G. "Anand" Anandalingam

Smith School of Business
University of Maryland
College Park, MD 20742

6212 Clearwood Road
Bethesda, MD 20817
U. S. A.

Education

Harvard University
Ph. D. (1981): Operations Research with Economics
S. M. (1977): Operations Research with Economics

Cambridge University, England
B. A., M. A. (1975): Electrical Sciences

Positions Held

University of Maryland (Robert H. Smith School of Business)
Ralph J. Tyser Professor of Management Science, 2001 – Present

Administration
Dean, July 2008 – June 2013
Senior Associate Dean and Acting Dean, Smith School of Business, 2007 - 08
Chair, Dept of Decision and Information Technologies, 2003 – 2007

Imperial College London, U. K. (Imperial College Business School)
Dean, July 2013 – July 2016 (on leave from Maryland)

University of Pennsylvania (Systems Engineering and the Wharton School of Business)
National Center Professor of Resource Management and Technology, 1999 – 2001
Joseph Moore Professor of Systems Engineering, 1996-1999
Professor, Operations & Information Management (Wharton School), 1996- 2001
Assistant Professor, 1987-90; Associate Professor, 1990-96.
Administration
Chairman, Department of Systems Engineering, January 1997 - 2001
Director, Ackoff Center for Advanced Systems Approaches, 2000 – 2001
Director, Executive Masters Program in Technology Management (Joint program between Wharton and Engineering), 1990-95.
Advisory Board, Wharton Emerging Economies Program, 1994-1997.
Advisory Board, Center for the Advanced Study of India, 1995 – 2001
Core Faculty: Reginald Jones Center for Management and Strategy, 2000 - 2001

University of Virginia - 1984 to 1987.
Assistant Professor, Department of Systems Engineering.

Brookhaven National Laboratory – 1981 to 1984.
Engineer-Economist, Center for Analysis of Energy Systems.

G. Anandalingam

Administrative Highlights

Revenue Raising Highlights

- July 1, 2013 – July 31, 2016 (As Dean of Imperial Business School): Helped to launch a £20 million Brevan-Howard Center on Financial Analysis, and a £10 million KPMG Centre on Advanced Business Analytics. Raised £1 million for Munjal Chair on Global Business and Operations, £1 million for Abu Dhabi Chair on Strategy and Innovation, $1 million from Citibank for a Center on Global Finance and Technology, and a modest scholarship fund for women MBA students. *Note these are incredible successes in an institution which had little or no fund raising history.*

- July 1, 2008 – June 30, 2013 (As Dean of the Smith School): Raised over $45 million; helped to pass campaign goal of $90 million two years early; raised goal to $110 million and exceeded it. New campaigns to raise $3 million for Baltimore facility enhancement, and $10 million for extension to College Park facility. *Note that these are incredible successes in a situation where the endowment of the Smith School of Business is around $40 million.*

- Raised over $1.5 million for the Smith School programs in innovation and entrepreneurship including enhancement of the Cupid's Cup competition conducted by the Dingman Center on Entrepreneurship, and technology transfer in Israel which is being done in partnership with Technion, the top-ranked university in Israel.

- Raised over $3 million for three new Centers of Excellence: Center for Financial Policy, Center for Leadership, Innovation and Change, and Center for Social Value Creation.

- July 1, 2007 – June 30, 2008 (As Senior Associate Dean and Occasional Acting Dean): Helped to get final approvals for the Executive Masters in Science (Accounting Track) program from university and state administration. Negotiated financial arrangements for program; program expected to net over $800K/year. Helped to pitch PhD program enhancement to benefactor Bob Smith; received funding at $1 million/year for 5 years. .

- September 2001 – August 2004: (At Maryland) Founding Director of Center for Electronic Markets and Enterprises at the Smith School of Business, University of Maryland. Raised $2.2 Million from government and corporate sources.

- August 2000 – September 2001: (At Penn) Founding Director of the Ackoff Center on Advanced Systems Approaches. Set up Center with corporate pledges of $1 Million, of which $750 K was received.

- September 1990 – August 1995: (At Penn) Director, Executive Masters Program in Technology Management, University of Pennsylvania. Increased revenue of program from $500K/year to more than $2.5 Million/year.

- September 1987– August 2001: (At Penn) Professor and Project Manager, Telecommunications Systems Laboratory, University of Pennsylvania. Obtained $200K/year of project funding for a total of about $2.8 Million.

Program Development Highlights

- **AACSB (Association to Advance Collegiate Schools of Business)**
  - Accreditation Committee: oversee applications for Maintenance of Accreditation for business programs. The committee ensures that the Accreditation Standards are applied consistently, and that recommendations are equitable across Peer Review teams and the programs reviewed.

- **Imperial Business School, Imperial College London**
  - Helped design and launch a Global MBA Program using online technologies and state-of-art course design to reach students from across the world in a distributed blended learning environment. Helped design and launch an MS program on Business Analytics, and on Climate Change, Management and Finance. Expanded Summer School. Directed the re-design of the Full-Time MBA program and the Executive MBA program. Improved the global ranking of the MBA program from top-50 to top-30.

  - Hired a number of senior professionals including Director of Fund Raising, Director of Corporate Relations, Associate Dean of Degree Programs, Associate Dean of Executive Programs, Associate Dean of Undergraduate Programs, Director of Global Initiatives, Director of Student Experience, Head of Marketing Communications.

  - Increased the size of the faculty by 30%. Hired top faculty in Finance, Marketing and Operations, Created the top Finance department in the U.K.

  - Developed and launched the Imperial Center on Entrepreneurship for the University that cut across four major schools, Engineering, Natural Science, Medicine and Business. Helped launch the Center on Health Economics and Management. Started the process of setting up a new joint Center on Entrepreneurship with a leading business school in China and raising £25 million for these Center.

  - Set up the Gender Equity Committee at the Business School. Was the Academic lead for Imperial-As-One, the organization that furthers Black and Minority Ethnic advancement.

- **Robert H. Smith School of Business, University of Maryland**
  - Launched an Executive MBA Program in China in partnership with a leading university in Beijing. Launched multiple executive education and global consulting projects in China, India, Chile, Thailand and other countries.

  - Launched MS programs in Accounting, Finance, Information Systems,

Supply Chain Management, and Business (Marketing) Analytics. These programs now have over 500 incoming students and provide over $20 million in revenue.

- Increased the quantity and quality of global experiences for students at the Smith School of Business. Created the Office of Global Initiatives. Won a grant from the Department of Education to support the Center on International Business Education and Research (CIBER). In any one year, the Smith School has more than 500 students who travel abroad on global study trips, consulting projects and to support small business ventures.

- Invested funds to enhance the activities of the Dingman Center on Entrepreneurship by having new programs in China (business plan competition) and Israel (technology transfer), and engaging the angel and venture community to support the creation of new businesses by young entrepreneurs. Started a new venture fund for emerging markets.

- Invested funds to set up the Center for Social Value Creation. The Center provides the vehicle ("social venture consulting") through which every MBA and Undergraduate student has the opportunity to work in teams to support non-profits using principles of business. Started the undergraduate Social Innovation Fellows program.

- (As Chair of Department): Helped to set up Center on Health Information and Decision Systems (CHIDS) and generated seed money for three years.

- Provided the vision and strategy for revising both the undergraduate and MBA programs with curricula that emphasizes experiential learning, entrepreneurship, global education, and ethics and corporate social responsibility.

- Helped significantly enhance the Executive Education program at the Smith School by influencing the Dean to hire professionals from the Wharton School to head up the office at Maryland. (Revenue has gone from near zero to more than $8 Million in 8 years)

- Helped to develop an Executive MBA with the Graduate School of Business in Zurich, Switzerland. Program successfully ran for 2 years.

- Designed a customized program for senior managers at Nextel Communications that has been delivered once a quarter. Served as Faculty Director of the program. (Quarterly revenues about $200,000)

- Developed the Operations Management undergraduate program at the Smith School of Business. Revised Information Systems major for undergraduates. In both cases, enrollment went up significantly (5-fold in OM and 50% in IS) over a 2-year period

- **University of Pennsylvania**
    - Developed the Technology Management program for mid-career managers and served as Executive Director of the program. This was a joint program between the Engineering School and the Wharton School of Business and emphasized innovation and entrepreneurship.

    - Helped to set up the Center for Advanced Study of India (CASI) at the School of Arts and Sciences (Director: Professor Francine Frankel, Political Science) to develop programs on and in India; initial funding from Ford Foundation.

    - Helped develop a program in medical informatics in collaboration with the Penn Medical School, the Engineering School and the Wharton School.

    - Supported the Wharton Emerging Economies Program by developing executive education programs in energy policy, regulation and planning

Administration Details

July 2013 – Present
Dean, Imperial College Business School, London, U. K.

Note that Imperial College is one of the top 4 universities in the U.K., the others being Cambridge, Oxford and LSE. With 17 Nobel Prize winners, Imperial College is ranked joint #2 in the world with Cambridge after MIT in the Global QS rankings (http://www.topuniversities.com/). Imperial College Business School is regularly ranked in the top 5 in research and programs in the U.K. by the *Financial Times*. The biggest challenge as Dean at Imperial College Business School was to elevate its status to be among the top Business Schools in the world. To do this, I had to change a number of processes, hire a number of senior experienced professionals and also invest in corporate relations and executive education. I also had to ensure that a number of degree programs were reviewed and redesigned with new program Directors. I also revamped Alumni Relations and hired new Development Officers. All of this has paid dividends in a short period with significant new philanthropic gifts, a 50% increase in ExecEd revenue, a significant jump in the full-time MBA ranking from #49 in the world to #34, and the achievement of #1 place in the ranking of research productivity in the U.K.

July 2008 – June 2013
Dean, Robert H. Smith School of Business, University of Maryland

The Smith School has 2800 undergraduates, 1400 MBA students, 800 MS students, and 100 PhD students and an effective budget of approximately $100 million. The biggest challenge was to ensure that programs ran flawlessly, students' experience was improved and enhanced, and the morale of the faculty, staff and students continued to be high during a time of severe (more than 10%) budget cuts. Decisions were made to prioritize investments and expenditures, and to streamline operations.

Invested in branding campaign, and in expanding executive education. Rebuilding Smith School Center on Career Services. Started three new Centers and obtained funding to ensure stability for Center activities. Expanded the activities in sustainability, and contributions to community and non-profits. Enhanced faculty governance. Intensified connectivity with alumni, restructured alumni relations. Started a program to reach more corporate partners. Expanded and rationalized global operations. Created partnerships with top-tier universities in China, India and Israel. Improved student and faculty engagements in institution building. Despite budget cuts continued to hire faculty and expanded summer research funding. Chaired the search committee for the Dean of the School of Behavioral and Social Sciences, and the Associate Provost for International Programs.
Led the Re-Accreditation of the Smith School of Business.

July 2007 – June 2008
Senior Associate Dean and Occasional Acting Dean, Smith School of Business, University of Maryland

Stepped in for the Dean on numerous fund raising and alumni events, and also programmatic events outside of College Park. Market the school to corporate clients, potential donors, faculty, and students. Manage the appointment, promotion and tenure process, and the salary review process. Help structure financial models for selected programs. Member of the APAC (Academic Program Advisory Committee) that advises the Provost on schools, departments and academic programs with respect to resource allocation.

January 2004 – June 2007
Chair, Department of Decision & Information Technology, Robert H. Smith School of Business, University of Maryland

Manage the operations of research and teaching activities of an academic department of 30 tenured and tenure-track faculty, 5 teaching faculty and a number of adjunct faculty. Highlights: Planned strategy for the Department (even before becoming Chair) to increase presence in the Operations Management, and Information Economics areas. Helped create a new Center on Health Information and Decision Systems. Coordinate activities with Economics and Engineering.

January 1997- June 2001
Chair, Department of Systems Engineering, University of Pennsylvania

Manage the operations of the research and teaching activities of an academic department 12 primary and 9 secondary faculty, over 75 graduate students, and 400 undergraduates with a staff of six. Operate a budget of 2.0-2.5 MM (Million)/year. Responsibilities include developing relationships between Systems Engineering, and other Departments in the School of Engineering and Applied Sciences, Other Schools including Wharton School of Business and the Medical School, Industries, Alumni, City of Philadelphia, and the University. Highlights*:* Founded the Ackoff Center for Advanced Systems Approaches with industry sponsorship ($750,000) from Anheuser-Busch, General Motors and Analog Devices Inc. Also established a program in Medical Informatics; set up a Center on Logistics and Transportation; developed

relationships with industries including Manugistics, Anheuser-Busch, General Motors, SAP, USPS, and Lockheed-Martin. Negotiated new hires; managed promotion and mentoring process; structured early retirement packages.

March 1998 – December 1999
General Chair, INFORMS Fall 1999 Conference, The Institute For Operations Research and Management Sciences

Organization of a conference where around two thousand participants were present. Coordinated with Program Chairs of invited sessions, sponsored sessions, tutorials, plenary talks, contributed sessions, plant tours, guest programs, teachers programs, and Ph.D. student colloquia etc. Responsible for managing the entire process, and timely execution of the entire program.

1990- 1995
Director, Executive Masters Program in Technology Management, University of Pennsylvania

Structured marketing strategy, developed relationships between the Program and industries in the North-East United States, and managed operations of handling over 100 executives and 40 faculty with staff of five. Highlights: *Saved failing program*; increased revenue from $0.5Million to $2.5 Million/year, and student enrollment from 20 to 100. This was the major administrative highlight of career.

1987-2001
Project Manager, Telecommunications Systems Laboratory, University of Pennsylvania

Obtained $200K/year of project funding (Department average is $75K/year). Managed the development of methodologies for designing large-scale private telecommunications networks, and the implementation of network design software. Highlights: During past 10 years, graduated 5 PhDs in telecommunications (6 others in information systems/operations research), and placed them in prestigious organizations like Bell Labs. Ascend Communications, Morgan Stanley Information Systems, and Georgia Tech.

Entrepreneurial Activities

1982-1988:
Founding Partner, International Development & Energy Associates Inc., Washington D.C.

Founded a consulting firm with five others, specializing initially in energy and environmental work in developing countries, and later also in aerospace systems engineering. Helped start the firm, and build it to around $6.0 Million/year at its peak. Also provided systems engineering and strategy consulting to Energy Commissions in a number of developing countries including Dominican Republic, Haiti, India, Indonesia, and Thailand. Sold out position to new investors in 1988.

Other Professional Appointments

Economic Times (Wall Street Journal of India)
Technology Columnist, August 1999 – December 2006.

University of Maryland, R. H. Smith School of Business and
Institute for Systems Research, Visiting Professor, Sept 2000-May 2001

Indian Institute of Management (On Leave from Penn), Bangalore, India
Visiting Professor, July - December 1996.

Pennsylvania State University - College of Business Administration
Center for Research in Conflict and Negotiation
Associate Faculty, 1987- 1995.

Indian Institute of Science (Sabbatical from Penn), Bangalore, India
Visiting Professor, January - August 1993

AT & T Bell Laboratories, Holmdel, NJ
Summer Faculty, Summer 1990.

Environmental Protection Agency - Policy, Planning & Evaluation
AAAS Fellow, Summer 1987.

New York University, Dept of Economics, New York, NY
Research Associate, Sept 1983 - August 1984

Tata Energy Research Institute, New Delhi, India
Visiting Research Fellow, May- Sept 1983.

Chulalongkorn University, Bangkok, Thailand
Visiting Fellow, December 1983- January 1984.

Advisory Boards

- American University in Cairo: 2017 – Present
- Indian Institute of Management, Bangalore: 2016 - Present
- Harvard Graduate School Alumni Association: 2015 - Present
- CDI (Collegiate Directions Inc): 2012-Present
- Science/Business Innovation Board, Europe: 2014-2016
- HERA (Her Equality Rights and Autonomy), London: 2014-16
- TiE-DC (The Indus Entrepreneurs): 2012-13

Honors, Awards and Listings

Ralph J. Tyser Professorship in Management Science, 2001-Present
Allen J. Krowe Award for Teaching Excellence, 2007
National Center Chair of Resource and Technology Management, 1999 –2001
Joseph Moore Chair, 1996-1999.
General Chair of INFORMS Meeting, Fall 1999
American Men and Women of Science, 1992 - Present
AAAS Science and Engineering Fellowship, 1987
Rockefeller Foundation Fellowship, 1983
Gordon McKay Teaching Fellowship, 1977-79
Harvard University Scholarship, 1975-76
British Council Scholarship, 1973-75
Tripos Prize, Cambridge University, 1973-75
Senior Scholarship, Trinity College, Cambridge University, 1974-75
Exhibition, Trinity College, Cambridge University, 1973-74.

Professional Societies

INFORMS (Institute For Operations Research and Management Science), 1980-present
Nicholson Prize Committee, 1996
Operations Research Society of America, *Full Member,* 1980-95
The Institute of Management Science, *Member,* 1980-95.
Institute of Electrical and Electronic Engineers; *Senior Member,*
Operational Research Society of India, L*ife Member.*
Society for Economic Dynamics and Control, *Founding Member,* 1979-1989.

Editorial Boards of Journals

Associate Editor: *Operations Research,* 1995 - 2008
Associate Editor, *Management Science*, 2001-2005
Editorial Advisory Board: *Network and Spatial Economics*, 2000 - 2013
Editorial Board: *Telecommunications Systems,* 1991 - 2007.
Editorial Board: *Computers and Operations Research,* 1990 - 1998
Associate Editor: *Int. Abstracts in Operations Research,* 1985 - 1991.

Conference Organization

- Program Co-Chair: INFORMS Annual Conference, Washington DC, November 2008.
- Program Committee: Manufacturing, Service and Operations Management conference, Washington DC, June 2008
- Chair, Program Committee: Workshop on Information Systems Economics, Montreal, Canada, December 2007
- Program Committee: Workshop on Information Systems Economics, Washington DC, December 2004
- Program Committee: Conference on Information Systems and Technology, Denver, CO, October 2004
- Program Committee: *Seventh INFORMS Telecommunications Conference,* Boca

Raton, FL, March 2004
- Program Committee: CIO Forum, College Park, MD, October 2003
- Program Committee, Netcentricity Conference, College Park, MD, April 2003
- Program Committee: *Sixth INFORMS Telecommunications Conference,* Boca Raton, FL, March 2002
- General Chair: *Annual INFORMS Fall Meeting,* Philadelphia, November 1999.
- Program Committee: *Third International Conference on Systems Science and Systems Engineering,* Beijing, China, August 25-28, 1998.
- Program Committee: *Fourth INFORMS Telecommunications Conference,* Boca Raton, FL, March 1998.
- Program Committee: *Joint Wharton-IIMB Workshop on Globalization in India,* Bangalore, India, January 1997.
- Program Committee: *Third ORSA Telecommunications Conference,* Boca Raton, FL, March 1995.
- Co-Chair of Workshop: *Conference on Energy-Environment Nexus: Indian Issues and Global Impacts,* Philadelphia, April 22-23, 1994.
- Organizing Committee: *The Wharton Conference on 'The Service Productivity and Quality Challenge',* Philadelphia, October 23-24, 1992.

Recent Consulting/Executive Programs
- Arnold and Porter
- Nextel Communications
- Hughes Network Systems
- SBC Communications
- Eclipse Networks
- American Management Systems
- Security Industries Association
- KPMG
- GE Capital
- Fujitsu
- SmithKline Beecham
- National Institute of Health
- Woodside Travel Trust
- Amtrak
- The World Bank
- A.T. & T.
- MCI Telecommunications Corp.
- Nokia
- Baysoft Private Limited
- US Department of Energy
- US Agency for International Development
- International Science &Technology Inc.
- IDEA Inc.
- United Nations

Invited Talks

1. ***Many talks as dean of the Smith School of Business and Imperial College Business School, too numerous to list***

2. "Provisioning and Pricing Networks Using Auction Mechanisms", INFORMS Annual Meeting, Seattle, November 2007
3. "Procurement Auctions with Supply Constraints", INFORMS Annual Meeting, San Francisco, November 13, 2005
4. "Decomposition Technique to Solve Constrained Auctions", INFORMS Annual Meeting, San Francisco, November 14, 2005 (with A. Pani)
5. "Auctions with Budget Constraints", Johnson School of Business, Cornell University, Ithaca, NY, April 22, 2005
6. "Fighting Information Goods Piracy with Versioning", School of Management, Georgia Institute of Technology, Atlanta, Georgia, April 15, 2005
7. "Technology Trends and the CIO Mindshare", Society of Information Management, Washington DC, April 12, 2005
8. "Combinatorial Auctions for Telecommunications Bandwidth Pricing", INFORMS National Conference, Denver, CO, 26 October 2004.
9. "Revenue Management in Telecommunications", Invited Workshop, INFORMS Conference on Telecommunications, Boca Raton, FL, March 2004
10. "Combinatorial Auction Mechanisms for Telecommunications Network Pricing", Smeal School of Business, Pennsylvania State University, November 17, 2003
11. "Fighting Information Goods Piracy with Versioning", Marshall School of Business, Southern Methodist University, October 31, 2003
12. "Using Vickrey Share Auctions for Allocating Spectrum", INFORMS National meeting, San Jose, CA, November 18, 2002.
13. "Winner Determination in Combinatorial Auctions", Cox School of Business, Southern Methodist University, Dallas, Texas, May 18, 2001
14. "A Model for Auctioning Multiple Services in Telecommunications Networks with Guaranteed Quality of Service", Lucent Bell Labs, Murray Hill, May 11, 2001
15. "Winner Determination in Combinatorial Auctions", McDonough School of Business, Georgetown University, Washington DC, April 27, 2001.
16. "Pricing of Multiple Services in Telecommunications Networks with Quality of Service Guarantees", Conference on "Mathematics of the Internet: e-Auctions and Markets", Institute for Mathematical Analysis, University of Minnesota, Minneapolis, December 3-5, 2000.
17. "Auction Algorithms for Telecommunications Pricing", Electronic Markets Workshop, University of Maryland, September 21, 2000.
18. "Information and Network Economics", Workshop on Network Economics, Operational Research Society of India, August 23, 2000.
19. "Congestion Avoidance in Telecommunication Networks Using Price Discounts," INFORMS Fall Conference, Philadelphia PA, November 8, 1999 (with Neil Keon).
20. *Keynote Speaker*, "Internet Economics", at the Operational Research Society of India Conference on "The Impact of Information Technology on Management Science",

Bangalore, India, July 28, 1999.

21. “Real-Time Pricing in Telecommunications Networks”, National Institute of Standards and Technology, Gaithersburg, MD, April 1, 1999.
22. “Pricing of Multiple Services in Telecommunications Networks”, Department of Systems Engineering, University of Virginia, Charlottesville, VA, March 5, 1999.
23. “Pricing of Multiple Services in Telecommunications Networks”, Robert H. Smith School of Business, University of Maryland, College Park, MD, February 12, 1999
24. “Pricing Infrastructure Services”, International Seminar on Financing and Pricing of Urban Infrastructure, New Delhi, India, February 9, 1999.
25. ``Pricing of Multiple Services in Telecommunications Networks'', Decision Sciences Department, London Business School, May 22, 1998.
26. 'Design of Telecommunications Networks', Department of Computer, Information and Systems Engineering, San Jose State University, San Jose, CA, May 1, 1998.
27. 'Privatization and Liberalization of Global Telecommunications', *Three Invited Lectures,* Indian Institute of Management, Bangalore, India, October 7-21, 1997.
28. 'The Internet Revolution: Or How Networking Technology is Changing the Way We Work, Live and Play', National Institute of Advanced Studies, India, July 25, 1997.
29. “Pricing Multimedia Services', Workshop on Network Games and Pricing, Columbia University, March 27, 1997.
30. 'Convergence of Computer, Communications and Entertainment' International Conference on Infrastructure Management, Bangalore India, November 26-30, 1996.
31. 'Global Trends in Data Networking', *Churchill Lecture,* Infosys Technologies, Bangalore, India, October 17, 1996.
32. “Design of Large Scale Telecommunications Networks', Helsinki University of Technology, *3-day lectures,* Helsinki, May 27-29, 1996.
33. 'Telecommunications Sector Reform: India in a Global Perspective', Indian National Academy of Engineering, New Delhi, March 30, 1996.
34. “Global Telecommunications: Technology Trends and Industry Initiatives', National University of Singapore, February 29, 1996.
35. “Liberalization and Privatization of Telecommunications', *Special Lecture to Indian Administrative Service Officials,* Indian Institute of Management, Bangalore, February 14 & March 5, 1996.
36. 'Heuristics for Designing Telecommunications Networks', INFORMS Conference on the Interface of Computers and Operations Research, Dallas, January 8, 1996.
37. 'Discrete Bi-Level Programming and the Analysis of Conflict and Cooperation in International Telecommunications Networks', Workshop on Bi-Level Programming, Linkoping, Sweden, November 19-24, 1995.
38. 'Heuristics for Designing Large Scale Telecommunications Networks: Do Sophisticated Models Buy One Anything?” Dept of Systems Engineering, University of Virginia, October 13, 1995.
39. 'New Approaches for Designing Large Scale Telecommunications Networks', A T & T Bell Laboratories, September 19, 1995.
40. 'Design of Survivable International Telecommunications Networks', TIMS 33rd International Conference, Singapore, June 27, 1995.
41. 'The Design of Heterogeneous Telecommunications Networks: To Anneal or Not to Anneal', Dept of Civil Engineering and Operations Research, Princeton University,

March 9, 1995.

42. 'Global Communications: Present Status and Future Trends', Computer Society of India, Bangalore, India, August 3, 1993.
43. 'Global Telecommunications Revolution: Challenges for Management Science', Institution of Engineers (India) and the Operational Research Society of India, Bangalore, India, May 5, 1993; *also* at the Rotary Club of India, July 21, 1993.
44. 'A Penalty Method Approach to Alternative Pairwise Comparisons in ISMAUT', EURO XIITIMS XXI Conf, Helsinki, Finland, June 30, 1992 (with C. C. White III).
45. 'Issues in Water Resource Allocation and Pricing Under Uncertainty', EURO XII-TIMS XXI Conference, Helsinki, Finland, June 29-July 1, 1992 (with R. Bhatia and P. Maheshwari).
46. 'Engineer Education Programs and Issues in the Management of Interfaces', Production and Operations Management Society Conference, New York, November 10, 1991.
47. 'Game Theoretic Analysis of International Telecommunications Network Design', Pennsylvania State University, March 29, 1991.
48. 'Multi-Criteria Decision Model for Selection of Hazardous Waste Removal System', presented at the ORSA/TIMS meeting, Philadelphia, PA, October 1990, (with Wen K. Shieh).
49. “Design of Survivable Heterogeneous Networks', presented at the ORSA/TIMS meeting, Philadelphia, PA, October 1990, (with Lloyd Clarke).
50. 'Recent Developments in the Application of Simulated Annealing to Network Facility Location Models', presented at the ORSA/TIMS meeting, Philadelphia, PA, October 1990 (with T. L. Friesz, N. Mehta, K. Nam, and R. L. Tobin).
51. 'Optimal Design of Interconnected Heterogeneous Networks', presented at the ORSA/TIMS meeting, Las Vegas, NV, May 7-9, 1990, with Peter Fetterolf.
52. 'Penalty Function Approaches for Solving Bi-Level and Bi-Linear Programming', presented at the Department of Industrial Engineering, Rutgers University, Piscataway, NJ, November 8, 1989.
53. 'A Hierarchical Risk-Based Methodology for Design of Nuclear Repositories', presented at the Engineering Foundation Conference on Risk-Based Decisionmaking, Santa Barbara, CA, October 15-20, 1989.
54. 'Design of Heterogeneous Networks', presented at the ORSA/TIMS meeting, New York, NY, October 16-18, 1989, (with Peter Fetterolf).
55. 'Optimal Resource Allocation in Distributed Computer Networks', presented at the ORSA/TIMS meeting, New York, NY, October 16-18, 1989 (with Nelson Dorny and Ashok Vernekar).
56. 'Optimal Design of Heterogeneous Data Networks', Department of Operations Research and Applied Statistics, George Mason University, Fairfax, VA, September 29, 1989.
57. 'A Systems Analysis of Demographic Impacts of Power Plant Projects', United Nations regional seminar/workshop on demographic effects of development projects, Havana, Cuba, July 4-14, 1989 (with Judith Zubieta Garcia).
58. 'Combination and Selection of Binary Forecasts', presented at the Ninth International Symposium on Forecasting, Vancouver, British Columbia, Canada, June 18-21, 1989, (with Lian Chen).

59. 'Optimization of Resource Location in Hierarchical Computer Networks', presented at a joint seminar of the Electrical, Computer and Systems Engineering and the Manufacturing Engineering Departments, Boston University, April 6, 1989.
60. 'AI Based Approaches for Solving Bi-Level Mathematical Programs', presented at the ORSA/TIMS meeting, Denver, CO, October 27, 1988.
61. 'Optimization of Resource Location in Hierarchical Computer Networks', Decision Sciences Workshop, The Wharton School, September 28, 1988.
62. 'A Penalty Function Approach for Solving Bi-Level Linear Programming Problems', presented at the ORSA/TIMS meeting, Washington D. C., April 26, 1988, with D. J. White.
63. 'An Expert System for Regulating Hazardous Waste', presented at the Division of Energy, Oak Ridge National Laboratory, Oak Ridge, TN, April 11, 1988.
64. 'Multi-Level Programming and Conflict Resolution in International River Management', presented at College of Business Administration, Pennsylvania State University, University Park, PA, March 21, 1988.
65. 'An Expert System for Screening Industrial Waste', presented at Department of Nuclear Energy, Brookhaven National Laboratory, NY, February 12, 1988.
66. 'A Penalty Function Approach for Bi-Level Linear Programming', at Department of Industrial Engineering, State University of New York at Buffalo, Nov 13, 1987.
67. 'Forecast Combination with Multiple Objectives and Uncertainty', presented at the School of Business Administration, Georgetown University, February 25, 1987.
68. 'Capital Rationing and Factor Substitutability in Manufacturing', presented at the Department of Economics, Boston University, February 25, 1985, with N. Kulatilaka.
69. 'Strategic Planning, Energy Conservation, and Uncertainty', presented at the International Symposium on Mathematical Programming, August 1985, Cambridge, MA.
70. 'Energy Conservation in Asia', presented at the New York Conference of the American Association of Asian Studies, October 1984, Cortland, NY.
71. 'Optimal Timing of Investments Using Dynamic Programming', presented at Bell Communications Research, March 1984.
72. 'Optimal Control of Multi-Sector Economies in the Presence of Large Projects', presented at the Department of Civil Engineering, Princeton University, March 1980.

PUBLICATIONS

Books

1. G. Anandalingam and S. Raghavan (editors), *Telecommunications Planning: Innovations in Pricing, Network Design and Management,* Springer (Boston), 2006.
2. G. Anandalingam and Henry C. Lucas, *Beware the Winner's Curse: Victories That Can Sink You and Your Company*, Oxford University Press, October 2004.
3. G. Anandalingam and S. Raghavan (editors), *Telecommunications Network Design and Management,* Kluwer Academic Publishers (Boston) Dec. 2002.

Guest Editorship

1. G. Anandalingam and S. Raghavan (ed.), *Electronic Markets*, Special Issue of **Management Science**, March 2005
2. E. A. Sykes and G. Anandalingam (ed.), *Information and Telecommunications Systems as Infrastructure,* special issue of **Information and Decision Technologies,** North-Holland Press, 1993.
3. G. Anandalingam and T. L. Friesz (ed.), *Hierarchical Optimization,* special issue (vol. 34) of **Annals of Operations Research,** Baltzer Scientific Publishing Company, Basel, Switzerland, 1992.

Refereed Publications

1. S-Y Wu, L. Hitt, P-Y Chen, and G. Anandalingam, "Customized Bundle Pricing for Information Goods: A Nonlinear Mixed Integer Programming Approach" *Management Science*, Vol. 54, No. 3, March 2008, pp 608-622
2. S. Viswanathan and G. Anandalingam, "Pricing Strategies for Information Goods", *Sadhana*, Vol. 30, Parts 2&3, April/June 2005, pp 257-174.
3. N. Keon and G. Anandalingam, "A New Pricing Model for Competitive Telecommunications Services Using Congestion Discounts", *INFORMS Journal on Computing*, Vol. 17, No. 2, pp 248-262, 2005.
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72. G. Anandalingam, "An Analysis of Information and Incentives in Bi-Level Programming", *Refereed Proceedings,* IEEE conference on Systems, Man, and Cybernetics, Tucson, Arizona, November 1985.
73. G. Anandalingam, J. Lee, V. Mubayi, and P. M. Meier, "Decision Making Under Uncertainty in Thailand's Energy Sector", in W. F. Thompson (ed.), *World Energy Markets,* Westview Press, Boulder, CO, 1985, *refereed.*

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Non Refereed Publications

1. G. Anandalingam, Monthly Technology/Economics Columns, Economic *Times* (Wall Street Journal of India), August 1999 to December 2006.
2. G. Anandalingam, "Telecom Regulation and Technology", *Economic Times,* 12 September 1996.
3. G. Anandalingam and D. Ahuja, "Solid Waste Management in Developing Countries: An Overview", *Journal of Resource Management and Technology,* vol. 21, no. 1, 1993.
4. G. Anandalingam, R. Bhatia, and R. Cestti, "Policy Implications of Inter-sectoral Linkages in Water Resources Management" *World Bank Technical Paper Series,* October 1992.
5. D. Ollapally and G. Anandalingam, Book Review, of S. Mehrotra, India and the Soviet Union: Trade and Technology Transfer, Cambridge University Press, *South Asia Bulletin,* vol. 12, no. 2, pp 108-111, 1992.
6. D. Ollapally and G. Anandalingam, "The Politics of Language in Sri Lanka: The Tamil Federal Party agitates for greater language rights", in *Great Events of History: Human Rights,* Salem Press, Pasadena, CA, 1992.
7. G. Anandalingam, "Optimal Design of Computer Communication Network for Distributed Industries", *Proceedings,* Fifth Advanced Technology Conference, US Postal Service, Washington D. C., November 5-7, 1990.
8. G. Anandalingam, "Combining Expert Opinion for Risk-Based Decisionmaking in Nuclear Repository Pre-Closure", in Y. Y. Haimes and E. Stakhiv (Eds.) *Risk-Based Decisionmaking in Engineering,* ASCE Publications, New York, 1990.
9. G. Anandalingam, "On the Value of Information for Acid Rain Policy Modeling", *Proceedings,* North American conference of the International Association of Energy Economists, Boston, MA, November 1986.
10. G. Anandalingam and V. Mubayi, "An Approach to the Analysis of Optimal Investment in Oil Exploration and Development Under Uncertainty", in Kydes, A. S. and D. M. Geraghty (eds.), *Energy Markets in the Longer Term: Planning Under Uncertainty,* Westview Press, Boulder, Colorado, 1985.
11. G. Anandalingam, "The Economics of Industrial Energy Conservation in Developing Countries", in R. Pachauri (ed.), *Global Energy Interactions,* Riverdale Company

and Allied Publishers, Baltimore, January 1994.

12. G. Anandalingam, "Modeling the Impact of Tax Credits for Investment in Energy Recovery from Municipal Solid Waste", *Proceedings.* Fourteenth Annual Pittsburgh Conference on Modeling and Simulation, April 21-23, 1983**.**

13. G. Anandalingam, "Policy Incentives for Industrial Energy Conservation", *Energy Management,* vol. 7, no. 4, pp 317-329, 1983.

Grants: Principal Investigator

National Science Foundation, Rapid Response Electronic Markets for Time-Sensitive Goods, 2002-2007, $2.0 million (co-PIs: L. Ausubel, M. Ball, H. Lucas, and V. Subrahmanium)

Dell Computer Corporation, Gift to Center for Electronic Markets and Enterprises, 2003-2004, $100,000.

General Motors Foundation, Anheuser-Busch Foundation, Analog Devices: Ackoff Center for Advanced Systems Approaches, $750,000

Sloan Foundation: Multi-Media Asynchronous Programs, 2000-2002, $270,000, co-Principal Investigator (PI: Dwight Jaggard)

National Science Foundation: Pre-recorded Video Over Packet Switched Networks, 1997-2000, $232,000, co-PI: Keith W. Ross.

Carnegie Bosch Institute: Limits on the International Division of Labor, 1998-99, $75,000, co-Principal Investigator (PI: Bruce Kogut, Wharton School).

ARPA and National Science Foundation: A Program for Manufacturing Management in Support of the Technology Reinvestment Program, 1995-1999, $600,000, co-PI: Joel Adler.

Institute of International Education: A Training Course on Bid Solicitation, Project Appraisal and Negotiation, Through the Wharton Emerging Economies Program, 1995, $59,500

Ford Foundation: Center for the Advanced Study of India, 1993-1996, School of Arts and Sciences, $500,000, Senior Investigator (PI: Francine Frankel, Political Science).

Institute for International Education: Training Course in Energy Planning and Policy, School of Fine Arts, 1993-1994, $263,000 per year, Senior Investigator (PI: Roger Raufer, Energy Management & Policy).

American Telephone & Telegraph: Computer Facilities in the Telecommunications Network Laboratory, 1993, $27,500, co-PI: Keith W. Ross.

National Science Foundation: Design of Survivable Heterogeneous Data Networks, 1992-1995, $313,338.

Baltimore Gas & Electric: Systems Evaluation of Small Cogeneration and Storage Systems, 1992, $33,500.

Ben Franklin Technology Center: Center for Solid Waste Systems and Technology, $150,000, 1992, Senior Investigator (PI: Iraj Zandi, Systems).

Ben Franklin Technology Center and Roy F. Weston Inc.: Process Modeling and Life Cycle Analysis, (Through the Center for Solid Waste Systems and Technology), 1991-93, $20,000

National Consortium for Educational Access: Faculty Mentor Program for Lloyd W. Clarke, 1989-92, $3,000

American Telephone & Telegraph: Workstations and Terminals for the Telecommunications Networks Laboratory, 1991, $21,000, co-PI: K. W. Ross and C. N. Dorny.

University Research Foundation: Computational Equipment for Environmental Systems Research, 1991, $7,500.

American Telephone & Telegraph: Performance Modeling and Planning of Heterogeneous Data Networks, University of Pennsylvania Project No. 5-23691, 1988-91, $450,000 (with K. W. Ross and M. E1 Zarki).

Public Policy Initiative Fund, University of Pennsylvania: Power Plant Siting to Reduce Environmental Impact, University of Pennsylvania Project No. 3-71021, 1989, $4,000.

Unisys Corporation: Computer-Aided Definition and Design of Networks, University of Pennsylvania Project No. 5-24535/5-20896, 1987-89, $225,000 (with C. N. Dorny).

Hewlett Foundation (Through Center for Research in Conflict and Negotiation, Pennsylvania State University): Stackelberg Games and Multi-Level Programming, 1988-89, University of Pennsylvania Project No. 5-20641, $2,550.

US Environmental Protection Agency (Through the American Association for the Advancement of Science), Computer-Based Tools for Decision-Making in Environmental Policy, Fellowship, 1987, $12,000.

Martin Marietta Energy Systems Inc. (Oak Ridge National laboratory): Methodology for Electricity Supply System Planning Under Imprecise Information and Uncertainty, University of Virginia Project No. 5-32846, 1986-87, $15,000.

Institutional Research Award, University of Virginia: Studies in Multi-Level Mathematical Programming, University of Virginia Project No. 1-89255, 1985- 86, $25,187.

Resources For the Future: Production Efficiency, Rationing and Measurement Error in Industrial Factor Demand Models, University of Virginia Project No. 5-37002, 1985-86, $21,000, NOTE only 5 awarded out of 246 applicants

Rockefeller Foundation: Industrial Energy Conservation in Developing Countries, Brookhaven National Laboratory Project No. 9505, 1983-84, $64,000, NOTE only 9 awarded out of approximately 100 applicants.

U.S. Department of Energy: Economic Analysis of Investment Tax Credits, Brookhaven National Laboratory Project No. 5333, 1981-82, $120,000 (with S. P. A. Brown).

Ph.D.s Produced and Titles after Ph.D.

1. Abhishek Pani: Models for Budget Constrained Auctions: An Application to Sponsored Search, PhD December 2010 (Director, Efficient Frontier Inc., CA)
2. Shin-Yi Wu: Market Design in eMarketplaces: Pricing of Information Goods and Services, PhD December 2003 (Assistant Professor, Nanyang Technological University)
3. Roy Kwon: Approximate Mechanisms & Algorithms for Combinatorial Auctions, PhD August 2002 (Assistant Professor, University of Toronto)
4. John Yi, "A Systems Approach to Physician-Detailing Planning", December 2001 (Senior Research Analyst, Johnson and Johnson)
5. Neil Keon: Pricing of Multiple Services in Telecommunications Networks, Ph.D., May 2000 (Assistant Professor, Southern Methodist University).
6. Kimberly Killmer: A Multi-Objective Bi-Level Programming Approach to Policy Evaluation and Development, Ph. D., May 1999 (Assistant Professor, Rutgers).
7. Bonnie Rubenstein: A Systems Approach to Policy Planning, Ph.D., May 1998, jointly with Iraj Zandi (Assistant Professor, Georgetown University).
8. Scott Malcolm: Uncertainty and Environment in Power Systems Planning Ph. D., August 1996 (Assistant Professor, University of Delaware)
9. Frances Lee: Design of Large Scale Survivable Internetworks, Ph.D., December 1995, (Senior Analyst, Morgan Stanley Investment Bank).
10. Kimberly Battle: Capacity Assessment in Dynamic Networks with Multi Commodity Flows, Ph. D., December 1995, (Assistant Professor, University of Witwatersrand, Johannesburg, South Africa).
11. Keesung Nam: The Design of International Telecommunications Networks: Models and Solutions, Ph. D., December 1994, (Member of Technical Staff, A.T.& T Bell Laboratories).
12. Thomas Ansah: Cooperation in Resource Management: An Analysis of Hydroelectric Use in West Africa, Ph.D., City and Regional Planning, University of Pennsylvania, August 1993, (Senior Manager, Volta River Authority, Ghana).
13. Lloyd W. Clarke: The Design of Survivable Telecommunications Networks, Ph. D., May 1992, (Assistant Professor, Georgia Institute of Technology).
14. Tomer Goodovitch: A Mathematical Programming Model of The Market for Civil Aviation, Ph. D., May 1991, (Assistant Professor, Tel Aviv University, Israel).
15. Nihal Mehta: A Dynamical Systems Perspective for Mathematical Programming, August 1990, jointly with Terry L. Friesz, (Consultant, American Airlines Decision Technologies).
16. Peter Fetterolf: Design of Heterogeneous Data Networks, Ph. D., May 1990, (Assistant Professor, Boston University).
17. Judith Zubieta Garcia: A Power Plant Location Model to Minimize Environmental Impacts, Ph. D. University of Pennsylvania, Wharton School of Management, August 1989, (Assistant Professor, United Autonomous University of Mexico).
18. Lian Chen: Optimal Selection and Combination of Forecasts, Ph. D., University of Virginia, October 1988, (Senior Systems Engineer, Southwest Florida River

Authority).

19. Victor Apprey: Multi-Agent Mathematical Programming With Application to Conflict Resolution, Ph. D., University of Virginia, August 1987, (Assistant Professor, Hampton University).
20. Anthony Saka: Traffic Signal Timing at Isolated Intersections: A Simulation Optimization Approach, Ph. D., University of Virginia, May 1987 with N. I. Garber, Civil Engineering, (Senior Analyst, Department of Transportation, State of Virginia).
21. Fahimeh Rezayat: Selection of the Order of ARMA Models: A Small Sample Technique, Ph. D., University of Virginia, September 1986, (Assistant Professor, University of Nevada, Las Vegas).

Teaching and Training (Selected Courses)

Executive Courses

Project Management in Dynamic Environments
Data Analysis and Decision Modeling
Competitive Landscape in Telecommunications
Competitive Landscape in Information Technology
Scenario Planning and Technology Strategy
Value Creation through Information Technology
Fundamentals of the Net
Global Operations Management
Telecommunications Strategy
Internet and Electronic Commerce
Enterprise Networking
Systems Analysis
Bid Solicitation, Project Evaluation & Negotiation
Project Planning and Management
Project Finance
Managerial Economics
Technology and Public Policy

Distance Learning Courses

Networking: Protocols, Technology and Practice

Graduate Courses

Project Management in Dynamic Environments
Decision Modeling with Spreadsheets
Network Economics
Telecommunications and Competitive Strategy
Networking: Theory and Fundamentals
Optimization Theory
Non-Traditional Optimization
Multi- Criteria Decision-Making
Engineering Economics (Project Management)
Game Theory, Mathematical Economics, and Optimization