

Shu-Cherng Fang

Curriculum Vitae

**Industrial and Systems Engineering
Operations Research
North Carolina State University
Raleigh, NC 27695-7906**

January 12, 2011

PROFILE

Professor Shu-Cherng Fang holds a joint appointment in Industrial Engineering and Operations Research at NC State. He was *Director of Operations Research* from 1990 to 1995 and 2000 and *Director of Graduate Programs in Industrial Engineering* from 1999 to 2005. He is now *Walter Clark Chair Professor* and *University Alumni Distinguished Graduate Professor* at NC State University. He is also *University Chair Professor* and *Team Leader of Chair Professors in Industrial Engineering and Mathematical Sciences* of Tsinghua University, Beijing, China, *Fudan Chair Professor* of Fudan University, Shanghai, China and *University Chair Professor* of National Chiao Tung University, Hsinchu, Taiwan. His research interests include variational inequalities, large-scale linear and nonlinear programming, entropy optimization, neural computing and fuzzy systems theory, with applications in building intelligent human-machine decision support systems for manufacturing, logistics and telecommunications.

Professor Fang received his Bachelor's degree from The National Tsing Hua University located in Taiwan, R.O.C. (1974), Master's degree from The Johns Hopkins University (1977), and PhD degree from Northwestern University (1979). Before he joined NC State as *Professor of Operations Research and Industrial Engineering* in 1988, Dr. Fang had been *Assistant Professor* at the University of Maryland, *Distinguished Member of Technical Staff* at AT&T Engineering Research Center, *Supervisor* at AT&T Bell Laboratories, and *Department Manager* at AT&T Corporate Headquarters.

Dr. Fang's dissertation (under the supervision of Professor E. L. Peterson) defines a class of important problems, called *Generalized Variational Inequalities*, which was extensively studied and extended by many researchers in the 1980's and recently has been proven to be equivalent to the generalized *Wiener-Hopf equations*. Researchers are currently building a framework based on the generalized variational inequalities to unify the theories of nonlinear programming. This pioneering work has won him international recognition. He was *member* of the most prestigious *International Advisory Committee* of the *International Symposium on Mathematical Programming* in 1994 and 1997, and *plenary speaker* in many international conferences.

When he was associated with the AT&T Engineering Research Center located in Princeton, New Jersey, Dr. Fang modeled the lightguide cable manufacturing process and designed a computer aided manufacturing system named LITES (Lightguide Integrated Technology System). This work has results in millions of dollars of savings per year for AT&T. For the contribution, he was awarded in 1984 the *AT&T Technical Achievement Award*, the highest recognition given to a member of technical staff in the company.

While working at AT&T Bell Laboratories in Holmdel, New Jersey, Dr. Fang and his group built a computer aided telecommunication network design system for inter-node facility network planning. Using Karmarkar's algorithm, the system has the capability to handle problems with millions of variables and hundred thousands of constraints. It has been routinely used to assist decision makers in managing AT&T's \$18.6 billion network. This work was cited as one of the *Hottest Hits* by *Bell Labs News* in 1986, and the group was awarded the *AT&T End-User's Eagle Award* in 1987.

In the early days of his employment at NC State, with the support from AT&T Advanced Decision Support Systems, Cray Research Institute, North Carolina Supercomputing Center,

and National Science Council of the Republic of China in Taiwan, Professor Fang's research focused on developing the theory and algorithms of the *entropic perturbation approach* to solve large scale linear and nonlinear optimization problems in finite dimensional as well as infinite dimensional spaces. He published (with Dr. Sarat Puthenpura) a graduate textbook entitled *Linear Optimization and Extensions: Theory and Algorithms* by Prentice Hall in 1993. This is the first graduate textbook that integrates the well-known Simplex Method and Interior Point Methods on one platform. The book has been adopted by many universities and research programs around the world. A Chinese version of the book was published by Science Press in 1994. His research interest in the theory of Entropy Optimization and its industrial applications also resulted in a research book entitled *Entropy Optimization and Mathematical Programming* (with Drs. J. R. Rajasekera and H. -S. Jacob Tsao) that was published by the Kluwer Academic Publishers in 1997.

Since 1993, Professor Fang has expanded his research to include fuzzy systems and neural networks for intelligent human-machine decision making. He is currently working with his research team on building intelligent manufacturing and management systems for US textile and furniture industries. His work has been sponsored by the National Textile Center, Furniture Foundation, and Sandia National Laboratories. Advanced fuzzy and neural technologies have been developed to permit the construction of decision surface models for the textile and apparel industries. Professor Fang is also directing the *Fuzzy and Neural Group* at NC State (<http://www.ie.ncsu.edu/fangroup>). Members of the group are exploring the theoretical frontiers of fuzzy systems and neural technologies as well as working on industrial projects sponsored by IBM, Nortel, Fruit of the Loom, and SAS. He is currently preparing a new book on *Fuzzy Optimization and Decision Making with Industrial Applications* with Professor H.-F. Wang for Kluwer Academic Publishers. A Chinese version of the book was published by the Science Press in 1997. For his leadership in the field, Professor Fang was named the *Editor-in-Chief* of *Fuzzy Optimization and Decision Making* in Fall 2000. The inaugural issue was published by Kluwer Academic Publishers in Spring 2002.

Professor Fang has published more than one hundred fifty refereed journal articles and numerous proceeding articles and industrial technical reports. He is currently serving the editorial boards of *Optimization*, *Journal of Global Optimization*, *Optimization Letters*, *Pacific Journal of Optimization*, *Journal of Industrial and Management Optimization*, *Journal of Operations and Logistics*, *International Journal of Operations and Quantitative Management*, *OR Transactions*, *International Journal of Operations Research*, *International Journal of Fuzzy Systems*, *Iranian Journal of Fuzzy Systems*, *International Journal of Fuzzy Set Theory*, *Journal of Uncertain Systems*, *Journal of Systems Science and Complexity*, *Systems Engineering: Theory and Practice*, and *Journal of the Chinese Institute of Industrial Engineers*. He served as *President of the Association of Chairpersons of Operations Research Departments (ACORD)* in 1992-93. For his distinguished scholarly achievement, Professor Fang was awarded the *NC State Alumni Outstanding Research Award* in 1998, the *Distinguished Contribution Award* of the Science Division of the Taipei Economics and Cultural Office in US in 1999, the *Honorary University Professorship* of the Northeastern University in China in March 1999, the *Honorary University Professorship* of the Shanghai University in China in December 2002, the first *Advisory Professor of the Graduate School* of the Chinese Academy of Sciences in July 2005, and the *Overseas Academic Mastership* of the Dalian University of Technology in China in March 2008. Professor Fang and his research group received the *Scientific Excellence Award* presented by the National Textile Center of the Department of Commerce of the United States of America in February,

2002, for the achieved scientific excellence in quick response and supply chain management for the US textile industry in the past ten years.

Professor Fang believes that interdisciplinary research, industrial participation and international collaboration are keys to success for any academic program. He is the *International Liaison* of the College of Engineering and served as *Chair* of the *University Committee on International Programs* in 1995-96. He was *Visiting University Examiner* of the Chinese University of Hong Kong in 1995-2000, *Member of the Industrial Engineering Review Board* of the National Tsing Hua University in Taiwan in 2000, *Member of the Academic Advisory Board* of the Industrial Engineering and Engineering Management at the Hong Kong University of Science and Technology in 2001-2004, *Member of the Applied Mathematics Review Board* of the Hong Kong Polytechnic University in 2002, the *Department Academic Advisor of Applied Mathematics* of the Hong Kong Polytechnic University in 2002-2006. He is now *Adjunct Professor of Systems Engineering and Engineering Management* of the Chinese University of Hong Kong, *Overseas Academic Master* of the Dalian University of Technology, China, *Chief Advisor* of the Center for Engineering and Applied Research of the Graduate University of the Chinese Academy of Sciences, *Chief Advisor* of the Center for Advanced Logistics of the Shanghai University, China and *Senior Advisor* of the Center for Logistics and Digital Strategies of UNC- Chapel Hill.. Dr. Fang was appointed *State Representative of Information Infrastructure* in 1995 and *Member of the North Carolina – Shanghai Taskforce* in 1999, by Governor James B. Hunt of the State of North Carolina. Dr. Fang received the *IBM Global Partnership Award* in 1998 for his contribution in establishing international collaboration programs with IBM – China. He also received the *Advocacy Award* from the Association for the Concerns of African-American Graduate Students in April 2001 for his contribution in promoting graduate education for African-Americans in North Carolina State University and the *Jackson Rigney International Service Award* from the N C State International Studies Honor Society in May 2001 for his outstanding research and scholarship through international collaboration.

Professor Fang became the seventeenth recipient of the *R. J. Reynolds Award for Excellence in Teaching, Research, and Extension* in November 2001. The award was established by R. J. Reynolds Tobacco Company through the NC State Engineering Foundation to honor a member of the engineering faculty who has demonstrated superiority in all areas of activity that relate to the University's three-fold mission of teaching, research, and extension. He also received the *IIE (Institute of Industrial Engineers) Fellow Award* in May 2002 in recognition of his professional contribution and leadership status. Recently, Professor Fang receives the *NC State Alumni Distinguished Graduate Professorship Award* in May 2005 for the contribution he has made to the excellence of graduate education at NC State.

PERSONAL DATA

Name: Shu-Cherng Fang
Tel: (919) 515-2192
Fax: (919) 515-5281
E-mail: fang@eos.ncsu.edu
URL: <http://www.ie.ncsu.edu/fangroup>

EDUCATION

1977 - 79: Northwestern University, Evanston, Illinois
Ph.D. Industrial Engineering and Management Sciences
1976 - 77: Johns Hopkins University, Baltimore, Maryland
M.S. Mathematics
1970 - 74: National Tsing Hua University, Taiwan, R.O.C.
B.S. Mathematics

PRESENT POSITIONS

N.C. State University

2005 - present Alumni Distinguished Graduate Professor
North Carolina State University, Raleigh, North Carolina
1996 - present: Walter Clark Chair Professor of Industrial Engineering
North Carolina State University, Raleigh, North Carolina
1993 - present: Professor of Textile Technology Management
North Carolina State University, Raleigh, North Carolina
1988 - present: Professor of Industrial Engineering and Operations
Research
North Carolina State University, Raleigh, North Carolina

External Appointments

2010 - present Fudan Chair Professor
Fudan University, Shanghai, China

2010 - present	Honorary Professor University of Ballarat, Australia
2008 - present	Overseas Academic Master Dalian University of Technology, Dalian, China
2008 - present	IEEM Honorary Chair Professor National Tsing Hua University, Taiwan
2008 - present	Visiting Professor Hunan University, Changsha, China
2006 - present	Honorary University Chair Professor National Chiao Tung University, Hsinchu, Taiwan
2006 - present	Adjunct Professor Western Australian Centre of Excellence in Industrial Optimization, Curtin University of Technology, Perth, Western Australia
2005 - present	Advisory Professor Graduate University of the Chinese Academy of Sciences, Beijing, China
2005 - present	Adjunct Professor Graduate School of Management, Dalian University of Technology, Dalian, China
2004 - present	University Chair Professor and Team Leader of Chair Professors in Industrial Engineering and Mathematical Sciences Tsinghua University, Beijing, China
2002 - present	Honorary University Professor Shanghai University, Shanghai, China
2000 - present	Adjunct Professor Department of Systems Engineering and Engineering Management, Chinese University of Hong Kong, Shatin, NT, Hong Kong
1999 - present:	Honorary University Professor Northeastern University, Shenyang, China
1995 - present:	State Representative and Advisor of Information Technology. Appointed by Governor James B. Hunt, Jr. of the State of North Carolina.

RESEARCH INTERESTS

- ◆ Large scale linear and nonlinear optimization
- ◆ Telecommunications network design and planning
- ◆ Computer aided manufacturing systems
- ◆ Fuzzy systems and decision making
- ◆ Intelligent human-machine decision support systems
- ◆ Information theoretic analysis
- ◆ Factory data networking
- ◆ Global information infrastructure
- ◆ Supply Chain Management and Logistics

CONSULTING

- ◆ AT&T - Advanced Decision Support Systems
- ◆ Boeing Company
- ◆ FEI.com
- ◆ Fruit of the Loom
- ◆ Glaxo Wellcome Smith
- ◆ Glen Raven Mills Inc.
- ◆ IBM - Software Solutions
- ◆ IBM - Research Triangle Park
- ◆ Nucor Bearing Products
- ◆ Nortel - Wireless Division
- ◆ Research Triangle Institute
- ◆ Sandia National Laboratory
- ◆ SAS Institute, Inc.
- ◆ Triangle Laboratories Inc.
- ◆ Chung-Hua Telecommunications of Taiwan, R.O.C.
- ◆ Industrial Technology Research Institute of Taiwan, R.O.C.
- ◆ Ministry of Transportation and Communication, Taiwan, R.O.C.
- ◆ Chinese University of Hong Kong
- ◆ Hong Kong University of Science and Technology
- ◆ Polytechnic University of Hong Kong

EXPERIENCE

- 1999 - 2005: Director of Graduate Programs of Industrial Engineering
North Carolina State University, Raleigh, North Carolina
- 1990 - 1995,
2000 (Spring): Director of the Graduate Program in Operations Research
North Carolina State University, Raleigh, North Carolina
- 2003 - 2006 Academic Advisor
Department of Applied Mathematics, Polytechnic
University of Hong Kong, Hong Kong
- 2002 - 2006 Academic Advisor
Department of Industrial Engineering and Engineering
Management, Hong Kong University of Science and
Technology, Clear Water Bay, Hong Kong
- 1995-2000 Visiting University Examiner
Department of Systems Engineering and Engineering
Management, Chinese University of Hong Kong, Shatin,
NT, Hong Kong
- 2004 (Summer): Visiting Professor, National Center for Theoretic Research
Tainan, Taiwan, R.O.C.
Sponsored by the National Science Council of Taiwan
R.O.C.
- 2002 (Spring): Visiting Professor
Department of Systems Engineering and Engineering
Management, Chinese University of Hong Kong
Shatin, NT, Hong Kong
- 1999 (Summer): Distinguished Visiting Professor
Department of Mathematics, Burapha University, Thailand
Sponsored by the Royal Thai Government, Ministry of
University Affairs, Thailand.
- 1999 (Summer): Distinguished Technical Advisor
ATM Broadband Networks, Chung-Hua
Telecommunications Laboratories, Taiwan, R.O.C.
- 1997 (Summer): Distinguished Invited Lectureship
Department of Industrial Engineering, National Tsing Hua
University, Hsinchu, Taiwan, R.O.C.
Sponsored by the National Science Council of Taiwan,
R.O.C.

- 1996 (Summer): Distinguished Visiting Professor
Shanghai University in Shanghai, Jiao-tong University in Xi'an, Huazhong University of Science and Technology in Wuhan, Northeastern University in Shenyang
Sponsored by the National Natural Science Foundation of China.
- 1995 (Summer): Visiting Professor
Graduate School of International Management, International University of Japan, Niigata, Japan
Sponsored by the Ministry of Education and International Education Foundation of Japan.
- 1995 (Summer): Distinguished Invited Lectureship
Department of Industrial Engineering, National Tsing Hua University, Hsinchu, Taiwan, R.O.C.
Sponsored by the National Science Council of Taiwan, R.O.C.
- 1994 (Summer): Visiting Professor
Institute of Applied Mathematics, National Cheng Kung University, Taiwan, R.O.C.
Sponsored by the National Science Council of Taiwan, R.O.C.
- 1994 (Summer): Distinguished Visiting Professor
Northeastern University in Shenyang, Tsing Hua University in Beijing, Academia Sinica in Beijing, Nankai University in Tianjin, Huazhong University of Science and Technology in Wuhan, Fudan University in Shanghai, Shanghai University
Sponsored by the National Natural Science Foundation and the Ministry of Metallurgical Industry of China.
- 1992 (Fall): Visiting Professor
Department of Industrial Engineering, National Tsing Hua University, Hsinchu, Taiwan, R.O.C.
Sponsored by the National Science Council of Taiwan, R.O.C.
- 1992 (Summer): Visiting Professor
Graduate School of International Management, International University of Japan, Niigata, Japan
Sponsored by the International Education Foundation of Japan.
- 1989 (Summer): Visiting Technical Advisor

Telecommunications Network Planning Department,
Telecommunications Laboratories, Taiwan, R.O.C.
Sponsored by the Ministry of Transportation and
Communications.

1988 (Winter):

Visiting Expert
Mechanical Engineering Laboratory, Industrial
Technology Research Institute, Taiwan, R.O.C.
Sponsored by the Ministry of Economical Affairs.

1987 - 88:

Supervisor
Integrated Network Design Department, AT&T Bell
Laboratories, Holmdel, New Jersey

- ◆ Supervising members of technical staff to conduct R/D projects for AT&T domestic telecommunications network planning.
- ◆ Exploited advanced mathematical programming techniques and parallel mini-supercomputer capabilities to solve very large scale network optimization problems.
- ◆ Successfully built the Inter-city Facility Planning (IFP) system for AT&T domestic network planners that led to the 1988 EUO Eagle Award for the group.

1986 - 87:

Department Manager
Manufacturing Information Network Management
Department, AT&T Corporate Headquarters, Berkeley
Heights, New Jersey

- ◆ Chief architecture in designing and engineering integrated data networking capabilities for 22 AT&T domestic and overseas factories.
- ◆ Co-chair of AT&T Factory Data Networking Steering Committee.
- ◆ Planning, reviewing and monitoring AT&T Bell Laboratories research projects and coordinating AT&T Information Systems product development for computer integrated manufacturing.
- ◆ AT&T representative for MAP-Fiber Optics Special Interest Group.

- ◆ Special Honor: 1987 AT&T Corporate Headquarters Special Merit Award.
- 1985 - 86: Distinguished Member of Technical Staff
Transmission Network Design Department, AT&T Bell Laboratories, Holmdel, New Jersey
- ◆ Designing and developing computer aided planning systems for AT&T Communications network planners to automate the network planning processes.
 - ◆ Successfully designed and implemented a computerized network facility capacity planning system that solves AT&T nationwide transmission network plans with one million variables and four hundred thousand constraints via a modified Karmarkar's algorithm, this work was cited as the *Hottest Hits of Bell Laboratories* by Bell Lab News.
 - ◆ Special Honor: 1986 Bell Laboratories Exceptional Contribution Award.
- 1980 - 85: Senior Member of Research Staff
Engineering Research Center, AT&T Technologies, Princeton, New Jersey
- ◆ Modeling and controlling various advanced manufacturing technologies, designing and developing computer aided manufacturing systems.
 - ◆ Designed and implemented a computer aided manufacturing system to automate the optical fiber shop at AT&T Atlanta factory; the system (LITES) selects the most economic way to build multi-mode, single-mode, and underseas cable systems; it saved AT&T 12 million dollars per year.
 - ◆ Developed a computer aided material slitting system for the cable slitting process at AT&T Baltimore, Hawthorn and Omaha Works.
 - ◆ Developed a VLSI memory chip repair strategy for the 64K DRAM product line at AT&T Merrimack Valley and Oklahoma Works.

- ◆ Developed a system to detect electrical shorts and opens for the printed circuit board product line at AT&T Richmond and North Carolina Works.
- ◆ Special Honor: 1984 AT&T Technical Achievement Award.

1979 - 80:

Assistant Professor
Department of Mathematics, University of Maryland
Baltimore County, Maryland

- ◆ Taught graduate and undergraduate courses on Linear Programming & Network Flows, Integer & Dynamic Programming and Mathematical Modeling.

1974 - 76:

Second Lieutenant Platoon Leader
Chinese Army Transportation Troops, Taiwan, R.O.C.

HONORS

- 2010: Fudan Chair Professorship
Fudan University, Shanghai, China
- 2010: University Honorary Professorship
Huanggang Normal University, Hubei, China
- 2008: Overseas Academic Master
Dalian University of Technology, Dalian, China
- 2008: Honorary IEEM Chair Professorship
National Tsing Hua University, Taiwan, ROC
- 2007: Outstanding Alumnus Award
College of Science, National Tsing Hua University,
Taiwan, ROC
- 2006: University Chair Professorship
National Chiao Tung University, Hsinchu, Taiwan
- 2005: University Alumni Distinguished Graduate Professorship
Award,
Alumni Association, NC State University
- 2005: Graduate University Advisory Professorship,
Graduate School, Chinese Academy of Sciences, Beijing,
China
- 2004: University Chair Professorship and Team Leader of Chair
Professors in Industrial Engineering and Mathematical
Sciences,
Tsinghua University, Beijing, China
- 2002: Fellow Award,
Institute of Industrial Engineers
- 2002: Scientific Excellence Award,
National Textile Center, Department of Commerce, US
Government
- 2002: Honorary University Professorship,
Shanghai University, Shanghai, P. R. China
- 2001: R. J. Reynolds Award for Excellency in Teaching, Research,
and Extension,
Engineering Foundation, NC State University

- 2001: Jackson Rigney International Service Award,
International Studies Honor Society, N C State University
- 2001: African-American Advocacy Award,
Association for the Concerns of African-American
Graduate Students, NC State University
- 1999: Honorary University Professorship,
Northeastern University, P. R. China
- 1999: Distinguished Contribution Award,
Science Division, Taipei Economic and Cultural
Representative Office in United States
- 1998: IBM Global Partnership Award,
IBM University Relations
- 1998: University Outstanding Research Award,
Alumni Association, NC State University
- 1997: Director's Partnership Award,
National Textile Center, Department of Commerce, US
Government
- 1996: Walter Clark Chair Professorship,
NC State University
- 1990-95: Cray Research Award (6 times) , Cray Research Inc.
- 1990: Fellow of the North Carolina Supercomputing Center
- 1987: AT&T Corporate Headquarters Special Merit Award
- 1986: AT&T Bell Laboratories Exceptional Contribution Award
- 1984: AT&T Technologies Technical Achievement Award
- 1979: Faculty Summer Research Grant, University of Maryland
- 1978: Murphy Fellow, Northwestern University
- 1977: Hopkins Fellow, Johns Hopkins University
- 1976: Distinguished Service Award, Chinese Army (Taiwan),
ROC

Marquis Who's Who In the World

Marquis Who's Who In America

Marquis Who's Who In The East

Marquis Who's Who In Frontier Science and Technology

Marquis Who's Who In Science and Engineering

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

Present:	Fellow, IIE
Present:	Full Member, INFORMS
Present:	Member, Tau Beta Pi
Present:	Member, Omega Rho
Present:	Member, Sigma Phi
Present:	Member, Sigma Xi
1987:	ORSA Nicholson Prize Committee
1990 - 91:	Secretary and Treasurer, the Association of Chairpersons of Operations Research Departments (ACORD) of INFORMS
1991 - 92:	Vice President and President-Elect, the Association of Chairpersons of Operations Research Departments (ACORD) of INFORMS
1992 - 93:	President, the Association of Chairpersons of Operations Research Departments (ACORD) of INFORMS
1992 - 94:	International Advisory Committee, the 15th International Symposium on Mathematical Programming, Ann Arbor, Michigan, U.S.A., August 1994
1992 - present:	Specialist Register, Hong Kong Research Grants Council
1992 - present:	External Reviewer, Hong Kong University and Polytechnic Grants Committee
1993:	Organizing Committee, Sino-American International Technology Transfer Symposium, Taipei, Taiwan and Shenyang, China, May, 1993
1995 - 97:	International Advisory Committee, the 16th International Symposium on Mathematical Programming, Lausanne, Switzerland, August, 1997
1996 - 2000:	University Visiting Examiner, Chinese University of Hong Kong

- 1997: Invited Tutorial, INFORMS National Meeting, San Diego, U.S.A., April, 1997
- 1998: Keynote Speaker, International Conference on Nonlinear Programming and Variational Inequalities, Hong Kong, December, 1998
- 1999: International Advisory Committee, The Second International Conference on Operations and Quantitative Management, Ahmedabad, India, January, 1999
- 1999: International Advisory Committee, The Eighth International Fuzzy Systems Association World Congress, Taiwan, August, 1999
- 1999: Area Chair, The Eighth International Fuzzy Systems Association World Congress, Taiwan, August, 1999
- 1999: Invited Key Speaker, International Conference on Optimization and Numerical Algebra, Nanjing, China, September, 1999
- 1999: International Advisory Committee, International Workshop on Semi-infinite Programming, Alicante, Spain, September, 1999
- 2000: External Review Committee, National Tsing Hua University, Hsinchu, Taiwan, ROC.
- 2000: Organizing Committee, The Eighth Bellman Continuum, the International Workshop on Intelligent Systems Resolutions, Taiwan, ROC, December, 2000.
- 2000: Panel Chair, The Eighth Bellman Continuum, the International Workshop on Intelligent Systems Resolutions, Taiwan, ROC, December, 2000.
- 2000: International Advisory Committee, The fifth Annual International Conference on Industrial Engineering - Theory, Applications and Practice, Taiwan, ROC, December, 2000.
- 2001: Keynote Speaker, International Conference on Optimization and Optimal Control, Taiwan, June 1-4, 2001.

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- 2001: Advisory Committee, The International Conference on Optimization and Industry, Queensland, Australia, July 1-6, 2001.
- 2001: International Advisory Committee, The Fifth International Conference on Optimization Techniques and Applications (ICOTA'2001), December 15-17, Hong Kong, 2001.
- 2001: Keynote Speaker, The Fifth International Conference on Optimization Techniques and Applications, Hong Kong, December 15-17, 2001.
- 2002: Program Committee, The 4th International Symposium on Operations Research and Its Applications, Yichang-Chongqing, China, June 1-4, 2002.
- 2002: Organizing Committee, The 9th Bellman Continuum, Beijing, China, July 24-27, 2002.
- 2002: Program Committee, International Conference on Fuzzy Systems and Knowledge Discovery, Singapore, November 18-22, 2002.
- 2002: Invited Key Speaker and Advisory Board, International Conference on Mathematical Programming, Shanghai, China, December 18-21, 2002.
- 2002 – 2005: Academic Advisory Board, Industrial Engineering and Engineering Management Department, Hong Kong University of Science and Technology.
- 2002: Academic Review Board, Applied Mathematics, Hong Kong Polytechnic University.
- 2003: External Reviewer, National Science Council, Taiwan, ROC.
- 2003: International Program Committee, The Fourth International Conference on Operations and Quantitative Management, Tainan, Taiwan, January, 2003.
- 2003- 2006: Department Academic Advisor, Applied Mathematics Department, Hong Kong Polytechnic University
- 2004: International Program Committee, Computational Management Science Conference and Workshop on

- Computational Econometrics and Statistics, Neuchatel, Switzerland, April 2-5, 2004.
- 2004: Plenary Speaker, International Workshop on Optimization, Tainan, Taiwan, May 17-20, 2004.
- 2004: Plenary Speaker and Scientific Committee, International Conference on Analysis and Its Applications, Changhua, Taiwan, May 28-31, 2004.
- 2004: Plenary Speaker and Scientific Committee, The Third International Conference on Optimization and Control with Applications, Chongqing-Chengdu-Jiuzaigu, Chongqing, China, July 28-31, 2004.
- 2004 – present Advisory Committee, Chinese Society of Fuzzy Information and Fuzzy Engineering, P. R. China.
- 2005: Program Committee, The 1st Symposium on Olympic Logistics, Beijing, China, February 25-26, 2005.
- 2005: Honorary Guest, International Conference on Business and Information, Hong Kong, July 14-15, 2005.
- 2005: Program Committee, The 11th World Congress of International Fuzzy Systems Association (IFSA 2005), Beijing, China, July 28-31, 2005.
- 2005: Invited Speaker, International Conference on Complementarity, Duality, and Global Optimization in Science and Engineering (CDGO), Blacksburg, Virginia, August 15-17, 2005.
- 2005: International Program Committee, The International Workshop on Semi-infinite Programming, Tainan, Taiwan, ROC, August 24-27, 2005.
- 2005: Plenary Speaker, The 18th National Conference of the Australian Society for Operations Research (ASOR05), Perth, Australia, September 26-28, 2005.
www.maths.curtin.edu.au/asor05.
- 2005: Plenary Speaker and Program and Scientific Committee, International Conference on Nonlinear Analysis and Optimization with Its Applications (ICNAOA05), Chungli, Taiwan, ROC, September 30 – October 3, 2005.

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- 2005: International Advisory Committee, The 3rd Sino-Japanese Optimization Meeting, Singapore, October 31 – November 2, 2005.
<www2.bschool.nus.edu.sg/Conf/SJOM/Home.htm>.
- 2005: Invited Speaker and Cluster Organizer, First Joint International Meeting of the American Mathematical Society and Taiwan Mathematical Society (TMS/AMS 05), Taichung, Taiwan, December 14 – December 18, 2005.
www.math.thu.edu.tw/2005ims/en/index.htm.
- 2005 – present Chief Advisor, Center for Engineering and Applied Research, Graduate University of the Chinese Academy of Sciences, Beijing, China.
- 2005 – present Advisor, Center for Modern Logistics, Shanghai University, Shanghai, China.
- 2006: Invited Speaker and Scientific Committee, The International Conference on Nonlinear Programming with Applications, Shanghai, China, May 29 – June 1, 2006.
- 2006: Cluster Chair, INFORMS International Meeting, Hong Kong, June 25-28, 2006.
- 2006: Invited Plenary Speaker, Bi-annual National Operations Research Conference of China (ORSC 2006), Shenzhen, China, June 29 – July 2, 2006.
www.orsc.org.cn.
- 2006: Program Committee, The 6th International Symposium on Operations Research and Its Applications (ISORA 06), Urumuqi, Xinjiang, China, August 8 – 12, 2006.
www.aporc.org.
- 2006: International Program Committee, The 11th International Conference on Fuzzy Theory and Technology (FTT 2006), Kaohsiung, Taiwan, ROC, October 8-11, 2006.
www.jcis.org/jcis2006.
- 2007: Plenary Speaker and International Program Committee, The Fifth International Conference on Nonlinear Analysis and Convex Analysis (NACA 2007), Taiwan, ROC, May 31 – June 4, 2007.

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- 2007: Co-Chair, International Scientific Committee, Industrial Engineering and Systems Management (IESM 2007), Beijing, PRC, May 31 – June 2, 2007.
- 2007: Program Committee, The 6th International Conference on Information and Management Sciences, Lhasa, Tibet, China, July 1-6, 2007.
www.orsc.edu.cn/ims.
- 2007: International Program Committee, International Symposium on Optimization and Systems Biology, Beijing, China, August 7-9, 2007.
www.aporc.org/OSB/2007/index.php.
- 2007: Steering Committee, The 7th International Conference on Optimization Techniques and Applications (ICOTA 7), Kobe, Japan, December 12 – 15, 2007.
www.iict.konan-u.ac.jp.
- 2007: Steering Committee and Invited Speaker, The 3rd China Australia Workshop on Optimization Theory, Methods and Applications, Shanghai, China, December 16 – 18, 2007.
- 2008: Invited Speaker, International Summer School on Logistics and Supply Chain Management, Hunan, China, June 29 – 30, 2008.
- 2008: Organizing Committee and Invited Speaker, The 2nd Summer School on Optimization, Dalian, China, July 23-August 7, 2008.
- 2008: International Program Committee, The 7th International Conference on Information and Management Sciences, Urumuchi, Sinkiang, China, August 12 – 18, 2008.
<http://www.orsc.edu.cn/ims>.
- 2008: Plenary Speaker, Sino-Japanese Optimization Meeting, Tainan, Taiwan, August 27 - 30, 2008.
www.ncts.ncku.edu.tw/sjom.
- 2008: International Program Committee, International Symposium on Optimization and Systems Biology, Lijiang, China, October 31 – November 3, 2008.
www.aporc.org/OSB/2008/index.php.

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- 2008: Program Committee and Invited Speaker, International Symposium on Operations Research and Its Applications, Lijiang, China, October 31 – November 3, 2008.
www.aporc.org/ISORA/2008/index.php.
- 2008: Co-Organizer, The 3rd International Symposium on Emergency Management (ISEM 08), Beijing, China, December 12 -13, 2008.
<http://www.orsc.org.cn/news/2008/ISEM08Announcement.pdf>.
- 2008: Session Organizer, Joint Meeting of American Mathematical Society and Shanghai Mathematical Society, Shanghai, China, December 17-21, 2008.
<http://math.fudan.edu.cn/science/Conference/SMS-AMS/index.html>.
- 2009: Co-Organizer, The First World Congress on Global Optimization (WCGO2009), Zhangjiajie, Hunan, China, June 1-5, 2009.
<http://159.226.47.199/wcgo2009/default.htm>.
- 2009: Advisory Committee, The 4th International Conference on Optimization and Control with Applications (OCA 2009), Harbin, China, June 6-11, 2009.
<http://oca2009.hit.edu.cn/>.
- 2009: International Program Committee, The 8th International Conference on Information and Management Sciences, Banna, Yunnan, China, July 20 – 28, 2009.
<www.orsc.edu.cn/ims/ims2009/>.
- 2009: International Program Committee, International Symposium on Optimization and Systems Biology, Zhangjiajie, China, September 20 – September 22, 2009.
www.aporc.org/OSB/2009/index.php.
- 2009: Program Committee, International Symposium on Operations Research and Its Applications, Zhangjiajie, China, September 20 – September 22, 2009.
www.aporc.org/ISORA/2009/index.php.
- 2009: Program Committee, The Third International Conference on Fuzzy Information and Engineering, Chongqing, China, September 26-27, 2009.
[http://icfie.cqust.cn/\(S\(ancxlgvi0dclha55ha5b3wnu\)\)/English_Pages/Index_english.aspx](http://icfie.cqust.cn/(S(ancxlgvi0dclha55ha5b3wnu))/English_Pages/Index_english.aspx).

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- 2009: Co-Organizer, The 4th International Symposium on Emergency Management (ISEM 09), Beijing, China, December 12 -13, 2009.
<http://www.isem.org.cn/meeting/index.asp?id=579>.
- 2009: Co-Organizer, International Workshop on Behavioral Operations Research and Behavioral Operations Management, Beijing, China, December 19 -20, 2009.
<http://mcm.edu.cn/bor/>.
- 2010: Co-Chair of Academic Committee, The 8th Chinese Symposium on Mathematical Programming, Shanghai, China, May 21-25, 2010.
<http://math.shu.edu.cn/mp2010/>.
- 2010: Plenary Speaker and Program Committee Member International Conference on Optimization and Control (ICOCO 2010), Guiyang, China, July 18-23, 2010.
<http://icoco2010.cqnu.edu.cn/>.
- 2010: Scientific Committee, International Conference on Optimization, Simulation and Control, Ulaanbaatar, Mongolia, July 25-28, 2010.
<http://www.ise.ufl.edu/cao/cosc2010/index.html>
- 2010: International Program Committee, The 9th International Conference on Information and Management Sciences, Urumchi and Kashi, China, August 12 -19, 2010.
www.orsc.edu.cn/ims/ims2010/.
- 2010: Program Committee, International Symposium on Operations Research and Its Applications (ISORA 2010), Chendu, China, August 20 - August 24, 2010.
www.aporc.org/ISORA/2010/index.php.
- 2010: Program Committee, International Conference on Computational Systems Biology, Suzhou, China, September 9 - September 11, 2010.
www.aporc.org/OSB/2010/index.php.
- 2010: Steering Committee, The 8th International Conference on Optimization Techniques and Applications (ICOTA 8), Shanghai, China, December 10 - 13, 2010.
<http://www.fdsf.fudan.edu.cn/icota8/>.

- 2010: Chair and Organizer, The second International Workshop on Behavioral Operations Management (BOM 2010), Beijing, China, December 18-19, 2010.
<http://www.ie.tsinghua.edu.cn/conference/BOM-Workshop.htm>
- 2011: Co-Organizer, The Second World Congress on Global Optimization (WCGO2011), Chania, Greece, July, 3-7, 2011.

EDITORIAL SERVICE

1989 - present:	Senor Editor Journal of Chinese Institute of Industrial Engineers
1994 - present:	Area Editor International Journal of Operations and Quantitative Management
1995 - present:	Editorial Board Optimization
1997 - present	Editorial Board OR Transactions (Journal of the Chinese Society of Operations Research)
2000 - present:	Editorial Board Journal of Global Optimization
2000 - 2004:	Editorial Board International Journal of Nonlinear Modeling in Sciences and Engineering
2000 - present:	Editor-in-Chief Fuzzy Optimization and Decision Making
2003 - present	Area Editor International Journal of Fuzzy Systems
2003 - present	Advisory Board Iranian Journal of Fuzzy Systems
2003 - present	Editorial Board Journal of Industrial and Management Optimization
2003 - present	Editorial Board Pacific Journal of Optimization
2004 - present	Associate Editor International Journal of Operations Research
2004 - present	Editorial Board Journal of Operations and Logistics
2005 - present	Editorial Board Journal of Systems Science and Complexity

2005 – present	Editorial Board Optimization Letters
2006 – present	Associate Editor International Journal of Fuzzy Sets Theory
2006 – present	Advisory Board Journal of Uncertain Systems
2007 – present	Editorial Board Systems Engineering – Theory and Practice
2008 – present	Co-Editor-in-Chief International Journal of Operations Research
2008 – present	Associate Editor Applied Computational Intelligence and Soft Computing
2009 – present	Area Editor Fuzzy Information and Engineering
2009 – present	Editorial Board International Journal of Artificial Life Research
1999:	Guest Editor (with Chiang Kao) International Journal of Operations and Quantitative Management, Special Issue on <i>Quantitative Management Techniques and Applications in Taiwan</i>
2000:	Guest Editor (with Chung-Yee Lee) Journal of the Chinese Institute of Industrial Engineers, Special Issue on <i>Soft-computing for Industrial Engineering</i>
2001:	Guest Editor (with Carlton Scott) Annals of Operations Research, Special Issue on <i>Geometric Programming</i>
2004:	Guest Editor (with Soonyi Wu) Journal of Global Optimization, Special Issue on <i>ICOOO'01 Conference</i>
2005:	Guest Editor (with Houduo Qi and Yunbin Zhao) Journal of Industrial and Management Optimization, 2 Special Issues on <i>Professor Jiye Han's 70th Birthday</i>
1980 - present:	Referee/Reviewer ◆ Mathematical Reviews

- ◆ Mathematical Programming
- ◆ Journal of Optimization Theory and Applications
- ◆ Optimization
- ◆ Computational Optimization and Applications
- ◆ Optimization Methods and Software
- ◆ European Journal of Operational Research
- ◆ Annals of Operations Research
- ◆ OR Letters
- ◆ Opsearch
- ◆ IIE Transactions
- ◆ Journal of Chinese Institute of Industrial Engineers
- ◆ IEEE - Automatic Control
- ◆ IEEE - Systems, Man, and Cybernetics
- ◆ IEEE - Fuzzy Systems
- ◆ IEEE - Engineering Management
- ◆ Networks
- ◆ Queueing Systems
- ◆ Transportation Science
- ◆ International Journal of Operations and Quantitative Management
- ◆ International Journal of Production Economics
- ◆ Production and Operations Management
- ◆ International Journal of General Systems
- ◆ Fuzzy Sets and Systems
- ◆ Journal of the Chinese Fuzzy Systems Association
- ◆ International Journal of Fuzzy Systems
- ◆ Information Sciences
- ◆ Indian Journal of Pure and Applied Mathematics
- ◆ ANZIAM Journal (Australian Mathematical Society)
- ◆ Mathematics Today
- ◆ Mathematical and Computer Modeling
- ◆ Environmental Modeling and Assessment
- ◆ Applied Mathematics Letters
- ◆ Journal of Applied Mathematics and Decision Sciences
- ◆ Optimal Control Applications and Methods
- ◆ Computers and Operations Research
- ◆ Computers and Industrial Engineering
- ◆ Computers and Mathematics with Applications
- ◆ Science in China

RESEARCH GRANTS AND ACTIVE PROPOSALS

1. *General Network Equilibrium Analysis*
Faculty Summer Research Grant, University of Maryland, Summer 1980. (\$2,500)
2. *Stochastic Linear Programming via Kalman Filter and Affine Scaling*
AT&T Advanced Decision Support Systems, 1988-89. (\$45,000)
3. *Large Scale Stochastic Linear Programming*
AT&T Advanced Decision Support Systems, 1989-90. (\$45,000)
4. *Promising New Methods for Large Scale Linear Programming and Linear Complementarity Problems*
North Carolina Supercomputing Center and Cray Research Grant, 1990-91. (\$47,000 equiv.)
5. *Textile Production, Capacity, and Shop-Floor Scheduling Problems*
Glen Raven Mills Inc., 1990-93. (\$60,000)
6. *Testing Flow Analysis and Optimal Scheduling*
Triangle Laboratories Inc., 1991-92. (\$23,000)
7. *The Inference of Probability and Mass Distributions via Entropy Optimization with Generalized Geometric Programming*
North Carolina Supercomputing Center and Cray Research Grant, 1991-92. (\$47,000 equiv.)
8. *Advances in Large-scale Linear Programming via the Unification, Generalization, and Extension of Interior-point Methods*
North Carolina Supercomputing Center and Cray Research Grant, 1992-93. (\$47,000 equiv.)
9. *Analysis and Modeling of Actions and Interactions of Textile Industry*
National Textile Center, U.S. Department of Commerce, 1992-95. (\$979,978)
10. *Large Scale Linear Programming via Interior-point Methods*
National Science Council of Taiwan, R.O.C., 1992-93. (\$30,000)
11. *An Interior-point Approach to Solving Semi-infinite Linear Programming Problems*
North Carolina Supercomputing Center and Cray Research Grant, 1993-94. (\$47,000 equiv.)
12. *Fuzzy Linear Programming*
North Carolina Supercomputing Center and Cray Research Grant, 1994-95. (\$47,000 equiv.)

13. *Pharmaceutic Production Planning*
Burroughs Wellcome, 1994-95. (\$23,000)
14. *Workforce Cyclic Scheduling*
Nucor Bearing Products, 1994-95. (\$14,000)
15. *Fuzzy Optimization for Textile Industries*
North Carolina Supercomputing Center and Cray Research Grant, 1995-96.
(\$47,000 equiv.)
16. *Fuzzy and Neural Technologies for Wireless Telecommunication Products Manufacturing*
Nortel, 1995-97. (\$45,000)
17. *Intelligent Manufacturing and Management Systems for an Agile U.S. Softgoods Complex*
National Textile Center, U.S. Department of Commerce, 1995-98. (\$1,014,577)
18. *Natural Language Research and Development*
IBM - Research Triangle Park, 1996-97. (\$25,000)
19. *Supply Chain Modeling and Analysis*
Fruit of the Loom, 1996-97. (\$17,500)
20. *Softgoods Supply Chain Modeling and Analysis*
Sandia National Laboratories, 1996-98. (\$336,852)
21. *International O-O Technology Research and Development*
IBM SWS-AE, 1997-98. (\$60,000)
22. *Integrated Supply Chain Analysis and Decision Support*
National Textile Center, U.S. Dept. of Commerce, 1998-2001. (\$686,838)
23. *Intelligent Manufacturing System for Wave Soldering Operations*
Nortel, 1998-99. (\$18,000)
24. *International Collaboration Research on New Computing Technologies*
IBM, 1998-2000. (\$50,000)
25. *Intelligent Planning and Optimization in Complex Industrial Systems (External Investigator)*
Hong Kong RGC Competitive Earmarked Research Grant (CERG), 1998-2001.
(HK\$420,000)
26. *Decision Support Tools for Furniture Supply Chain Management*
Furniture Foundation, 1999-2001. (\$99,674)

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27. *Graduate Industrial Traineeship on Supply Chain Management*
SAS Institute, Inc., 2001-2002. (\$96,736)
 28. *Integrated Furniture Supply Chain Logistics*
Furniture Foundation, 2001-2002. (\$74,179)
 29. *Business-to-Business Collaboration in a Softgoods E - Supply Chain*
National Textile Center, U.S. Department of Commerce, 2001-2004. (\$550,639)
 30. *Theory and Algorithms for L_1 Splines*
Army Research Office, 2001-2004. (\$214,528)
 31. *Building Excellence for Operations Research and Logistics in China*
Tsinghua University Education Foundation, 2004-2008. (RMB \$3,000,000)
 32. *Industrial Research on Health Care Programs*
FEI.com Inc., 2004-2005. (\$8,000)
 33. *Graduate Industrial Traineeship on Analytic Solutions*
SAS Institute, Inc., 2004-2006. (\$76,535)
 34. *Theory and Algorithms for L_1 Splines - II*
Army Research Office, 2004-2007. (\$332,394)
 35. *L_1 -Splines-Based Geometric-Physics Modeling of Deformable Objects with Force-Torque Feedback*
National Science Foundation, 2006-2009. (\$359,990)
 36. *Graduate Industrial Traineeship on Analytic Solutions*
SAS Institute, Inc., 2006-2007. (\$50,285)
 37. *Graduate Industrial Traineeship on Analytic Solutions*
SAS Institute, Inc., 2007-2008. (\$58,844)
 38. *Boeing DEELOOK: Logistics Investment Optimizer*
Boeing Company, 2008-2009. (\$122,687)
 39. *Graduate Industrial Traineeship on Analytic Solutions*
SAS Institute, Inc., 2008-2009. (\$46,322)
 40. *Graduate Industrial Traineeship on Analytic Solutions*
SAS Institute, Inc., 2009-2010. (\$46,627)
 41. *L_1 Splines with Locally Computed Coefficients*
Army Research Office, 2009-2012. (\$366,404)

PUBLICATIONS - BOOKS

1. *Entropy Optimization and Mathematical Programming*
with J.R. Rajasekera and H.S.J. Tsao, (ISBN 0-7923-9939-0), Kluwer Academic Publishers, Boston/London/Dordrecht, 1997.
2. *Fuzzy Mathematics and Optimization*
with Dingwei Wang, Chinese Version, (ISBN 7-03-005829-1) published by the Science Press, Beijing, China, 1997.
3. *Linear Optimization and Extensions: Theory and Algorithms*
with S.C. Puthenpura, (ISBN 0-13-915265-2), Prentice Hall, Englewood Cliffs, New Jersey, 1993.

Chinese Version published by Science Press, (ISBN 7-03-003911-4), Beijing, China, 1994.
4. *Introduction to Optical Fiber Communications*
(Chinese Edition), published by National Translation and Compiler Bureau of Taiwan, R.O.C., 1986, 2nd edition 1992.
5. *AT&T Factory Data Network Planning Book*
AT&T Corporate Headquarters, Berkeley Heights, New Jersey, 1987.

PUBLICATIONS - BOOKS EDITED AND BOOK CHAPTERS

1. *Planning an Integrated Communication Network for Automated Manufacturing Systems*, in *Justification Methods for Computer Integrated Manufacturing*, edited by Parsaei, Ward, and Karwowski (1990), 62 - 84.
2. *A Dual Affine Scaling Based Algorithm for Solving Linear Semi-infinite Programming Problems*, with C.J. Lin and S.Y. Wu, in *Advances in Optimization and Approximation*, edited by D.-Z. Du and J. Sun, Kluwer Academic Publishers, (1994), 217-234.
3. *Quantitative Management Techniques and Applications in Taiwan* (Guest Editor)
with C. Kao, Special Issue of *International Journal of Operations and Quantitative Management*, Vol. 4, No. 3, December, 1998.
4. *Softcomputing for Industrial Engineering* (Guest Editor)
with C. -Y. Lee, Special Issue of the *Journal of Chinese Institute of Industrial Engineers*, Vol. 17, No. 5, 2000.

5. *Geometric Programming* (Guest Editor)
with C. Scott, Special Issue of *Annals of Operations Research*, Vol. 105, July 2001.
6. *Entropy Optimization: Shannon Measure and Its Properties*
with H.-S.J. Tsao, in *Encyclopedia of Optimization*, Kluwer Academic Publishers,
Vol. 2, 12 - 18, May 2001.
7. *Maximum Entropy Principle: Image Reconstruction*
with H.-S.J. Tsao, in *Encyclopedia of Optimization*, Kluwer Academic Publishers,
Vol. 3, 245 - 249, May 2001.
8. *Entropy Optimization: Interior-Point Methods*
with H.-S.J. Tsao, in *Encyclopedia of Optimization*, Kluwer Academic Publishers,
Vol. 2, 4 - 8, May 2001.
9. *Optimal Planning and Sequencing of Parallel Machining Operations*
with Y.-S. Lee and N. Chiu, in *Handbook of Computational Intelligence in Design and
Manufacturing*, CRC Press, Chapter 8, 8-1 to 8-13, December, 2001.
10. *Analytic Center Based Cutting Plane Method for Linear Semi-infinite Programming*
with S. -Y. Wu and C. -J. Lin, in *Semi-infinite Programming: Recent Advance*,
M.A. Goberna and M.A. Lopez (edts), Kluwer Academic Publishers, Chapter 10,
221-233, 2001.
11. *Operations Research*
with S. E. Elmaghraby, *Encyclopedia of Physical Science and Technology*,
Academic Press, Inc., Vol. 11, 193-218, 2001.
12. *Softcomputing for Softgoods Supply Chain Optimization and Management*
with H.L.W. Nuttle, R.E. King and J.R. Wilson, *Soft Computing in Textile
Sciences*, Physica-Verlag, Heidelberg, Germany, Chapter 1, 1-15, 2003.
13. *Fuzzy Data Envelopment Analysis: A Credibility Approach*
with S. Lertworasirikul, H.L.W. Nuttle and J. A. Joines, in *Fuzzy Sets Based
Heuristics for Optimization*, J.L. Verdegay (edts), Physica-Verlag, 141-158, 2003.
14. *Optimization and Optimal Control (ICOOC)* (Guest Editor)
with Soonyi Wu, Special Issue of *Journal of Global Optimization*, Vol. 30, No. 2-
3, November, 2004.
15. *Mathematical Programming* (Guest Editor)
with Houduo Qi and Yunbin Zhao, Special Issue of *Journal of Industrial and
Management Optimization*, Vol. 1, No. 2, 2005.
16. *Industrial and Management Applications* (Guest Editor)
with Houduo Qi and Yunbin Zhao, Special Issue of *Journal of Industrial and
Management Optimization*, Vol. 1, No. 3, 2005.

PUBLICATIONS - REFEREED JOURNAL ARTICLES

1. *An Iterative Method for Generalized Complementarity Problems*, IEEE-Transaction on Automatic Control, 25-6 (1980), 1225 - 1227.
2. *A Note on Q-Matrices*, Bulletin of the Institute of Mathematics Academia Sinica, 10-3 (1982), 239 - 243.
3. *Traffic Equilibria on Multiclass-User Transportation Networks Analyzed via Variational Inequalities*, Tamkang Journal of Mathematics, 13-1 (1982), 1 - 9.
4. *A Model for Locating Repair Stations in a Sequential Manufacturing Process*, Applied Mathematical Modeling, 6 (1982), 363 - 368.
5. *Generalized Variational Inequalities*, with E.L. Peterson, Journal of Optimization Theory and Applications, 38-3 (1982), 363 - 383.
6. *Solving Linearly Constrained Separable Convex Programs via Generalized Geometric Programming Duality*, Chinese Journal of Mathematics, 10-2 (1982), 103 - 112.
7. *Fixed Point Models for the Equilibrium Problems on Transportation Networks*, Tamkang Journal of Mathematics, 13-2 (1982), 181 - 191.
8. *A Sequential Algorithm for an Inventory Selection Problem*, IMA Journal of Applied Mathematics, 31 (1983), 161 - 168
9. *General Network Equilibrium Analysis*, with E.L. Peterson, International Journal of Systems Science, 14-11 (1983), 1249 - 1257.
10. *Routing in a Network with Multi-Class Links*, Journal of Operational Research, 35-7 (1984), 637 - 640.
11. *A Linearization Method for Generalized Complementarity Problems*, IEEE-Transaction on Automatic Control, 29-10 (1984), 930 - 933.
12. *A Fixed-Point Representation of the Generalized Complementarity Problem*, with E.L. Peterson, Journal of Optimization Theory and Applications, 45-3 (1985), 375 - 381.
13. *An Economic Equilibrium Model on a Multicommodity Network*, with E.L. Peterson, International Journal of Systems Science, 16-4 (1985), 479 - 490.
14. *Optimal Assortment with Concave Cost Functions*, International Journal of Systems Science, 16-10 (1985), 1305 -1311.
15. *Controlled Dual Perturbations of l_p Programming*, with J.R. Rajasekera, Zeitschrift fur Operations Research-Theory, 30-1 (1986), A29 - 42.

16. *On An Iterative Method for Generalized Complementarity Problems*, IEEE-Transaction on Automatic Control, 31-1 (1986), 1083 - 1084.
17. *Controlled Perturbations for Quadratically Constrained Quadratic Programs*, with J.R. Rajasekera, Mathematical Programming, 36-3 (1986), 276- 289.
18. *Optimal Repair Decisions for Integrated Circuits Manufacturing*, International Journal of Systems Science, 18-4(1987), 74 - 747.
19. *A Perturbation Approach to the Main Duality Theorem of Quadratic Geometric Programming*, with J.R. Rajasekera, Zeitschrift fur Operations Research-Theory, 31-3 (1987), A103 - 118.
20. *Controlled Dual Perturbations for Posynomial Programs*, with J.R. Rajasekera and E.L. Peterson, European Journal of Operational Research, 35-1 (1988), 111 - 117.
21. *Quadratic Programming with A Single Quadratic Constraint*, with J.R. Rajasekera, Journal of Chinese Institute of Industrial Engineers, 6-1 (1989), 37 -42.
22. *Quadratically Constrained Minimum Cross-Entropy Analysis*, with J.R. Rajasekera, Mathematical Programming, 44-1 (1989), 85 -96.
23. *Quadratically Constrained Information Theoretic Analysis*, with J.R. Rajasekera, International Journal of Systems Science, 21-3 (1990), 587 - 591.
24. *Detecting Electric Shorts on Printed Circuit Boards*, International Journal of Production Research, 28-6 (1990), 1031 -1037.
25. *An Efficient Method for the PCB Shorts-Testing*, Chinese Journal of Operations Research, 9-2 (1990), 75 - 80.
26. *On the Convex Programming Approach to Linear Programming*, with J.R. Rajasekera, Operations Research Letters, 10-6 (1991), 309 - 312.
27. *A Variant of Affine Scaling Algorithm for Linear Programming*, with G.M. Jan, Optimization, 22-5 (1991), 681 - 715.
28. *Cross-Entropy Analysis with Entropy-type Constraints*, with J.R. Rajasekera and E.L. Peterson, Journal of Applied and Computational Mathematics, 39 (1992), 165 - 178.
29. *An Unconstrained Convex Programming View of Linear Programming*, Zeitschrift fur Operations Research-Theory, 36-1 (1992), 149 -161.
30. *Insights into the Interior-Point Methods for Linear Programming*, with R.L. Sheu, Zeitschrift fur Operations Research-Theory, 36-2 (1992), 227 - 257.

31. *Jensen's Inequality for Optimal Entropy Analysis*, with H.S. Tsao and D.N. Lee, *European Journal of Operational Research*, 59 (1992), 324 -329.
32. *Deriving an Unconstrained Convex Program for Linear Programming*, with J.R. Rajasekera, *Journal of Optimization Theory and Applications*, 75-3 (1992), 603 - 612.
33. *Linear Programming with Entropic Perturbation*, with H.S. Tsao, *Zeitschrift fur Operations Research*, 37 (1993), 171 - 186.
34. *On the Relationship of the Interior-Point Methods*, with R.L. Sheu, *International Journal of Mathematics and Mathematical Sciences*, 16 (1993), 565 - 572.
35. *An Unconstrained Convex Programming Approach to Solving Convex Quadratic Programming Problems*, with H.S. Tsao, *Optimization*, 27 (1993), 235 - 243.
36. *A Bayesian Interpretation of the Linearly Constrained Cross-Entropy Minimization Problem*, with H.S. Tsao and D.N. Lee, *Engineering Optimization*, 12 (1993), 65 - 75.
37. *An Inexact Approach to Solving Linear Semi-Infinite Programming Problems*, with S.Y. Wu, *Optimization*, 28 (1994), 291 - 299.
38. *The Complexity of Finding K Disjoint Paths in a Network*, with M. Natsu, *Journal of the Chinese Journal of Industrial Engineers*, 11 (1994), 125 - 128.
39. *On the Generalized Path-Following Methods for Linear Programming*, with R.L. Sheu, *Optimization*, 30 (1994), 235 - 249.
40. *A Quadratically Convergent Global Algorithm for Linearly Constrained Cross-Entropy Analysis*, with H.S. Tsao, *European Journal of Operational Research*, 79 (1994), 369 - 378.
41. *On Solving Convex Quadratic Semi-Infinite Programming Problems*, with C.J. Lin and S.Y. Wu, *Optimization*, 31 (1994), 107 - 125.
42. *Entropic Path-Following for Linear Semi-Infinite Programming*, with S.Y. Wu, *Mathematics Today*, Special Issue on Mathematical Programming, XII-A(1994), 1 - 16.
43. *A Relaxed Interior Path Following Primal - Dual Algorithm for Convex Quadratic Programming*, with T.M. Huang, C.H. Lin and W.W. Lin, *Mathematics Today*, Special Issue on Mathematical Programming, XII-A (1994), 115 - 144.
44. *Entropy Optimization Models with Convex Constraints*, with J.R. Rajasekera, *Information and Computations*, 116 (1995), 304 - 311.

45. *A Primal-Dual Infeasible Interior-Point Algorithm for Linear Semi-Infinite Programming*, with R.L. Sheu and S.Y. Wu, *Computers and Mathematics with Applications*, 29 (1995), 7 -18.
46. *On the Point-to-Point Connection Problem*, with M. Natsu, *Information Processing Letters*, 53 (1995), 333 -336.
47. *Solving Stochastic Programming Problems via Kalman Filtering and Affine Scaling*, with S. Puthenpura, R. Saigal, and L. Sinha, *European Journal of Operational Research*, 83 (1995), 503 - 513.
48. *Decision Surface Modeling of Apparel Retail Operations using Neural Network Technology*, with P.T. Wu, R. E. King and H. L. W. Nuttle, *International Journal of Operations and Quantitative Management*, 1 (1995), 33 - 47.
49. *On the Unconstrained Convex Programming Approach for Linear Programming*, with Z. K. Xu, *Journal of Optimization Theory and Applications*, 86 (1995), 745 - 752.
50. *Guided Neural Network Learning Using a Fuzzy Controller, with Applications to Textile Spinning*, with P.T. Wu, H.L.W. Nuttle, J.R. Wilson, and R.E. King, *International Transactions in Operations Research*, 2 (1995), 259 - 272.
51. *A New Approach to Tolerance Allocation in Design Cost Analysis*, with J. R. Rajasekera, *Engineering Optimization*, 24 (1995), 283 -291.
52. *Linear Constrained Entropy Maximization Problem with Quadratic Cost and Its Application to Transportation Planning Problems*, with H.S. Tsao, *Transportation Science*, 29 (1995), 353 - 365.
53. *Implementation of an Inexact Approach to Solving Linear Semi-infinite Programming Problems*, with C.J. Lin, E.K. Yang and S.Y. Wu, *Journal of Computational and Applied Mathematics*, 61 (1995), 87 - 103.
54. *On the Unconstrained Dual Approach to Solving Karmarkar-Type Linear Programs using Conventional Barrier Functions*, with H.-S. J. Tsao, *Zeitschrift fur Operations Research*, 42(1995), 325 -343.
55. *Linear Programming with Inequality Constraints via Entropic Perturbation*, with H.S. Tsao, *International Journal of Mathematics and Mathematical Sciences*, 19 (1996), 177 - 184.
56. *A Semi-infinite Programming Model for Earliness/Tardiness Production Planning with a Genetic Algorithm*, with D. W. Wang, *Computers and Mathematics with Applications*, 31-8 (1996), 95 - 106.

57. *A Relaxed Primal - Dual Path Following Algorithm for Linear Programming*, with T.M. Huang, C.H. Lin and W.W. Lin, *Annals of Operations Research*, 62(1996), 173 - 196.
58. *On the Entropic Perturbation and Exponential Penalty Methods for Linear Programming*, with H.S.J. Tsao, *Journal of Optimization Theory and Applications*, 89-2 (1996), 461 - 466.
59. *Solving Linear Programs with Inequality Constraints via Perturbation of Feasible Region*, with H.-S. J. Tsao, *Optimization*, 37(1996), 213 - 223.
60. *Solving Min-Max Problems and Linear Semi-Infinite Programs*, with S. Y. Wu, *Computers and Mathematics with Applications*, 32(1996), 87 - 93.
61. *A Dual Perturbation View of Linear Programming*, with H.-S. J. Tsao, *Zeitschrift fur Operations Research*, 44(1996), 1 - 9.
62. *On the Parametric Linear Semi-infinite Programming*, with C.J. Lin and S.Y. Wu, *Applied Mathematics Letters*, 9(1996), 89 - 96.
63. *Just-in-Time Production Planning with Semi-Infinite Programming and Genetic Algorithms*, with D. W. Wang, *Journal of Control and Decision*, 11(1996), 446 -451.
64. *An Efficient Computational Procedure for Solving Entropy Optimization Problems with Infinitely Many Linear Constraints*, with H.S. Tsao, *Journal of Computational and Applied Mathematics*, 72(1996), 127 - 139.
65. *Linear Programming with Stochastic Elements: An On-Line Approach*, with S. Guan, *Computers and Mathematics with Applications*, 33(1997), 61-82.
66. *Perturbing Dual Feasible Region for Solving Convex Quadratic Programs*, with H.-S. J. Tsao, *Journal of Optimization Theory and Applications*, 94(1997), 73 - 85.
67. *A Genetics-based Approach for Aggregated Production Planning in a Fuzzy Environment*, with D.W. Wang, *IEEE Transactions on Systems, Man and Cybernetics -Part A*, 27(1997), 636 - 645.
68. *On the Entropic Regularization Method for Solving Min-Max Problems with Applications*, with X. S. Li, *Mathematical Methods of Operations Research*, 46(1997), 119-130.
69. *A Fuzzy Expert System Model for RF Receiver Module Testing*, with J. Lu and P. Brinkley, *International Journal of Systems Science*, 28(1997), 791-798.
70. *A Maximum Entropy Optimization Approach to Tandem Queues with General Blocking: Part I - Infinite Demand*, with S. Mishra, *Performance Evaluation*, 30(1997), 217-241.

71. *The Point-to-Point Connection Problem - Analysis and Algorithms*, with M. G. Natu, *Discrete Applied Mathematics*, 78(1997), 207-226.
72. *Solving Interval-Valued Fuzzy Relation Equations*, with G. Li, *IEEE - Transactions on Fuzzy Systems*, 6(1998), 321-324.
73. *An Unconstrained Convex Programming Approach to Linear Semi-infinite Programming*, with C. J. Lin and S. Y. Wu, *SIAM Journal on Optimization*, 8(1998), 443-456.
74. *A Fuzzy Due-date Bargainer for the Make-to-order Manufacturing Systems*, with D. W. Wang and T. J. Hodgson, *IEEE Transactions on Systems, Man and Cybernetics, Part C*, 28(1998), 492-497.
75. *Solving Fuzzy Inequalities with Concave Membership Functions*, with C. F. Hu, *Fuzzy Sets and Systems*, 99(1998), 233-240.
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13. *A Perturbation Approach to the Main Duality Theorem of Quadratic Geometric Programs*, with J.R. Rajasekera, AT&T Bell Laboratories, Technical Memorandum 54142-860718-01, July 1986.

14. *Dynamic Facility Network Planning - A Linear Programming Loader with Arbitrary Incremental Demands and Rearrangement Capabilities*, AT&T Bell Laboratories, Technical Memorandum 54112-860610-01, June 1986.
15. *Dynamic Facility Network Planning - A Solution Architecture with Block Cholesky Factorization*, AT&T Bell Laboratories, Technical Memorandum 54112-860305-01, March 1986.
16. *Dynamic Facility Network Planning - Design Architecture*, with L.A. Slutsman, AT&T Bell Laboratories, Technical Memorandum 54112-860226-01, February 1986.
17. *Controlled Dual Perturbations for l_p Programming*, with J.R. Rajasekera, AT&T Bell Laboratories, Technical Memorandum 54112-851115-01, November 1985.
18. *Dynamic Facility Network Planning - Modeling*, AT&T Bell Laboratories, Technical Memorandum, 54112-850915-01, September 1985.
19. *A Dual Perturbation Method for Geometric Programming*, with J.R. Rajasekera, AT&T Bell Laboratories, Technical Memorandum 54112-850815-01, August 1985.
20. *A Perturbation Method for Quadratically Constrained Quadratic Programming*, with J.R. Rajasekera, AT&T Bell Laboratories, Technical Memorandum 54112-850715-01, July 1985.
21. *Multiple Link Outage Analysis*, AT&T Bell Laboratories, Internal Memorandum 54112-850703-01, July 1985.
22. *An Introduction to Multimode LITES*, with M.R. Murr, AT&T Engineering Research Center, Technical Report CC8305, March 1985.
23. *Statistical Analysis of Splice Losses of Lightguide Fiber at Atlanta Works*, with M.R. Murr and J.R. Rajasekera, AT&T Engineering Research Center, Technical Report CC8426, October 1984.
24. *A Fiber Selection Algorithm for Submarine Lightguide Systems*, with M.R. Murr, AT&T Engineering Research Center, Technical Report CC8165, June 1984.
25. *A Span Engineering Algorithm for Loop Fibers*, with M.R. Murr, AT&T Engineering Research Center, Technical Report CC8056, October 1983.
26. *A Span Engineering Algorithm for Lightguide Cable Manufacturing*, with M.R. Murr, AT&T Engineering Research Center, Technical Report CC7957, July 1983.
27. *Fiber Selection Problem in the Lightguide Cable Ribboning Process*, with M.R. Murr, AT&T Engineering Research Center, Technical Report CC7778, September 1982.

28. *User's Guide of ERC Slitting Package*, with C.N. Lamendola, AT&T Engineering Research Center, Technical Report CC3083-02, March 1982.
29. *The Most Frequently Used Decreasing Algorithm for the 2-Dimensional Coil Slitting Problem*, with C.N. Lamendola, AT&T Engineering Research Center, Technical Report CC7575, August 1981.
30. *Routing in a Network with Multi-Class Links*, AT&T Engineering Research Center, Technical Report CC7479, April 1981.
31. *The Most Frequently Used Decreasing Algorithm for the 1.5-Dimensional Coil Slitting Problem*, with C.N. Lamendola, AT&T Engineering Research Center, Technical Report CC7455, January 1981.
32. *The Most Frequently Used Decreasing Algorithm for the 1-Dimensional Coil Slitting Problem*, with C.N. Lamendola, AT&T Engineering Research Center, Technical Report CC7447, January 1981.

THESES (STUDENTS) DIRECTED

1. Gwo-Ming Jan, *A New Variant of the Primal Affine Scaling Algorithm for Linear Programs*, PhD (April 1990), NCSU Operations Research Program, AT&T Bell Laboratories.
2. Matthew J. Beattie, *A Linear Programming Approach to the Fiber Optic Cable Construction Problem*, Master of Science (April 1990), NCSU Operations Research Program, AT&T Business Research Center.
3. Ruey-Lin Sheu, *Insights into the Interior-Point Methods*, Master of Science (November 1990), NCSU Operations Research Program, PhD Program at North Carolina State University.
4. Tianmin Zhang, *A User Friendly Linear Programming System for Furniture Manufacturing Process*, Master of Science (November 1990), NCSU Operations Research Program, PhD Program at Columbia University.
5. Paul Hsing Luh, *Multiserver Telecommunication Network Scheduling*, (**Best Student's Thesis Award of the TIMS Southeastern Region**), PhD (May 1992), NCSU Operations Research Program, National Cheng-Chi University, Taiwan, R.O.C..
6. Ruey-Lin Sheu, *Generalized Path Following Algorithms for Linear Programming Problems*, PhD (August 1992), NCSU Operations Research Program, AT&T Bell Laboratories.
7. Patricia Sun, *Hunter Douglas Line Balancing and Optimization*, Master of Operations Research (August 1993), NCSU Operations Research Program, Taipei Bank, Taiwan, R.O.C.
8. Frederic Robin, *A Heuristic Algorithm for the Bale Assignment Problem*, Master of Science thesis (December 1993), NCSU Operations Research Program, U.S. Peace Corp.
9. Yen-Hung Chen, *A Generalized Simulation Model of Weaving Mill Operations*, Master of Science thesis (August 1994), NCSU Operations Research Program, PhD Program at North Carolina State University.
10. Shankar Mishra, *A Maximum Entropy Optimization Approach to Tandem Queues with General Blocking*, PhD (December 1994), NCSU Operations Research Program, Sabre Decision Technologies.
11. Mark E. Kraus, *A Generalized Path-Following Approach for Linear Semi-Infinite Programming Problems*, PhD (December 1994), NCSU Operations Research Program, U.S. Air Force Institute of Technology.

12. Cheng-Feng Hu, *Computational Experiments on the Dual Feasible Region Perturbation Method for Linear Programming*, Master of Science (August 1995), NCSU Operations Research Program, PhD Program at North Carolina State University.
13. Afi Davis, *Fuzzy Optimization for ABB Substation Layout*, Master of Operations Research (August 1995), NCSU Operations Research Program, PhD Program at North Carolina State University.
14. Madan Natu, *Point-to-Point Connection and Loading Problems*, PhD (August 1995), NCSU Operations Research Program, Chesapeake Management Company.
15. Sichong Guan, *Stochastic Linear Programming via Affine Scaling and Kalman Filtering*, PhD (August 1995), NCSU Operations Research Program, Fruit of the Loom.
16. John Curtis Badgett, *A Method for Simulating Queueing Systems with Fuzzy Parameters*, Master of Science (December 1996), NCSU Industrial Engineering Program, U.S. Navy - Naval Warfare Center.
17. Peitsang Wu, *Decision Surface Modelling for Textile Manufacturing and Management*, PhD (May 1997), NCSU Operations Research Program, I-Shou University, Taiwan. **(NSF Thesis Award, Taiwan)**
18. Yen-Hung Chen, *Neural Network Technology for Solving Convex Programming Problems and Its Applications*, PhD (August 1997), NCSU Operations Research Program, I2 Technologies.
19. Cheng-Feng Hu, *Solving Systems of Fuzzy Inequalities*, PhD (August 1997), NCSU Operations Research Program, I-Shou University, Taiwan.
20. Mike Huang, *Fuzzy Control of the Wave Soldering Process*, Master of Operations Research (August 1997), NCSU Operations Research R Program, Price Water House.
21. Michael Lewis, *Impact of Hurricanes on Construction Bidding*, Master of Operations Research (August 1997), NCSU Operations Research Program, Air Force Civil Engineering Support Agency.
22. Chukwunenye Ukwu, *Dynamics of Path-Following Trajectories for Linear Programming*, Master of Science (August 1997), NCSU IE and OR Program, Fayette State University.
23. Jianjun Lu, *Fuzzy Abductive Reasoning with Applications*, **(Best Student's Thesis Award of the INFORMS Southeast Region)**, PhD (November 1997), NCSU Operations Research Program, Nortel.

24. Afi L. Davis, *Fuzzy Control System Design with Applications to Communication Network Design*, PhD (November 1997), NCSU Operations Research Program, National Security Agency.
25. Forrest B. Stringer, *Robust Confidence Interval Estimation for Neural Network Decision Surfaces*, Master of Science (August, 1998), NCSU Operations Research Program, American Management Systems.
26. Nanchieh Chiu, *Sequencing Parallel Machining Process by Soft-Computing Techniques*, PhD (December, 1998), NCSU Operations Research Program, Polaris Securities, Taiwan.
27. Jiranut Loetamonphong, *Solving Multi-Objective Optimization Problems with Fuzzy Relation Equation Constraints*, PhD (May, 1999), NCSU Industrial Engineering Program, I2 Technologies.
28. Ulrich Schuewer, *Optimal Investment with Imprecise Information Flow*, Master of Science (August, 1999), NCSU Operations Research Program, Aachen University, Germany. **Fulbright Scholarship Award.**
29. Ta-Wei Hung, *Fuzzy System Identification Problems*, PhD (August, 1999), NCSU Operations Research Program, Shih-Chien University, Taiwan.
30. Djuana Lea, Master of Operations Research (December, 1999), NCSU Operations Research Program, PhD Program at NC State University.
31. Constance Lightner, *Fuzzy Control Based Buffer Management System for ATM Networks*, PhD (May, 2000), NCSU Operations Research Program, Fayetteville State University, NC. Winner of **UNC Board of Governors Award for Teaching Excellence in 2008.**
32. Andres Medaglia, *Simulation Optimization Using Soft Computing*, PhD (December, 2000), NCSU Operations Research Program, SAS Institute, Inc.
33. Shyh-Huei Chen, *Solving Systems of Linear Inequalities*, PhD (May, 2001), NCSU Operations Research Program, National Yunlin University of Science and Technology.
34. Burcu Ozcam, *Genetic Algorithms for Disjoint Path Problems with Proportional Path Costs*, Master of Science (August, 2001), NCSU Industrial Engineering Program, PhD Program at NC State University.
35. Xiaohui Liu, Master of Operations Research (December, 2001), NCSU Operations Research, PhD Program at Northwestern University.
36. S. Ilker Birbil, *Stochastic Global Optimization Techniques*, PhD (May, 2002), NCSU Industrial Engineering Program, Erasmus University, Netherlands.

37. Saowanee Lertworasirikul, *Fuzzy Data Envelopment Analysis (DEA)*, PhD (May 2002), NCSU Industrial Engineering Program, Kasetsart University, Bangkok, Thailand.
38. Carin Lightener, Master of Operations Research (May 2002), NCSU Operations Research Program, PhD Program at NC State University.
39. Negar Arefi, Master of Industrial Engineering (August 2002), NCSU Industrial Engineering Program, PhD Program at University of Toronto.
40. Yi Liao, *Neural Networks for Pattern Classification and Universal Approximation*, PhD (August 2002), NCSU Industrial Engineering Program, SAS Institute, Inc.
41. Hao Cheng, *Theory and Algorithms for Cubic L1 Splines*, PhD (December 2002), NCSU Operations Research Program, SAS Institute, Inc.
42. Shunmin Wang, *Interval Computation for Fuzzy Relational Equations and Cooperative Game Theory*, PhD (December 2002), NCSU Operations Research Program.
43. Yue Dai, *Game Theoretic Approach to Supply Chain Management*, PhD (May 2003), NCSU Industrial Engineering Program, Fudan University, Shanghai, China.
44. Pei-Lun Yuan, Multi-vendor Supply Chain Coordination, Master of Science (August 2003), NCSU Industrial Engineering Program, Texas Instruments, Taiwan.
45. Hilmi Aydin, Master of Industrial Engineering (May 2004), NCSU Industrial Engineering Program, SAS Institute, Inc.
46. Wei Zhang, Master of Operations Research (May 2004), NCSU Operations Research Program, PhD Program at NC State University.
47. Djuanna Lea, Soft-computing for Wavelength-based Routing in Telecommunication, PhD (December 2004), NCSU Operations Research Program, Air Force Research Lab, Wright-Patterson Air Force Base, Department of Air Force, USA.
48. Yong Wang, *Theory and Algorithms of Bivariate Cubic L1 Splines*, PhD (May 2005), NCSU Operations Research Program, SAS Institute, Inc.
49. Aysegul Peker, Master of Industrial Engineering (May 2005), NCSU Industrial Engineering Program, PhD Program at NCSU.
50. Xiaoli Ling, *Pooled Versus Reserved Inventory Policies in a Two-Echelon Supply Chain*, PhD (August 2005), NCSU Industrial Engineering Program, Sabre Decision Technologies.

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51. Burcu Ozcam, *Solving Semi-infinite Variational Inequalities*, PhD (May 2006), NCSU Industrial Engineering Program, Izmir University of Economics, Turkey.
 52. Xian (Sean) Zhou, *Joint Optimization in Supply Chain*, PhD (May 2006), NCSU Operations Research Program, Chinese University of Hong Kong, Hong Kong.
 53. Lan Li, Master of Industrial Engineering (December 2006), NCSU Industrial Engineering Program, PhD Program at NCSU.
 54. Kun Huang, Master of Industrial Engineering (December 2006), NCSU Industrial Engineering Program, PhD Program at NCSU.
 55. Pinke Li, Master of Industrial Engineering (May 2007), NCSU Industrial Engineering Program, PhD Program at NCSU.
 56. Wei (Winnie) Zhang, *Bivariate Cubic L1 Splines with Applications*, PhD (August 2007), NCSU Operations Research Program, Washington Mutual.
 57. Zhongliang Jiang, *Application of an Entropy-Assisted Optimization Model in Prediction of Agonist and Antagonist Muscle Forces*, PhD (December 2007), NCSU Industrial Engineering Program, Iowa State University
 58. Carin A. Lightner, *A Tabu Search Approach to Multiple DNA Sequence Alignment*, PhD (August 2008), NCSU Operations Research Program, NC A&T University.
 59. Yumin Lin, *Tabu Search and Genetic Algorithms for Phylogeny Inference*, PhD (December 2008), NCSU Operations Research Program, SAS Institute, Inc.
 60. Qingwei Jin, Master of Industrial Engineering (May 2009), NCSU Industrial Engineering Program, PhD Program at NCSU.
 61. Jeremy D. Kramer, *Efficiency on Solving Multi-commodity Network Flow Problems*, Master of Science (August, 2009), NCSU Operations Research Program, US Army Aberdeen Proving Ground.
 62. Pingke Li, *Resolution and Optimization of Fuzzy Relational Equations*, PhD (December 2009), NCSU Industrial Engineering Program. Tsinghua University, Beijing, China.
 63. Ye Tian, Master of Industrial Engineering (May 2010), NCSU Industrial Engineering Program, PhD Program at NCSU.
 64. Yuan Tian, Master of Industrial Engineering (May 2010), NCSU Industrial Engineering Program, PhD Program at NCSU.

65. Lan Li, *A Two Person Investment Game*, PhD (August 2010), NCSU Industrial Engineering Program, SAS Institute.
66. Pu Wang, *Pack Optimization Problem*, PhD (December 2010), NCSU Industrial Engineering Program, SAS Institute.
67. Kun Huang, *Maximum Flow Problem in Assembly Manufacturing Networks*, PhD (May 2011), NCSU Industrial Engineering Program, Macy's Company.

Ph.D. Committees**Total=62**

Student Name	Degree	Chair/Co-Chair	Member	Year
Guo-Ming Jian	Ph.D.	X		1990
Hsing Paul Luh	Ph.D.	X		1992
Ruey-Lin Sheu	Ph.D.	X		1992
Tom Prettyman	Ph.D.		X	1992
Sophia Liu	Ph.D.		X	1992
Sanghwa Jeong	Ph.D.		X	1993
Yao-Hsien Lee	Ph.D.		X	1993
Shanka Mishra	Ph.D.	X		1994
Mark Kraus	Ph.D.	X		1994
Jimmy Huang	Ph.D.		X	1994
Jeff Joins	Ph.D.		X	1994
Prhabu Mayem	Ph.D.		X	1995
Chris Houck	Ph.D.		X	1995
Madan Natu	Ph.D.	X		1995
Sichong Guan	Ph.D.	X		1995
Sing-Yih Fu	Ph.D.		X	1996
Mike Kuhl	Ph.D.		X	1996
Guanzhi Li	Ph.D.	X		1997
Peitsang Wu	Ph.D.	X		1997
Cheng-Feng Hu	Ph.D.	X		1997
Yen-Hung Chen	Ph.D.	X		1997
Afi Davis	Ph.D.	X		1997
Jianjun Lu	Ph.D.	X		1997
Nan-Chieh Chiu	Ph.D.	X		1998
Tianhao Zhang	Ph.D.	X		1998
J. Loetamonphong	Ph.D.	X		1999
David Ress	Ph.D.		X	1999
Ta-Wei Hung	Ph.D.	X		1999
Andres Medaglia	Ph.D.	X		2000
Constance Lightner	Ph.D.	X		2000
Shyh-Huei Chen	Ph.D.	X		2001
Scott Schultz	Ph.D.		X	2001
Shonna Davidson	Ph.D.		X	2001
Yi Liao	Ph.D.	X		2002
Shunmin Wang	Ph.D.	X		2002
S. Ilker Birbil	Ph.D.	X		2002
Saowanee Lertworasirikul	Ph.D.	X		2002
Hao Cheng	Ph.D.	X		2002
Yue Dai	Ph.D.	X		2003
Djuana Lea	Ph.D.	X		2004
Yong Wang	Ph.D.	X		2005

Xiaoli Lin	Ph.D.	X		2005
Burcu Ozcam	Ph.D.	X		2006
Xiang Zhou	Ph.D.	X		2006
Jie Zhong	Ph.D.		X	2006
Kiavash Kianfar	Ph.D.		X	2007
Wei Zhang	Ph.D.	X		2007
Jongliang Jiang	Ph.D.	X		2007
Carin A. Lightner	Ph.D.	X		2008
Yumin Lin	Ph.D.	X		2008
Hilmi Aydin	Ph.D.	X		2008
Pingke Li	Ph.D.	X		2009
Aysegul Peker	Ph.D.	X		2009
Scott Pope	Ph.D.		X	2009
So Yeon Kim	Ph.D.		X	2010
Lan Li	Ph.D.	X		2010
Pu Wang	Ph.D.	X		2010
Tao Hung	Ph.D.		X	2010
Kun Huang	Ph.D.	X		2011
Lu Yu	Ph.D.	X		2011
Qingwei Jin	Ph.D.	X		2011
Chen-Feng Ding	Ph.D.	X		2011
Yuan Tian	Ph.D.	X		2012
Ye Tian	Ph.D.	X		2012
Zhibin Deng	Ph.D.	X		2012
Chia-Chun Hsu	Ph.D.	X		2012
Ziteng Wang	Ph.D.	X		2013
Jian Luo	Ph.D.	X		2013

Master Committees**Total = 38**

Student Name	Degree	Chair	Member	Year
Matthew J. Beattie	Master	X		1990
Rucy-Lin Sheu	Master	X		1990
Tianmin Zhang	Master	X		1990
James Weeks	Master	X		1992
Arnt VonPlatz	Master	X		1992
Ido Gandamana	Master		X	1992
Michael Benzi	Master		X	1992
Paul Stanfield	Master		X	1992
Scott Kegler	Master		X	1992
Fredric Robin	Master	X		1993
Patricia P. Sun	Master	X		1993
Nan-Chieh Chiu	Master		X	1993
Yen-Hung Chen	Master	X		1994
Cheng-Feng Hu	Master	X		1995
Afi Davis	Master	X		1995
Kui Wang	Master		X	1995
Steve Reynolds	Master		X	1995
Curtis Badget	Master	X		1996
Mike Huang	Master	X		1997
Michael Lewis	Master	X		1997
U. Chukwunenye	Master	X		1997
Forrest Stringer	Master	X		1998
Ulrich Schuewer	Master	X		1999
Duana Lea	Master	X		2000
Burcu Ozcam	Master	X		2001
Xiaohui Lui	Master	X		2001
Carin Lightner	Master	X		2002
Negar Arefi	Master	X		2002
Pei-Lun Yuan	Master	X		2003
Hilmi Aydin	Master	X		2004
Wei Zhang	Master	X		2004
Aysegul Peker	Master	X		2005
Morgan Clayton	Master		X	2006
Kun Huang	Master	X		2006
Lan Li	Master	X		2006
Pingke Li	Master	X		2007
Qingwei Jin	Master	X		2009
Jeremy Kramer	Master	X		2009
Yuan Tian	Master	X		2010
Ye Tian	Master	X		2010

Visiting Scholars Hosted

1. Dr. Dingwei Wang, Professor of Systems Engineering, Northeastern University, Shenyang, P.R. China, Aug. 94 - Dec. 94.
2. Dr. Xingshi Li, Professor of Control Engineering, Dalian University of Technology, Dalian, P.R. China, Sep. 95 - June 96.
3. Ms. Xiao-Yan Chen, Instructor of Computer Science, Beijing University, P.R. China, April 97 - Dec. 97.
4. Mr. Jian-Feng Lu, Instructor of Computer Science, Nanjing University, P.R. China, June 97 - Nov. 97.
5. Dr. Hsiao-Fan Wang, Professor of Industrial Engineering, National Tsinghua University, Taiwan, R.O.C., July 97 - June 98.
6. Dr. Jong Soon Kim, Professor of Management Science, Kangwon National University, Korea, Dec. 97 - June 98.
7. Dr. Dingwei Wang, Professor of Systems Engineering, Northeastern University, Shenyang, P.R. China, Jan. 98 - May 98.
8. Dr. Yuzhong Qu, Assistant Professor of Computer Science, Southeastern University, Nanjing, P.R. China, Jan. 99 - June 99.
9. Dr. Fei-Long Chen, Professor of Industrial Engineering, National Tsinghua University, Taiwan, R.O.C., September 2000 - February 2001.
10. Dr. Jiye Han, Professor of Applied Mathematics, Chinese Academy of Science, Beijing, P.R. China, November 2000 - February 2001.
11. Dr. Dingwei Wang, Professor of Systems Engineering, Northeastern University, Shenyang, P.R. China, February 2001 - May 2001.
12. Dr. Tang, Shaohua, Associate Professor, South China University of Technology, Guangzhou, P. R. China, August 2001 - February, 2002.
13. Dr. Xiangsun Zhang, Vice President of the Academy of Mathematics and System Sciences, Chinese Academy of Sciences, Beijing, P. R. China, November 1-30, 2001.
14. Dr. Yifan Xu, Associate Professor of Management Science, Fudan University, Shanghai, P.R. China, January 16 - March 15, 2003.
15. Dr. Saowanee Lertworasirikul, Lecturer of Agricultural Product Development, Kasetsart University, Bangkok, Thailand, March 25 - May 25, 2003.

16. Dr. Xiangsun Zhang, Professor and Director of Bioinformatics, Chinese Academy of Sciences, Beijing, China, November 15, 2003 – January 15, 2004.
17. Dr. Yunbin Zhao, Associate Professor of Applied Mathematics, Chinese Academy of Science, Beijing, P.R. China, December 1, 2003 – May 31, 2004.
18. Mr. Jen-Yen Lin, PhD Candidate of Mathematics, National Cheng Kung University, Taiwan, sponsored by National Science Council of Taiwan, June 1, 2004 – December 31, 2004.
19. Dr. Liensheng Zhang, Professor of Mathematics, Shanghai University, Shanghai, P.R. China, September 1, 2004 – September 30, 2004.
20. Dr. Ruey-Lin Sheu, Professor of Mathematics, National Cheng Kung University, Taiwan, September 23, 2004 – December 31, 2004.
21. Dr. Dingwei Wang, Professor and Head of Systems Engineering, Northeastern University, Shenyang, P.R. China, November 2004 – February 2005.
22. Dr. Xingzhou Zhang, Associate Professor of Management Systems, Dalian University of Technology, Dalian, P.R. China, October 2005 – April 2006.
23. Dr. Zhenbo Wang, Assistant Professor of Mathematical Sciences, Tsinghua University, Beijing, China, January 2007 – January 2008.
24. Mr. Tzu-Li Chen, PhD Candidate of Industrial Engineering and Engineering Management, National Tsinghua University, Hsinchu, Taiwan, January 2007 – June 2007.
25. Dr. Binwu Zhang, Assistant Professor of Mathematics, Hohai University, P. R. China, March 2007 – March 2008.
26. Dr. Ta-Chung Chu, Professor of Industrial Management, Southern Taiwan University of Technology, Taiwan, R.O.C., July 2007 – October 2007.
27. Professor Jianhua Zhao, Shijiazhuang University, Hebei, P. R. China, July 2008 – January 2009.
28. Ms. Hui-Ju Chen, PhD Candidate of Mathematics, National Cheng-Kung University, Tainan, Taiwan, January 2009 – December 2009.
29. Ms. Yun-Chu Chen, PhD Candidate of Mathematics, National Tsing Hua University, Hsinchu, Taiwan, August 2009 – August 2010.
30. Mr. Cheng Lu, PhD Candidate of Mathematical Sciences, Tsinghua University, Beijing, China, October 2009 – October 2010.

31. Dr. Lihui Zhang, Associate Professor, School of Business Administration, North China Electric Power University, Beijing, China, January 2010 – January 2011.
32. Dr. Ling Gai, Associate Professor, Department of Mathematics, Tianjing University, Beijing, China, February 2010 – February 2011.
33. Mr. Chien-Wen Chao, PhD Candidate of Industrial Management, National Taiwan University of Science and Technology, Taipei, Taiwan, February 2010 – February 2011.
34. Dr. Cheng-Feng Hu, Professor, Department of Industrial Management, I-Shou University, Taiwan, August 2010 – August 2011.
35. Mr. Hsin-Wei Hsu, PhD Candidate of Industrial Engineering and Engineering Management, National Tsing Hua University, August 2010 – August 2011.
36. Dr. Jong-Jong Jiang, Assistant Professor, School of Management, Northeast University, Shenyang, China, September 2010 – September 2011.
37. Dr. Xiaoyu Ji, Associate Professor, School of Management, Renmin University, Beijing, China, January 2011 – January 2012.

Government

- State Representative, Joint National Information Infrastructure Technology Advisory Group, appointed by Governor James B. Hunt, Jr., of the State of North Carolina, 1995.
- North Carolina - Shanghai Taskforce, to form partnership between North Carolina and Shanghai for developing a strategic plan for economic cooperation, appointed by Governor James B. Hunt, Jr., of the State of North Carolina, 1999.

Industry

- Co-Organizer, North Carolina-Taiwan National Information Super-Highway Infrastructure Delegation Visiting Program, 1995.
- IBM Delegation to China, with representatives from IBM Software Solutions and IBM China to work out joint ventures between IBM and the Chinese Software Park in Shenyang, China, 1999.

University

- Member, University Committee on International Programs, 1990-2005.
- Member, Selection Committee for NCSU Student Study Aboard Scholarship, 1990-2005.
- Chair, University Committee on International Programs, 1993-94.
- Member, Selection Committee for NCSU Faculty International Seed Grant Award, 1994-2005.
- Advisor, Search Committee for Director of International Students and Scholar Office, 1996.
- Member, Advisory Council of International Programs, 1996-2001.
- Coordinator, NC State China Programs, 1999 – 2005.
- Member, Selection Committee for NCSU Alumni Outstanding Research Award, 1999.
- Member, University Research Committee, 1999-2002.
- Member, Search Committee for NCSU Associate Provost of International Programs, 2001.

- Member, International Operations Council, 2004 – 2005.
- Member, Selection Committee for NCSU Alumni Distinguished Graduate Professorship Award, 2006.

College

- Director, Graduate Program in Operations Research, 1990-95, 2000.
- COE Coordinator of International Programs, 1990-2005.
- Chair, COE International Programs Committee, 1990-95.
- Member, COE Executive Committee, 1990-95.
- Member, COE Graduate Studies Committee, 1990-95, 1999-2005.
- Member, College of Textile Graduate Studies Committee, TTM Steering Committee, 1995-2006.
- COE Liaison to Chinese and Taiwan Universities, 1990-present.
- Member, Nomination Committee for Henry A. Foscue Professorship, 1998.
- Chair, COE Research Committee, 1999-2005.
- Member, Nomination Committee for Distinguished University Professorship, 2001.
- Member, R.J. Reynolds Tobacco Company Award Selection Committee, 2002, 2003.
- Member, Nomination Committee for Dean F. Duncan Professorship, 2002.
- Member, Nomination Committee for William A. Klopman Distinguished Professorship, 2003.
- Member, Nomination Committee for Dopaco Inc. Distinguished Professorship, 2009.

Department

- Member, IE Personnel Committee, 1988-present.
- Member, IE Department Head Search Committee, 1989.

- Member, IE Graduate Studies Committee, 1990-2005.
- Member, IE/OR PhD Qualifying Exam Committee, 1988-present.
- Member, IE Planning Committee, 1990-present.
- Chair, OR Personnel Committee, 1990-95.
- Chair, OR Program Committee, 1988-96.
- Chair, OR PhD Qualifying Exam Committee, 1990-95.
- Member, IE Department Head Search Committee, 1999.
- Director, Graduate Programs in IE, 1999-2005.

Other

- Visiting University Examiner, Chinese University of Hong Kong, 1996-2000.
- Academic Review Board, Industrial Engineering, National Tsing Hua University, Taiwan, 2000.
- Academic Advisory Board, Industrial Engineering and Engineering Management, Hong Kong University of Science and Technology, 2002-2006.
- Academic Review Board, Applied Mathematics, Hong Kong Polytechnic University, 2002.
- Department Academic Advisor, Applied Mathematics, Hong Kong Polytechnic University, 2003-2006.
- External Doctoral Examination Member (Dr. Li, ShengJie: Semi-Infinite Programming and Semi-Definite Optimization Problems), Applied Mathematics, Hong Kong Polytechnic University, April 2003.
- External Doctoral Examination Member (Dr. Wang, Qing: A Heteromorphic Paradigm for Networked Production System), Industrial and Systems Engineering, Hong Kong Polytechnic University, June 2004.
- External Doctoral Examination Member (Dr. Kumar, Mohit: A Deterministic Approach to Robust Identification of Uncertain Processes in Occupational Medicine), Computer Science and Electric Engineering, Universitat Rostock, Germany, June 2004.

- External Doctoral Examiner (Dr. Eade Wang: The Relationship of Technology Transfer and Absorptive Capacity), International School of Management, University of South Australia, Adelaide, Australia, October 2005.
- External Doctoral Examination Member (Dr. Yang, Xulei: Robust Clustering Algorithms), Electric and Electronic Engineering, Nanyang Technology University, Singapore, May 2006.
- Habilitation Committee Member (Dr. Kumar, Mohit: Fuzzy Filtering: A Mathematical Theory and Applications in Life Science), Computer Science and Electric Engineering, Universitat Rostock, Germany, November 2009.
- External Reviewer, National Science Foundation, Washington DC, USA.
- Panel Review, National Science Foundation, Washington DC, USA.
- External Reviewer, National Science Council, Taiwan, ROC.
- External Reviewer, National Endowed Chair Professorship, Ministry of Education, Taiwan, ROC.
- External Reviewer, National Endowed Chair Professorship Award, Ministry of Education, Taiwan, ROC.
- External Reviewer, Australian Research Council, Australia.
- External Reviewer, Hong Kong Research Grants Council, Hong Kong.