv, R. Gallager, T. Cover, J. Massey).

254. "Control and Performance Trade-offs in Multihop Wireless Networks," *NSF Workshop*, November 2000, Irvine, CA (invited).

255. "Energy Efficient Multicasting," *NSF Workshop*, November 2000, Irvine, CA (invited).

256. "Resource-Limited Energy-Efficient Wireless Multicast of Session Traffic," **Proc. of Hawaii International Conference on System Sciences**, (HICSS-34), Maui, Hawaii, January 2001, (with J.E. Wieselthier, G.D. Nyugen).

257. "Routing Session Traffic in Fixed All-Wireless Networks Under Energy and Bandwidth Limitations," **Proc. 5th ARL Federated Laboratory Annual Symposium**, Adelphi, MD, March 2001, (with A. Michail).

258. "The Effects of Multicast Group Size and Antenna Directivity on Energy-Constrained Multicasting," **Proc. of the 2001 Conference on Information Sciences and Systems**, Johns Hopkins Univ. Baltimore, MD, March 2001, (with G.D. Nguyen, J.E. Wieselthier).

259. "Resolving the CDMA Cell Breathing Effect and Near-Far Unfair Access Problem by Bandwidth-Space Partitioning," **Proc. of the IEEE Vehicular Technology Conference**, Rhodes, Greece, May, 2001, (with S-T Yang).

260. "Energy Efficiency in Energy-Limited Wireless Networks for Session-based Multicasting," **Proc. of the Vehicular Technology Conference**, Rhodes, Greece, May, 2001, (with J.E. Wieselthier).

261. "The Effects of multiple Routing on the End-to-End Average Distortion," **Proc. of the IEEE International Symposium on Information Theory**, Washington, DC, June 2001, (with K. Sayrafianpour, M. Alasti, N. Farvardin).

262. "An Insensitivity Property of Energy-Limited Wireless Networks for Session-based Multicasting," **Proc. of the IEEE International Symposium on Information Theory**, Washington, DC, June 2001, (with J.E. Wieselthier, G.D. Nguyen).

263. "Algorithms for Routing Session Traffic in Wireless Ad-Hoc Networks with Energy and Bandwidth Limitations," **Proc. 12th International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC)**, San Diego, CA, October 2001, (with A. Michail).

264. "The Impact of Directional Antennas on Energy-Aware Session-based Multicasting," **Proc. of the IEEE MILCOM**, October 2001.

265. "The Use of Multiple Description Coding in Networking", **IEEE International Symposium on Information Theory**, Lausanne, Switzerland, July 2002, pp. 14-16, (with M. Alasti, K. Sayrafian-Pour, N. Farvardin).

265. "Power Control in Uplink and Downlink CDMA System with Multiple Flow Types," **IEEE International Symposium on Information Theory**, Lausanne, Switzerland, July 2002, pp. 78-80, (with Yun Li).

266. "Joint Scheduling and Power Control for Wireless Ad Hoc Networks", **Proc. of IEEE INFOCOM**, New York, NY, June 2002, pp. 215-223, (with T. Elbatt).

267. "Energy-Limited Wireless Networking with Directional Antennas: The Case of Session-based Multicasting", **Proc. of IEEE INFOCOM**, New York, NY, June 2002, pp. 412-421, (with J. Wieselthier, A. Nguyen).

268. "The Effect of Discrete Power Levels on Energy-Efficient Wireless Multicast in Ad Hoc Networks", **Proc. of 13th International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC)**, Lisbon, Portugal, September 2002, pp. 680-689, (with J. Wieselthier, G. Nguyen).

269. "Simple Rate Control for Fluctuating Channels", **Proc. of 40th Annual Conference on Communication Control and Computing**, Allerton, IL, October 2002, pp. 211-217, (with Yun Li).

270. "Distributed Algorithms for Energy-Efficient Broadcasting in Ad Hoc Networks", Proc. of IEEE MILCOM, Annaheim, CA, October 2002, pp. 156-166, (with J. Wieselthier, A. Nguyen).

271. "Joint Routing and Scheduling Metrics for Ad Hoc Wireless Networks", **Proc. of 36th Asilomar Conference**, Asilomar, CA, November 2002, pp. 289-295, (with T. Girici).

272. "The Energy Efficiency of Distributed Algorithms for Broadcasting in Ad Hoc Networks", **Proc. of 5th International Symposium on Wireless Personal Multimedia Communications**, Honolulu, HI, October 2002, pp. 250-256, (with J. Wieselthier, G. Nguyen).

273. "Probability One Convergence in Joint Stochastic Power Control and Blind MMSE Interference Suppression", **Proc. of the 2003 Conference on Information Sciences and Systems (CISS)**, March 2003, Baltimore, MD, (with J. Luo, S. Ulukus).

274. "Contention-Resolution Algorithms for Multiple Destinations in Wireless Networks", **Proc. of the 2003 Conference on Information Sciences and Systems (CISS)**, March 2003, Baltimore, MD, (with G. D. Nguyen, J.E. Wieselthier).

275. "Multiple Access for Multiple Destinations in Ad Hoc Networks", **Ad Hoc Networks (WiOpt)**, March 2003, Sophia-Antipolis, France, (with J.E. Wieselthier, G.D. Nguyen).

276. "Source Coding and Parallel Routing", **Information Theory**, March 2003, New Brunswick, NJ, (with A. Faridi, M. Alasti, K. Sayrafianpour).

277. "Energy-Efficient Collision Resolution in Wireless Ad Hoc Networks", **Proc. of IEEE Infocom**, April 2003, San Francisco, CA, (with Y. Sagduyu).

278. "Multicasting of Connectionless Traffic in Resource-limited Ad Hoc Wireless Networks", **Proc. of Conference on Personal, Indoor, Mobile, Radio Communications (PIMRC)**, September 2003, Beijing, China, (with A. Tarapani, H. Chafih, T. Girici).

279. "Detection Performance and Energy-Efficiency Trade-off in a Sensor Network", **Proc. of 2003 Allerton Conference**, October 2003, Allerton, IL, (with L. Yu).

280. "Medium Access Control in Multihop Networks", **Proc. of 2003 IEEE Milcom**, October 2003, Boston, MA, (with J.E. Wieselthier, G.D. Nguyen).

281. "Power Control and Rate Adaptation as Stochastic Games for Random Access," **Proc. of IEEE Conference on Decision and Control (CDC)**, December 2003, Maui, HI, (with Y. Sagduyu).

282. "Multiple Access and Time Division: A New Look for Energy and Throughput Efficiency in Wireless Ad Hoc Networks", **Proc. of the IEEE CDC**, Nassau, Bahamas, December 2004, (with Yalin Sagduyu).

283. "Optimum Sequences that Maximize the Information Theoretic Sum Capacity of Symbol Asynchronous CDMA Systems", **Proc. of the IEEE Globecom**, Houston, TX, November 2004, (with Jie Luo).

284. "A Network Layer Covert Channel in Ad Hoc Wireless Networks", **Proc. of the 1st IEEE SECON**, Santa Clara, CA, October 2004, (with Song Li).

285. "Energy Efficient Power Control in Ad Hoc Wireless Queueing Networks", **Proc. of the Allerton Conference**, Allerton, IL, October 2004, (with Tolga Girici).

286. "Performance Evaluation of Random Access in Wireless Networks with Multiple Destinations", **Proc. of IEEE Milcom**, Monterey, CA, October 2004, (with Jeff Wieselthier, Gam Nguyen).

287. "A Wireless Network Example that Raises New Information Theoretic Questions", **Proc. of the 4th Asian-European Workshop on Concepts in Information Theory**, Viareggio, Italy, October 2004.

288. "Multiple Access and Time Division: A New Look", **Proc. of the IEEE International Symposium on Information Theory**, Chicago, IL, June 2004, (with Yalin Sagduyu).

289. "The Feasibility of Matchings in Wireless Networks", **Proc. of the IEEE International Symposium on Information Theory**, Chicago, IL, June 2004, (with S. Borbash).

290. "Energy, Routing, and Decentralized Detection in a Sensor Network", **Proc. of Workshop on Cross-Layer Design of Wireless Networks**, NRL, Washington, DC, June 2004, (with S. Borbash).

291. "Optimal Power Control for Wireless Queueing Networks", **Proc. of the CISS**, Princeton, March 2004, (with Tolga Girici).

292. "Further Developments on Power Levels and Packet Lengths in Random Multiple Access", **Proc. of the CISS**, Princeton, NJ, March 2004, (with Jie Luo).

293. "On The Capacity Bounds of Wireless Networks with Directional Antennas", **Proc. of the CISS**, Princeton, NJ, March 2004 (with Yalin Sagduyu).

294. "Energy Efficient Sensing for Detection in Wireless Networks", **Proc. of Workshop on Mobile, Wireless, and Sensor Networks (MOBWISER)**, Singapore, March 2004.

295. "Invariance Properties of Slotted Aloha in Multihop Networks", **Proc. of 2nd WiOpt**, Cambridge, UK, March 2004 (with Jeff Wieselthier, Gam Nguyen).

296. "A Game Theoretic Look at a Simple Relay Channel", **Proc. of the 2nd WiOpt**, Cambridge, UK, March 2004, (with Yalin Sagduyu).

297. "Joint Scheduling, Power Control, and Routing for Ad Hoc Wireless Networks", **Proceedings of Hawaii International Conference on System Science (HICSS)**, Kauai, HI, January 2005, (with Yun Li).

298. "A Covert Channel in MAC Protocols Based on Splitting Algorithms", **Proceedings of IEEE Wireless Communication and Networking Conference (WCNC)**, New Orleans, March 2005, (with Song Li).

299. "Maximum Throughput Scheduling in Time-Varying Topology Wireless Ad Hoc Networks", **Proceedings of Conference on Information Sciences and Systems (CISS)**, Johns Hopkins, March 2005, (with Anna Pantelidou).

300. "Source Coding and Parallel Routing: Exploring the Asymmetries", **Proceedings of Conference on Information Sciences and Systems (CISS)**, Johns Hopkins, March 2005, (with Azadeh Faridi).

301. "Route Selection for Detection of Correlated Random Fields in Large Sensor Networks", **Proceedings of Conference on Information Sciences and Systems (CISS)**, Johns Hopkins, March 2005 (with Y. Sung and L. Tong).

302. "Joint Scheduling and Wireless Network Coding", **Proceedings of NETCOD Workshop at the WiOpt Conference**, Lago di Garda, Italy, April 2005, (with Y. Sagduyu).

303. "Random Access in Overlapping Cells", **Proceedings of the European Wireless Conference**, Nicosia, Cyprus, April 2005, (with J. Wieselthier, Gam Nguyen).

304. "Network Coding and Scheduling", **Proceedings of the International Conference on Advances in Network Science**, Singapore, June 2005.

305. "Cross layer Design for Distributed MAC and Network Coding in Wireless Ad Hoc Networks", **Proceedings of IEEE International Symposium on Information Theory (ISIT)**, Adelaide, Australia, September 2005, (with Y. Sagduyu).

306. "Broadcast Stability in Random Access", **Proceedings of the IEEE International Symposium on Information Theory (ISIT)**, Adelaide, Australia, September 2005, (with B. Shrader).

307. "On the Throughput, Capacity, and Stability Regions of Random Multiple Access Over Standard Multi-Packet Reception Channels", **Proceedings of the IEEE International Symposium on Information Theory, (ISIT)**, Adelaide, Australia, September 2005, (with Jie Luo).

308. "Slotted Aloha in a Multiple Destination Network: A Threshold Capture model for the Physical Layer", **Proceedings of the IEEE Conference on Personal, Indoor, Mobile Radio Communications (PIMRC)**, Berlin, Germany, September 2005, (with J. Wieselthier, and G. Nguyen).

309. "From the Application Layer to the Hardware: How Energy Efficiency Permeates Fully the Network Design Process", **Proceedings of the IEEE MILCOM**, Atlanta City, NJ, October 2005, (invited).

310. "Capture in Wireless Random Access Networks with Multiple Destinations and a Physical Channel Model", **Proceedings of the IEEE MILCOM**, Atlanta City, NJ, October 2005, (with J. Wieselthier and G. Nguyen).

311. "Energy-Driven Detection Scheme with Guaranteed Accuracy", **Proceedings of Information Processing in Sensor Networks (IPSN)**, Nashville, TN, April 2006, (with L. Yu, L. Yuan, G. Qu).

312. "Detection Performance and Energy Efficiency of Sequential Detection in a Sensor Network", **Proceedings of Hawaii International Conference of System Science (HICSS)**, January 2006, Kauai, HI, (with L. Yu).

313. "Some Optimization Trade-offs in Wireless Network Coding", **Proc. of the Conference on Information Sciences and Systems (CISS)**, Princeton, NJ, March 2006, (with Y. Sagduyu), (invited).

314. "Anonymous Routing: A Cross-Layer Between Application and Network Layer", **Proc. of the Conference on Information Sciences and Systems (CISS)**, Princeton, NJ, March 2006, (with Song Li).

315. "Distortion Control for Queues with Deadlines", **Proc. of Data Compression Conferene (DCC))**, Snowbird, UT, March 2006, (with A. Faridi).

316. "Network-Layer View of Cooperation", **MSRI Workshop Proceedings**, Berkeley, CA, April 2006, (invited).

317. "Cooperative Multiple Access for Wireless Networks: Protocol Design and Stability Analysis", **Proc. of the Conference on Information Sciences and Systems (CISS)**, Princeton, NJ, March 2006, (with A. Sadek, R. Liu).

318. "Optimal Power Control for Minimum-Energy Downlink Broadcast Transmission in Wireless Data Networks", **Proc. of WiOpt Conference**, 4th International Symposium on Modeling and Optimization in Mobile, AdHoc, and Wireless Networks), Boston, MA, April 2006 (with A. Sridhar).

319. "On Rate Control of Wireless Multicasting", **Proc. of IEICE and SITA Joint Conference on Information Theory**, Nara, Japan, May 2006, (with J. Luo).

320. "What is in Sensor Networks for Communication Theorists", **Plenary Talk at the IEEE Communication Theory Workshop (CTW)**, Puerto Rico, May, 2006.

321. "Collaborative Multiple-Acess Protocols for Wireless Networks", **Proc. of the IEEE International Conference on Communication (ICC)**, Istanbul, Turkey, June 2006 (with A. Sadek, R. Liu).

322. "Comparison of Two Low-Complexity Multiple Access Schemes", **IEEE International Symposium on Information Theory (ISIT)**, Seattle, WA, July 2006 (with J. Luo).

323 "Network Coding in Wireless Queueing Networks: Tandem Network Case", **IEEE Internation Symposium on Information Theory**, Seattle, WA, July 2006, (with Y. Sagduyu).

324. "The Capacity of the Asynchronous Compound Multiple Access Channel and Results for Random Access Systems", **IEEE International Symposium on Information Theory**, Seattle, WA, July 2006 (with B. Shrader).

325. "On Capture in Ramdon-Access Systems", **IEEE International Symposium on Information Theory**, Seattle, WA, July 2006, (with G. Nguyen, J. Wieselthier).

326. "The Joint Optimization of MAC and Network Coding for Cooperative and Competitive Wireless Multicasting", **Proc. of ICPADS 2006 MLMD Workshop**, Minneapolis, MN, July 2006 (with Y. Sagduyu).

327. "The Mullti-Access Channel in a Network: Stability and Network Coding Issues", **NATO Advanced Study Institute (ASI)**, Budapest, Hungary, August 2006, (invited).

328. "SINR-based Ad-Hoc Networking", **Proc. of PIMRC (Personal, Inddor, Mobile Radio Communications)**, Helsinki, Finland, September 2006, (with V. Angelakis, A. Traganitis), (invited).

329. "On the Broadcast Stability Region in Random Access Through Network Coding", **Proc. of the Annual Allerton Conference on Communication, Control, and Computing**, Allerton, IL, September 2006, (with Y. Sagduyu).

330. "Accurate Capture Models and Their Impact on Random Access in Multiple-Destination Networks", **Proc. of IEEE MILCOM**, Washington, DC, October 2006, (with J. Wieselthier, G. Nguyen).

331. "A Game-theoretic Look at Throughput and Stability in Random Access", **Proc. of IEEE MILCOM**, Washington, DC, October 2006, (with Y. Sagduyu).

332. "Satellite versus Cellular Broadcasting: A Multi-criteria Comparison", **Proc. of IEEE Globecom**, San Francisco, CA, November 2006, (with A. Sridhar).

PATENTS

1. US Patent No. 5,987,328 "Method an Device for Placement of Transmitters in Wireless Networks, (with D. Stamatelos), November 16, 1999.

2. US Patent No. 6,879,572, "Power Control for Active Link Quality Pretection in DMA Networks", April 12, 2005, (with D. Ayyasari)

3. US Patent No. 6,894,991, "Integrated Method for Performing Scheduling, routing and Access Control in a Computer Network", May 17, 2005, (with D. Ayyagari).

MISCELLANEOUS

1. **Reviewer for**

    i) SIAM Journal on Applied Mathematics

    ii) IEEE Transactions on Information Theory

    iii) IEEE Transactions on Circuits and Systems

    iv) National Research Council of the National Academy of Sciences

    v) American Association for the Advancement of Science

    vi) IEEE Transactions on Automatic Control

    vii) IEEE Transactions on Aerospace and Electronic Systems

    viii) National Science Foundation (NSF)

    ix) Zentralblatt fur Mathematik

    x) Mathematical Reviews

    xi) IEEE Transactions on Communications

    xii) IEEE Transactions on Education

    xiii) Naval Air Systems Command Mathematics Research Program

    xiv) NASA

    xv) Canadian Natural Sciences and Engineering Research Council

    xvi) Journal of Wireless Networks

    xvii) IEEE JSAC

    xviii) Hong Kong Research Council

    xix) Swiss Science Foundation

    xx) Office of Naval Research

    xxi) Army Research Office

2. **Organizer of Meetings/Conferences/Symposia**

    i) 5-day Summer Short Course on "New Trends and Recent Results in Communications," at the University of Maryland, June 17-21, 1974.

    Lecturers: H. Van Trees, Professor, MIT, Head of DCA

T. Kailath, Professor, Stanford University
R. Kennedy, Professor, MIT
T. Berger, Professor, Cornell University
D. Martin, Assoc. Professor, University of Washington

ii) Several Special and Invited Sessions in a number of international conferences.

iii) IEEE Workshop on "Multi-User Information Theory & Systems," Hot Springs, VA, June 1983.

iv) Workshop on "Queueing and Control Problems with Application to Satellite and Other Communication Systems," College Park, MD, May 1984.

v) The 25th IEEE Conference on Decision and Control (CDC) (General Chairman).

vi) Special Session on Multiple Access in the IEEE Int'l Workshop on Information Theory, Bellagio, Italy, June 1987.

vii) Program Committee Member, IEEE Computer Networking Symposium, Washington, DC, April 1988.

viii) Co-Chairman of the IEEE Int'l Symposium on Information Theory, Budapest, Hungary, 1991.

ix) Program Committee, IEEE INFOCOM, Miami, FL, April 1991.

x) Organizer and General Chairman of the IEEE TAB Colloquium in Region 10, October 1989.

xi) Program Committee, Network Management Conference, New York, September 1989.

xii) Program Committee of IFIP International Conference on "Modeling the Innovation," Rome, Italy, March 1990.

xiii) Program Committee, IEEE INFOCOM, San Francisco, CA, April 1993 (including organization and chairing of special session called "Will there be a Theory of Communication Networks?")

xiv) Program Committee, 15th AIAA International Satellite Systems Conference and Exhibit, San Diego, CA, February 1994.

xv) Program Committee, IEEE INFOCOM, Toronto, Ontario, June 1994.

xvi) Program Committee, IEEE INFOCOM, 1995.

xvii) Program Committee, IEEE International Symposium on Information Theory (ISIT), 1995.

xviii) Program Committee, IEEE INFOCOM, 1996.

xix) Program Committee, IEEE ISIT, 1997.

xx) Program Committee International Symposium on Information Theory and its Applications (ISITA), 1996.

xxi) Program Committee, IEEE INFOCOM, 1998.

xxii) Program Committee, IEEE ISIT, 1998.

xxiii) Program Committee, International Symposium on Computer Communications, 1998.

xxiv) Chair of Technical Program Committee, IEEE INFOCOM, 1999.

xxv) Chair of Technical Program Committee, IEEE ISIT, 2000.

xxvi) Program Committee, IEEE INFOCOM, 2002.

xxvii) Chair of Technical Program Committee, ACM Mobihoc 2003

xxviii) Vice-Chair of 2006 IEEE ISIT, 2006

3. Honors and Awards

i)	1965	Chrisovergis Prize, awarded to highest ranking student by the National Technical University of Athens.
ii)	1966	Condulis Prize, highest award for academic distinction by the National Technical University of Athens.
iii)	1967	Chrisovergis Prize as above.
iv)	1968-1969	Charles Grosvenor Osgood Fellow - Princeton University.
v)	1969-1970	Porter Ogden Jacobus Fellow - Princeton University.
vi)	1977	George Corcoran Memorial Award in Recognition of Significant Contributions to Electrical Engineering Education, awarded by the College of Engineering of the University of Maryland.
vii)	1979	Computer Sciences Corporation Best Paper Award for: "Analysis of a Hybrid Scheme for Multiple Access with Buffered Terminals" (with O. Mowafi).
viii)	1981	Research Publication Award at NRL for the report titled: "Survey of Problems in the Design of an HF Intra Task Force Communication Network" (with D. Baker and J. Wieselthier).
ix)	1982	Maryland Association of Higher Education Distinguished Program Award for the Fairchild Scholars Program (with L. Davisson and E. Fthenakis).
x)	1983	Research Publication Award at NRL for report titled: "Preliminary System Concept for an HF Intra Task Force Communication Network" (with D. Baker, J. Wieselthier, and D. McGregor).
xi)	1987	Research Publication Award at NRL for report and paper titled: "A Design Concept for Reliable Mobile Radio Networks with Frequency Hopping Signalling" (with J. Wieselthier and D. Baker).
xii)	1990-1991	Distinguished Faculty Research Award for Project on Wideband Networks, University of Maryland.
xiii)	1991	IEEE Donald Fink Paper Award for Best Tutorial Paper published anywhere in the IEEE publications (for paper No. 34)).
xiv)	1993	Permanent Joint Appointment with the Institute for Systems Research, University of Maryland
xv)	1995	Invention of the Year Award from Office of Technology

		Liaison of the University of Maryland
xvii)	1996	Sigmobile Award for Outstanding Contributions to Research on Mobility of Systems, Users, Data, and Computers. (First Recipient of this Annual Award that was initiated in 1996 by the Association for Computer Machinery (ACM)).
xviii)	1996	Alan Berman Research Publication Award at NRL.
xix)	1999	IEEE Third-Millenium Medal
xx)	2000	Fred Ellersick Award for Best Paper at the 2000 IEE MILCOM
xxi)	2000	Outstanding Systems Engineering Faculty Award, Institute for Systems Research, University of Maryland
xxii)	2000	Alan Berman Research Publication Award at NRL
xxii)	2001	KIRWAN FACULTY RESEARCH AND SCHOLARSHIP PRIZE
xxiv)	2001	Nominated for the National Academy of Engineering
xxv)	2002	Best Research Publication Award by the Naval Research Laboratory
xxvi)	2002	Nominated for National Academy of Engineering
xxvii)	2002	Nominated for Distinguished University Professor
xxiii)	2003	CYNTHIA KIM EMINENT PROFESSORSHIP IN INFORMATION TECHNOLOGY
xxix)	2004	Alan Berman Research Publication Award of the Naval Research Laboratory for paper entitled "Energy-Aware Wireless Networking with Diectional Antennas"
xxx)	2006	Aaron Wyner Distinguished Award for Service and Leadership in Information Theory
xxxi)		Designated IEEE Communications Society Distinguished Lecturer, 2006

4. Foreign Languages

   i) Greek (native)
  ii) French (excellent)
 iii) German (very good)
  iv) Italian, Spanish (working)
   v) Swedish, Russian, Japanese (elements)

5. Invited Talks to Universities and Institutes

   i) Democritos Research Center, Athens, 1972 (Mathematics and Biology).

  ii) National Technical University of Athens, Greece, Electrical Engineering Dept., Dec. 12, 1972 (Matched Filters).

 iii) University of Maryland, Baltimore, County, Dept. of Mathematics, Nov. 1, 1973 (Theory of Multiplicity).

iv) Johns Hopkins University, Electrical Engineering Dept., Feb. 12, 1974 (Stochastic Approximation).

v) University of Maryland, College Park, Biomedical Seminar, Feb. 11, 1974 (Neural Point Processes).

vi) University of Toronto, Electrical Engineerint Dept., Mar. 15, 1974 (Differential Games).

vii) SUNY, Buffalo, Electrical Engineering Dept., Mar. 14, 1974 (Differential Games).

viii) COMSAT, Clarksburg, MD, Feb. 12, 1976 (Optical Communications).

ix) University of Maryland, College Park, Dept. of Mathematics, Oct. 21, 1976 (Cramer-Hida Representation).

x) Rennselaer Polytechnic Institute, Troy, NY, Electrical Engineering Dept., Mar. 17, 1978 (Random Access Protocols).

xi) National Technical University of Athens, Athens, Greece, Dec. 1, 1978 (Multiple Access Problems in Satellite Channels).

xii) University of Trieste, Dept. of Electrical Engineering, Jan. 30, 1979 (Multi-User Systems).

xiii) INRIA, Rocquencourt, France, Feb. 16, 1979 (Flow Control in Random Access Channels).

xiv) University of Paris XI, Orsay, France, Feb. 26, 1979 (Carrier Sensing Analysis).

xv) Washington University, Electrical Engineering Dept., Mar. 30, 1979 (Coupling of Users in Demand-Access Prococols).

xvi) UCLA, LA, CA, Department of System Science, May 23, 1979 (Interaction of Users of Multiple Access Channel).

xvii) SUNY, Buffalo, NY, Electrical Engineering Dept., May 15, 1979 (Interdependence of Users of Multiple Access Channel).

xviii) University of Michigan, Ann Arbor, MI, CICE, Nov. 30, 1979 (Interaction of Queues).

xix) University of Connecticut, Storrs, CT, Dept. of Electrical Engineering, March 7, 1980 (Queueing Analysis of RA Protocols).

xx) Columbia University, New York, NY, Dept. of Electrical Engineering, March 20, 1981 (Multiple Access Protocols).

xxi) Old Dominion University, Norfolk, VA, Dept. of Elecrical Engineering, May 6, 1981 (Distributed Algorithms).

xxii) McGill University, Montreal, Canada, Dept. of Electrical Engineering, May 12, 1981 (Mobile Network Organization).

xxiii) University of Arizona, Tucson, AZ, Feb. 1982 (Mobile Nets).

xxiv) Concordia University, Montreal, Canada, Dept. of Electrical Engineering, Feb. 11, 1983 (Mobile User Networks).

xxv) University of Toronto, Canada, Dept. of Electrical Engineering, April 18, 1983 (Multi-Access Protocols).

xxvi) Washington DC Chapter of the IEEE, Feb. 22, 1984 (Frequency Hopping Interference).

xxvii) Princeton University, Princeton, NJ, May 15, 1985 (Interfering Queues).

xxviii) MIT, Boston, MA, Oct. 15, 1985 (Queues in Multiple Access).

xxix) Northeastern University, Nov. 11, 1985 (Queues in Multiple Access).

xxx) University of Maryland, Jan. 31, 1986 (Queues in Multiple Access).

xxxi) National Technical University of Athens, Feb. 14, 1986 (Mobile Radio Nets).

xxxii) University of Trieste, March 7, 1986 (Interacting Queues).

xxxiii) Technical University of Budapest, March 20, 1986, March 21, 1986 (Spread Spectrum Networks).

xxxiv) INRIA, France, May 16, 1986 (Stability of Slotted-Aloha With Buffered Terminals).

xxxv) Eidgenossische Technische, Hochschule, Zurich, Switzerland, April 17, 1986 to July 31, 1986 (7 lectures on Queueing Systems Analysis).

xxxvi) Institute of Crete, Herakleion, Greece, July 3, 1986 (Computer Networking).

xxxvii) Purdue University, Feb. 2, 1987, Dept. of Computer Science (Resource Allocation in Computer Systems).

xxxviii) Southern Illinois University, May 6, 1987, Dept. of Electrical Engineering (Ergodicity of Random Walks).

xxxix) RPI, Oct. 22, 1987, Dept. of Electrical Engineering (Scheduling of Messages with Tight Deadlines).

xl) Rice University, Houston, TX, March 29, 1988 (Control Problems in Communication Network Models).

xli) Oregon Graduate Center, Beaverton, OR, April 7, 1988 (Scheduling of Messages with Tight Deadlines).

xlii) George Washington University, Washington, DC, Sept. 12, 1988 (Scheduling in Queues with Timeliness Constraints).

xliii) Princeton University, Princeton, NJ, March 20, 1989 (Scheduling/Routing in Radio Networks).

xliv) Polytechnic University, Brooklyn, NY, October 8, 1992, (Integrated Networking).

xlv) George Mason University, Fairfax, VA, October 14, 1992, (Wireless Networks).

xlvi) Tel Aviv University, Tel Aviv, Israel, May 24, 1993, (Satellite Experiments).

xlvii) Northwestern University, Evanston, Illinois, October 1, 1993 (New Models for Integrated Wireless Networks).

xlvii) National Technical University of Athens, Athens, Greece, May 20, 1994 (The ABET Evaluation Process).

xlix) University of Pennsylvania, Philadelphia, PA, November 3, 1994 (shortcut to Performance Evaluation and Control of Integrated Networks).

l) University of Florida, Gainesville, FL, September 1995 (Wireless Networking).

li) University of Southern California, Los Angeles, CA, March 25, 1996, (Satellite and Hybrid Networks).

lii) University of Michigan, Ann Arbor, MI, September 27, 1996.

liii) University of Wisconsin, Madison, WI, October 22, 1996.

liv) Southern Methodist University, Dallas, TX, November, 1999 (Energy-Efficient Wireless Networks).

lv) Boston University, Boston, MA, November 1999 (Some Problems in Wireless Networking)

lvi) EURECOM, Sophia-Antipolis, France, February 2000 (Energy Issues in Wireless Networks).

lvii) George Washington University, Washington, DC, November 17, 2000 (Integration Across Layers in Wireless Networking).

lviii) MIT, Cambridge, MA, April 10, 2001 (Energy-Efficient Wireless Network).

lvix) Invited Seminar Talk at MIT, Cambridge, MA "Layer-Integration in Wireless Networks," April, 2001.

lx) Invited Presentation at the Gigabit Wireless Networking Workshop (in conjunction with the IEEE INFOCOM), Anchorage, Alaska, "Whither High-Speed Wireless Networking" April 2001.

lxi) Invited Keynote Presentation at the NSF/ONR Sponsored Workshop on Wireless Networks, Ithaca, NY "Perspectives and Challenges in Ad-Hoc Wireless Networking", June 2001.

lxii) Invited Presentation at the IEEE CAS Workshop on Wireless Communications, Notre Dame, IN "Review of Energy-Efficient Ad-Hoc Networking" August 2001.

lxiii) Invited Presentation at the Allerton Conference on Control Computing and Communications, Allerton, IL, "A Blueprint for the Integration of Layers in Wireless Networks", October 2001.

lxiv) Invited Keynote Address at the IEEE/ACM Mobihoc Conference, Los Angeles, CA "Wireless Networks: Where is the Beef?" October 2001.

lxv) Invited Seminar Talk at University of Pittsburgh's Distinguished Lecturer Series, Pittsburgh, PA "Who is Afraid of the Wireless Link: A Foray into Energy-Efficient Wireless Networking," November 2001.

lxvi) Key Note Address at ACM Mobicom, Sept. 2002, Atlanta, Georgia: Title: "The Importance of the Wireless Link in Ad Hoc Networks.

lxvii) Invited Lead Speaker at NSF/ONR/ARO/ARL-sponsored workshop on Fundamental Limits if Wireless Networks, Cornell University, September 2002.

lxviii) Lead organizer and speaker at NSF workshop on future wireless network research, January 2002, Ballston, VA.

lxix) Invited Keynote Speaker at "AD HOC NOW", September 21, 2002, Toronto, Canada.

lxx) Invited Speaker at California Institute of Technology, Pasadena, CA, April 2002.

lxxi) Organizer of Special Networks Session in the International Workshop on Information Theory, Bangalore, India, October 2002.

lxxii) University of Illinois, 1-27/03, Urbana, IL, "Energy Saving Conflict Resolution in Wireless Networks"

lxxiii) Lucent Technologies, 2-6-03, Crawford Hill, NJ, "Concerns for MAC in Ad Hoc Wireless Networks"

lxxiii) University of Notre Dame, 3-21-03, Lafayette, IN, "Revisiting Conflict Resolution"

lxxiv) University of Washington, 6-5-03, Seattle, WA, "Energy and Multiple Access"

lxxv) Yale University, 10-8-03, New Haven, CT, "Trade-offs in Sensor Networks"

lxxvi) University of Pennsylvania, 11-14-03, Philadelphia, PA, "Sensor Network Trade-offs and Security Issues"

lxxvii) RPI, NSF Workshop on Ubiquitous Computing, 4-29-04.

lxviii) Yokohama National University, Japan, 5/21/04.

lxxix) Center for Wireless Communications, Japan, 5/21/04.

lxxx) Asia-Europe Workshop on Communications, Viareggio, Italy, 10/7/04.

lxxxi) Joint Workshop on coding and Communications, Villa Donini, Italy, 10/14/04.

lxxxii) U.S. Army Science Conference, Orlando, FL, December 2004.

lxxxiii) Telecommunications Research Center, Vienna, Austria, January 2005.

lxxxiv) LG, Seoul, Korea (dedication of LG Research Labs), 2/15/05.

lxxxv) RAND Corporation, March 17, 2005.

lxxxvi) KAIST, South Korea, May 16, 2005.

lxxxvii) EPFL, Lausanne, Sqitzerland, July 2005.

lxxxviii) Keynote Address at IEEE SECON, Santa Clara, CA, 9/27/05.

lxxxix) Mitre Corporation, Fairfax, VA, 10/5/05.

xc) ARL Distinguished Lecture, Adelphi, MD 2/19/06.

xci) MSRI Workshop on Cooperative Communications, Berkeley, CA, 4/8/06.

xcii) Plenary Lecture at IEEE Communication Theory Workshop, San Juan, Puerto Rico, 5/21/06.

xciii) Distinguished Lecture Tour for the IEEE Communication Society, 9/20/06 to 9/22/06, Nashua, NH, Portland, ME, Orono, ME, Frederickton, NB.

xciv) Annual Plenary Talk IEEE Washington, DC Section, MITRE, Fairfax, VA 9/26/06.

6. **Office in Professional Organizations**

- Elected Chairman of the Baltimore-Washington Section of the Automatic Control Society of IEEE (1975-76).

- Treasurer of the Information Theory Group of the IEEE (1978-1981).

- Associate Editor on Estimation Theory of the IEEE Transactions on Automatic Control (1979-1981).

- Member of the Information Dissemination Committee of the IEEE Control Systems Society (1979-1981).

- Elected to the Board of Governors of the Information Theory Group of the IEEE (1981-1983).

- Re-Elected to theBoard of Governors of the Information Theory Group of the IEEE (1984-1986).

- Elected 2nd Vice-President of the Information Theory Group of the IEEE (1985).

- Elected 1st Vice-President of the Information Theory Group of the IEEE (1986).

- Associate Editor on Networks and Stochastic Control of the IEEE Transactions on Automatic Control (1985-1987).

- Elected President of the Information Theory Group of the IEEE (1987).

- General Chairman of the 25th CDC (Conference on Decision and Control), Athens, Greece, Dec. 1986.

- IEEE Technical Activities Advisory Committee (1987).

- IEEE Technical Activities Board (1987).

- Board of Governors of the Control Systems Society (1987).

- Board of Governors of Information Theory Society, served as Junior Past President (1988), Senior Past President (1989), elected member 1991-1993.

- Elected Director of Division X of the IEEE (1989, 1990).

- Division includes Control Systems Society; Information Theory Society; Systems, Man, and Cybernetics Society; Electronics in Medicine and Biology Society; Industrial Electronics Society; Robotics Council/Society; Medical Imaging Committee; Neural Networks Committee.

- Elected Member of the Board of Directors of the IEEE (1988, 1989).

- **Other IEEE:** Served on Educational Activities Board (1989-1990), Transnational Committee (1989, 1990), TAB Administration Council (1990), Ethics Committee (1990), TAB Nominations and Appointments Committee (1990, 1991), Region 9 TAB Colloquium (1990), Region 8 TAB Colloquium (1991), Chairman of University-Industry Relations Committee of EAB/TAB (1990-on), TAB Liaison Council (1990), Society Self-Evaluation Committee (1990), Chair of TAB Strategic Planning and Review Committee (1991-93), Chair of Admission and Advancement Review Committee (1993), Member of Delegation to Region 8 (1993).

- Associate Editor on Networks, IEEE Transactions on Information Theory 1988-1991.

- Editorial Board of Journal of Wireless Networks (1995-present).

- North-America Editor of International Journal of Satellite Communications (1999-present).

- Board of Governors of Information theory Society, Historian since 1991, elected member 1994-1996, 1999-2001.

- Chair Technical Program Committee of IEEE INFOCOM, 1999, New York, NY.

- Chair Technical Program Committee of IEEE ISIT, 2000, Sorrento, Italy.

- IEEE Fellows Evaluation Committee (1994-1998).

- Guest Editor, Reviewer, Panelist, Consultant, Advisor at Multiple Publications, Agencies, Industry, Universities, etc.

- Chair of WTEC Panel for Worldwide Technology Assessment in Wireless Communications (1999-2000).

- Historian of the IEEE Society on Information Theory, 1991-present.

- Editor of **Foundations and Trends in Networking**, NOW Publishers (as of 1/1/06).

- Editor for North America of **Internation Journal of Satellite Communications** (IJSC), (since 1998).