

## **MICHAEL G. MONTICINO**

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### **ACADEMIC PREPARATION**

- 1987 Ph.D., Mathematics, University of Miami  
University of Miami Fellow
- 1982 B.S., High Honors, Mathematics, University of Florida  
Phi Beta Kappa

### **ADMINISTRATIVE APPOINTMENTS AND EXPERIENCE**

*Associate Dean for Administrative Affairs, College of Arts & Sciences, University of North Texas (UNT) (2004 – Present)*

- Responsibilities reflect an executive role and portfolio covers wide range of faculty personnel and administrative duties within a college of 18 departments, 400 faculty and half of UNT's 34,000 students.
- Report to the Dean and serve as Acting Dean in his absence.
- Highly effective in finding equitable solutions to difficult faculty personnel issues.
- Provided administrative oversight of construction for two new science research buildings each costing over \$30M.
- Developed "Best Practices" for annual faculty merit evaluations and directed implementation in college departments.
- Significantly expanded Junior Faculty Mentoring and Faculty Development Programs. Activities have increased faculty retention and contributed to increased scholarship and external funding.
- Enhanced data-driven decision making for college resource allocation, including faculty lines, merit raises and research space.
- Developed stop-the-tenure-clock and nepotism policies adopted by university.

*Chair, President's Task Force for Relocation of the Texas State Historical Association (TSHA) to UNT (current)*

- Led team of deans, development personnel, department chairs and faculty in successful proposal to relocate TSHA from University of Texas to UNT.
- Represented UNT President in proposal presentations to TSHA Board of Directors.
- Negotiated legal agreement between UNT and TSHA

- Managed facility renovation and TSHA staff relocation
- Secured \$500,000 gift for endowed chair position in Texas History. Leading development efforts to bring endowment level to \$1.5 M.

*Facilitator, UNT Office of Development Retreat*

- Led senior development staff in identifying capital campaign themes and initiatives.

*Chair, Search Committee for Director of Research Development (2008)*

- Led successful national search to fill a key position supporting UNT's goal to increase faculty success in obtaining highly competitive interdisciplinary, multi-investigator federal research grants..

*Administrative Representative, Ad-hoc Committee for Establishing Charter and Operating Policies for UNT College of Engineering (2008)*

- Appointed by Provost to guide College of Engineering faculty committee on charter and policy creation.

*Member, UNT Disability Task Force (2007 – 2008)*

- Assessed current state of university disability accessibility and accommodation.

*Associate Dean Representative, UNT Committee on Space Management Policy (2007)*

- Participated in development of a comprehensive university space management and allocation policy.

*Administrative Representative, UNT Biology Building Construction Steering Committee (2006 – Present)*

- Providing administrative oversight of construction of \$33M biological science research building.

*Sub-committee Chair, College of Arts & Sciences Strategic Planning Committee (2005)*

- Developed interdisciplinary and internationalization strategic objectives and action items for College's five year strategic plan.

*Chair, College of Arts & Sciences Faculty Council (2004 – Present)*

- Faculty Council advises Dean on budget and policy issues.

*Member, UNT Associate Deans Council (2004 – Present)*

*Administrative Representative, UNT Chemistry Building Construction Steering Committee (2004 – 2005)*

- Provided administrative oversight of construction of \$30M chemistry research building.

*Member, UNT College of Arts & Sciences Faculty Council (2003 – 2004)*

*Member, UNT Chancellor's Tuition Task Force (2003)*

- Appointed by Chancellor. Developed decision matrix for committee based on tuition pricing and elasticity models. Task force selected tuition pricing based on decision matrix and policy was implemented AY 2007.

*Chair, College of Arts & Sciences Ad-hoc Appeals Committee (2003)*

*Chair, Undergraduate Affairs Committee, Department of Mathematics (2001 – 2004)*

- Developed department's undergraduate assessment plan as part of SACS accreditation; directed changes to undergraduate mathematics major curriculum.

*Senator, UNT Faculty Senate (2001 – 2002)*

*Consultant, UNT Student Financial Aid and Services (SFAS) Office (2001 – 2002)*

- Developed analytical model to assess SFAS staffing requirements to evaluate proposed purchase of new phone center technology.

*Member, UNT Committee on Organizational Structure of Engineering (2001)*

- Committee prepared proposal submitted to the Texas Higher Education Coordinating Board for establishing a new college of engineering.

*Member, Executive Committee, Department of Mathematics (2000 – 2003)*

*Chair, Retention and Recruitment Committee, Department of Mathematics (1999 – 2002)*

*Member, University Review Committee (1998 – 2002)*

- Committee hears faculty appeals of promotion, merit and administrative decisions.

*Coordinator of Probability and Statistics Courses, Department of Mathematics (1998 – 2002)*

*Chair, UNT Faculty Senate Budget Committee (1997 – 2001)*

- Consulted with Provost and President on university budget priorities.
- Effectively represented Faculty Senate at university budget hearings, successfully advocating for increased faculty compensation.

## **PROFESSIONAL APPOINTMENTS AND EXPERIENCE**

2007 – Present Professor, Department of Mathematics, University of North Texas.

2002 – Present Adjunct Associate Professor, Department of Biostatistics, UNT Health Science Center.

1996 – 2007 Associate Professor, Department of Mathematics, University of North Texas.

1990 – 1996 Assistant Professor, Department of Mathematics, University of North Texas.

1992 – Present Private Consulting.

- Consulting engagements involve significant interaction with senior management of major corporations, resulting in university development opportunities as well as student internships and employment. Selected client list:

Institute for Defense Analysis. U. S. National Security Agency sponsored work. Maintain active Top-Secret security clearance.

ABC TV Network. Report to ABC Vice President for Research. Performed statistical analysis of network pilot testing to identify factors influencing Nielson ratings and viewer attitudes. Evaluated viewer survey results for ABC pilot shows. Analysis used to select shows for subsequent TV seasons.

Southwest Airlines. Conducted statistics training sessions for Southwest Airlines Scheduling Department.

Argo Data Resource Corporation. Report to CEO. Developed analytical tools for a teller-staffing product currently being sold to tier-one retail banks. Leading development of analytic customer relationship management tools, including credit risk analysis, customer valuation and attrition risk assessment.

Frank N. Magid Associates. Developed viewer segmentation and market share models for leading entertainment companies and news organizations including Electronic Arts, NBC, ABC News, Alta Vista, Yahoo, Namco, and Fox TV.

IBM. Developed statistical models for real-time targeting of advertisement/content to Internet website visitors. Developed proposal for using IBM data mining tools to detect intrusions into U.S. Air Force intranet sites.

TNS. Performed market research analysis for consortium of beverage manufacturers.

Accenture (previously Anderson Consulting). Developed and implemented analysis tools which improved efficiency of aluminum finishing process for Alumax Inc., a major aluminum products company.

PricewaterhouseCoopers/Applied Decision Analysis. Developed probability model and analytic optimization techniques for capacity expansion problems in the electric utility industry.

Federal Emergency Management Agency. Performed system and statistical decision analysis to predict call center volume and recommend staffing levels.

Dallas-Fort Worth International Airport. Conducted statistical analysis seminars for operations, planning and public safety departments.

America's Cash Express. Reported to CEO. Developed and managed software implementation of cash inventory forecasting system. Developed and implemented statistical methods to detect noncompliance by store managers with cash management protocols. Analyzed check verification procedures in order to minimize risk and increase yield.

1987 – 1990 Associate, Daniel H. Wagner Associates.

- Project manager and lead analyst for several projects that developed and implemented tactical decision tools for the U.S. Navy and Army.
- Responsibilities included management of technical staff, interaction with senior defense officers, algorithm development and foreign travel.

## **SERVICE TO THE PROFESSION**

*Founding President, Mathematical Association of America (MAA) Special Interest Group for Business, Industry and Government (2000 – 2007)*

- Group serves as a unifying link between business, industry and government mathematicians, academic mathematicians and mathematics students.
- Wrote charter, recruited charter members, initiated membership programs and services.
- Chaired all business meetings and member receptions.

*Associate Editor, Case Studies in Business, Industry and Government Statistics (2006 – Present)*

*Member, MAA Committee on Minicourses (2006-Present)*

- Committee reviews proposals and schedules shortcourses at national meetings of the MAA.

*Member, MAA Council on Meetings (2000 – 2006)*

- Committee advises MAA Executive Committee and professional staff on programs and meetings of the MAA.

*Math Horizons Editorial Board (2000 – 2003)*

*Member, MAA MathFest Planning Committee (2000 – 2003)*

*Member, MAA Special Interest Group Task Force (1999 – 2006)*

*SIAM Visiting Lecturer Program (1998 – 2006)*

- Popular lecturer in SIAM program, presented several talks a year on career opportunities in mathematics.

*Chair, MAA Committee on Industrial and Government Mathematics (1998 – 2004)*

- Committee's mission is to foster partnerships between the academic mathematics community and industry/government mathematicians.
- Conducted first large-scale MAA membership survey. Survey results helped motivate development of MAA special interest groups.
- Expanded participation of business, industry and government mathematicians in MAA through listserv, special sessions at meetings and networking receptions.

*Member, MAA Development Committee (1998 – 2002)*

*Member, MAA Strategic Planning Committee (1998 – 2000)*

- Represented business, industry and government MAA members on ad-hoc committee of executive officers and staff that developed strategic plan for the MAA.

*Judge, Intel 1998 International Science and Mathematics Fair (1998)*

## **COMMUNITY SERVICE**

*City Council Appointed Member, City of Denton Traffic Commission (2000 – 2001)*

*Mayoral Appointed Member, City of Denton Capital Improvements Committee (1999 – 2000)*

*Vice President, City of Denton Main Street Association (1998 – 2000)*

- Association promotes central business district revitalization in historic downtown.
- Managed overall budget for association and budgeted special events.
- Increased return on Association capital through appropriate investment strategies.

*Mayoral Appointed Member, City of Denton Main Street Association (1994 – 1998)*

*Big Brother, Big Brothers/Big Sisters (1992 – 2001)*

## **RESEARCH ACTIVITIES**

*General interests:* Interdisciplinary applications of mathematics and statistics, stochastic optimal control, resource allocation, statistical decision analysis.

*Current research program:* Agent models in coupled natural human systems, control of momentum processes.

## **Sponsored Research** (Total Funding: > \$2 M)

Texas Parks and Wildlife Department State Wildlife Grant, Co-PI. \$200,000 (2008-2009).  
NSF Human and Social Dynamics Exploratory Grant, Co-PI, \$124,038 (2007 – 2010).  
NSF Biocomplexity in the Environment Grant – Supplemental Award, Co-PI, \$49,900 (2007).  
NSF Biocomplexity in the Environment Grant – Supplemental Award, Co-PI, \$69,900 (2004 – 2005).  
NSF Biocomplexity in the Environment Grant, Co-PI, \$566,000 (2002 – 2007).  
NSF Interdisciplinary Grants in the Mathematical Sciences, PI, \$100,000 (2001 – 2002).  
NSF Quantitative Environmental and Integrative Biology Grant, Co-PI, \$90,000 (2001 – 2004).  
NSF Research Experience for Undergraduates, Co-PI, \$6000 (2003).  
NSF Computer Science, Engineering and Mathematics Scholarship Program, PI, \$220,000 (2000 – 2004).  
NSF Computation and Social Systems Grant, Co-PI, \$390,000 (2000 – 2004).  
Office of Naval Research Grant within Underwater Research Initiative, Co-PI, \$350,000 (1993 – 1995).  
NSF Small Business Innovative Research Grant, Co-PI, \$50,000 (1992 – 1993).  
City of Denton, PI, \$64,000 (1997 – 1998).  
Paradigm Simulation, Inc., PI, \$70,000 in-kind (1997 – 1998).

## **Publications**

“Application of Mathematical Models to Classify and Characterize Cell Types Derived from Neural Progenitor Cells.” *Poster at Annual Meeting of the American Society for Cell Biology*, #566204, San Francisco, December 2008.

“The A Subunit Contributes Principal and Complementary Components of the Ligand Binding Domains of the 5-HT<sub>3A/B</sub> Receptor,” Volodya Hayrapetyan, Ran Zhang, Yedema Hayrapetyan, Michael Monticino, and Tina K. Machu. In review *Molecular Pharmacology*.

“Aspirational Goals and Incremental Tools: Does forecasting exclude other frameworks for strategic planning?,” Gregory Hill, Michael Monticino, Eric T. Jones, Steven Kolmes, and Rebecca McLain. Proceedings of the 11th Directions and Implications Advanced Computing Symposium – 2008: Tools for Participation, Collaboration, Deliberations and Decision Support. University of California, Berkeley, Computer Professionals for Social Responsibility Directions and Implications of Advanced Computing Conference Proceedings, in press 2008.

“Bridging the gaps between design and use: developing tools to support environmental management and policy,” B.S. McIntosh, C. Giupponi, A. Voinov, C. Smith, K.B. Matthews, M. Monticino, M.J. Kolkman, N. Crossman, M. van Ittersum, D. Haase, A. Haase, J. Mysiak, J.C.J. Groot, S. Sieber, P. Verweij, N. Quinn, P. Waeger, N. Gaber, D. Hepting, H. Scholten, A. Sulis, H. van Delden, E. Gaddis, H. Assaf. Book chapter, to appear in *Elsevier Press IDEAS* book series.

“Optimal buy/sell rules for correlated random walks,” Pieter Allaart and Michael Monticino. *Journal of Applied Probability*, Vol 45, 33-44, 2008.

“Models of Natural and Human Dynamics in Forest Landscapes: cross-site and cross-cultural synthesis,” Miguel F. Acevedo, Baird Callicott, Michael Monticino, Donald Lyons, Jenny Palomino, Judith Rosales, Luz Delgado, Magdiel Ablan, Jacinto Davila, Hirma Ramírez, Emilio Vilanova, Giorgio Tonella. *Geoforum*, Vol 39, 846-866, 2008.

“Biocomplexity and Conservation of Biodiversity Hotspots: Three Case Studies from the Americas,” J. Baird Callicott, Ricardo Rozzi, Luz Delgado, Michael Monticino, Miguel Acevedo and Paul Harcombe. *Philosophical Transactions of the Royal Society of London B – Biological Sciences*, Vol. 362, 2007, 321-333.

“Analysis of Teller Service Times in Retail Banks,” Travis Cogdill and Michael Monticino. *Case Studies in Business, Industry and Government Statistics*, Vol 1 No. 1, 15-25, 2007.

“Coupled Human and Natural Systems: A Multi-Agent Based Approach,” Michael Monticino, Miguel Acevedo, Baird Callicott, Travis Cogdill and Christopher Lindquist. *Environmental Modelling and Software*, Vol. 22(5), 656-663, 2007.

“Applying a Multi-Agent Model to Evaluate Effects of Development Proposals and Growth Management Policies on Suburban Sprawl,” M. Monticino, E. Brooks, T. Cogdill, M. Acevedo and B. Callicott. In Voinov, A., Jakeman, A., Rizzoli, A. (eds.). *Proceedings of the iEMSs Third Biennial Meeting: Summit on Environmental Modelling and Software*, 2006.

“Biocomplexity in the Big Thicket,” Baird Callicott, Miguel Acevedo, Pete Gunter, Paul Harcombe, Christopher Lindquist and Michael Monticino. *Ethics, Place, Environment: A Journal of Philosophy and Geography*, Vol 9, No. 1, 21-45, 2006.

“Assessing physiological complexity,” W. Burggren and M. Monticino. *Journal of Experimental Biology*, Vol. 208, 3221-3232, 2005.

“Multi-agent model of human values and land-use change,” Michael Monticino, Miguel Acevedo, Baird Callicott and Travis Cogdill. *Proceedings of the Fifth International IASTED Conference on Modeling, Simulation and Optimization*, ed. Giorgio Tonella, 279-284, 2005.

“Coupled Human and Natural Systems: A Multi-Agent Based Approach,” Michael Monticino, Miguel Acevedo, Baird Callicott, Travis Cogdill, and Christopher Lindquist). *Complexity and Integrated Resources Management, Transactions of the 2nd Biennial Meeting of the International Environmental Modelling and Software Society*, iEMSs, Pahl-Wostl, C., Schmidt, S., Rizzoli, A.E. and Jakeman, A.J. (eds.), Osnabruck, Germany, 2004.

“Effects of Culture on Computer-Supported International Collaborations,” Kathleen Swigger, Ferda Alpaslan, Robert Brazile, and Michael Monticino. *International Journal of Human-Computer Studies*, Vol 60, Issue 3, 365-380, 2004.

“Pseudo-prophet inequalities in average-optimal stopping,” Pieter Allaart and Michael Monticino. *Sequential Analysis*, Vol 22, No. 3, 233-239, 2003.

“Cell interaction in semi-Markov forest landscape models,” Michael Monticino, Miguel Acevedo and Travis Cogdill. In Rizzoli, A.E. and Jakeman, A.J. (eds.), *Integrated Assessment and Decision Support, Proceedings of the First Biennial Meeting of the International Environmental Modelling and Software Society*, iEMSs: Manno, Switzerland, 227-233, 2002.

“How to a construct random probability measure,” M.G. Monticino. *International Statistical Review*, Vol 69, No. 1, 153-167, 2001.

“Optimal stopping rules for directionally reinforced processes,” Pieter Allaart and Michael Monticino. *Advances in Applied Probability*, Vol 33, No. 2, 483-504, 2001.

“Constructions of random distributions via sequential barycenters,” Theodore Hill and Michael Monticino. *Annals of Statistics*, Vol. 26, No. 4, 1242-1253, 1998.

“Constructing prior distributions with trees of exchangeable processes,” M.G. Monticino. *Journal of Statistical Planning and Inference*, Vol. 73, 113-133, 1998.

“Web-Analysis: Stripping away the hype,” M.G. Monticino. *IEEE Computer*, 130-132, December 1998.

“Directionally reinforced random walks,” R. D. Mauldin, M.G. Monticino and H. von Weizsacker. *Advances in Mathematics*, Vol. 117, No. 2, 239-252, 1996.

“Optimal cut-off strategies in capacity expansion problems,” M.G. Monticino and J. R. Weisinger. *Naval Research Logistics*, Vol. 42, 1021-1039, 1995.

“Randomly generated distributions,” R. D. Mauldin and M.G. Monticino. *Israel Journal of Mathematics*, Vol. 91, 215-237, 1995.

“A survey of the search theory literature,” S. J. Benkoski, M.G. Monticino and J. R. Weisinger. *Naval Research Logistics*, Vol. 38, 469-494, 1992.

“Utility functions which ensure the adequacy of stationary strategies,” M.G. Monticino. *Transactions of the American Mathematical Society*, Vol. 325, No 1, 187-204, 1991.

“The adequacy of universal strategies in analytic gambling problems,” M.G. Monticino. *Mathematics of Operations Research*, Vol. 16, No 1, 21-41, 1991.

“The feasibility of applying search theory to the Korean tunnel problem,” M.G. Monticino and J. R. Weisinger. *Technical Report to the Commander Belvoir Research, Development and Engineering Center, U.S Army*, July 1989.

“The effects of non-homogenous environments on passive sonobuoy search for a submerged target,” M.G. Monticino and S. J. Benkoski. *Technical Report to the Naval Oceanographic Research and Development Activity*, December 1988.

Numerous proprietary or classified analysis reports for consulting clients, including statistical analysis, algorithm descriptions and software implementation documentation.

## **Presentations**

### **Plenary and Honorary Lectures**

University of Economics, Ho Chi Minh City, Vietnam. “Teller Staffing in Retail Banks – Applications of Forecasting and Queuing Analytics.” (2008)

International University, Ho Chi Minh City, Vietnam. “Search Theory – Theory and Applications.” (2008)

International Association of Science and Technology for Development Asian Conference on Modelling and Simulation, Beijing, China. “Eliciting, calculating and implementing decision analysis utility functions in multi-agent systems.” (2007)

Big Thicket Science Conference, Beaumont, Texas. “Modeling coupled natural-human systems in the Big Thicket and Beyond: A guides to land-use/land-cover public policy.” (2007)

Universidad Autonoma del Estado de Mexico, Toluca, Mexico. “Buy/sell strategies for correlated random walks.” (2006)

International Symposium on Mathematical Methods Applied to the Sciences, San José, Costa Rica. “Optimal stopping of momentum processes.” (2006)

Big Thicket Science Conference, Beaumont, Texas. “Coupled biological and human systems: a multi-agent based model.” (2003)

St. Edwards University Career Symposium, Austin, Texas. “Careers in mathematics.” (2003)

### **Invited Conference and Colloquium Speaker**

ARGO Data Resources Technical Advisory Board Conference, Dallas, Texas. “Analytic Initiatives in the Banking Industry.” (2008)

Houston-Galveston Aquatic Nuisance Species Workshop, Houston, Texas. “Integrating social behavior and ecological systems in multi-agent models.” (2007)

American Physiological Society Intersociety Conference, Virginia Beach, Virginia. “The emperor’s clothes: an applied mathematician’s view of complexity.” (2006)

American Mathematical Society/Mathematical Association of America Joint Meetings, San Antonio, Texas. Introductory remarks for invited address by Naomi Fisher, Mathematicians and Education Reform Director. (2006)

Tarleton State University. “Applied mathematics in business, industry and government.” (2005)

Argo Data Resource Advisory Board Meeting, Dallas, Texas. “Workforce management planning tools.” (2004)

Frank Magid Associates, Marion, Iowa. “Multivariate statistical analysis: Emerging techniques.” (2003)

St. Edwards University Career Symposium. “Beyond your bachelor degree.” (2003)

Texas Association of Academic Administrators in the Mathematical Sciences Annual Meeting, Waco, Texas. “Increasing awareness of career opportunities in mathematics.” (2003)

NSF Workshop on Probability and Statistics Teaching. “Applying statistics and probability to solve real-world problems.” (2002)

MAA Texas Section Meeting, Dallas, Texas. “Careers in applied mathematics.” (2002)

Southwestern University. SIAM Visiting Lecturer Program Speaker: “Mathematical search theory.” (2001)

Merck & Co., Inc., New Jersey. “Applications of nonparametric random probability measure constructions.” (2000)

University of Memphis. (1999)

- “How to stop on the average: applications of random probability measures.”
- SIAM Visiting Lecturer Program Speaker: “Careers in applied mathematics: a personal perspective.”

University of Northern Michigan. (1999)

- “Applied search theory.”
- SIAM Visiting Lecturer Program Speaker. “Careers in applied mathematics: a personal perspective.”

Oklahoma State University. “Foundations of mathematical search theory.” (1999)

Texas A & M – Commerce. “Applications of random probability measure constructions.” (1999)

Georgia Institute of Technology. “Random probability measures: an overview and applications.” (1999)

Institute for Defense Analysis – Center for Communications Research, San Diego, CA. “Random probability measure constructions.” (1999)

University of Tulsa. SIAM Visiting Lecturer Program Speaker. “Preparing for a career in applying mathematics.” (1998)

Trinity University. SIAM Visiting Lecturer Program Speaker. “Applications of mathematical search theory.” (1998)

Southwest Texas State University. SIAM Visiting Lecturer Program Speaker. “Preparing for a career in applying mathematics.” (1998)

Tarleton State University. SIAM Visiting Lecturer Program Speaker. “Non-academic careers in mathematics.” (1998)

Bose Memorial Conference on Statistical Planning, Fort Collins, CO. “Constructing prior distributions from trees of exchangeable processes.” (1995)

Georgia Institute of Technology. “Mathematical Search Theory.” (1994)

Sam Houston State University. “Search, gambling and information.” (1994)

Wagner Associates, Santa Clara, CA. “Applications of directionally reinforced random walks in ocean structure models.” (1994)

Texas Christian University. “Some theoretical gambling problems.” (1993)

Wagner Associates, Santa Clara, CA. “Continuous-time gambling problems.” (1992)

University of Miami. “Random distribution functions through random rescaling.” (1991)

### **Conference Organizing and Speaking**

Member of International Program Committee for IASTED Africa Conference on Modeling and Simulation, Botswana, Africa. (2008)

Member of International Program Committee for IASTED Asian Conference on Modeling and Simulation, Beijing, China. (2007)

Annual Meeting of the AMS/MAA, New Orleans, LA. (2007)

- Co-organizer for MAA invited paper session “Mathematical experiences in business, industry and government.”
- “Teller Service Times and Staffing in Retail Banks.” Special session on applications of mathematics.
- President of Business, Industry and Government Special Interest Group of the MAA (chaired executive committee meeting and hosted reception).

International Environmental Modelling and Software Society International Summit, Burlington, VT. (2006)

- “Applying a multi-agent model to evaluate effects of development proposals and growth management policies on suburban sprawl.” Special session speaker.
- Workshop participant, “Developing Tools to Support Management and Policy.”

Annual Meeting of the AMS/MAA, San Antonio, TX. (2006)

- Participant on panel discussion on career opportunities for undergraduate math majors.
- Co-organizer for MAA invited paper session “Mathematical experiences in business, industry and government.”
- “Optimal buy/sell rules for correlated random walks.” Contributed paper session.
- “Teller staffing in retail banks.” Special session on applications of mathematics.

International Association of Science and Technology for Development 5<sup>th</sup> International Conference on Modeling, Simulation and Optimization, Oranjestad, Aruba. “Multi-agent model of human values and land-use change.” (2005)

Annual Meeting of the AMS/MAA, Atlanta, GA. (2005)

- Participant on panel discussion on career opportunities for undergraduate math majors.
- Co-organizer for MAA invited paper session “Mathematical experiences in business, industry and government.”

International Environmental Modelling and Software Society International Conference, Osnabrück, Germany. “Coupled human and natural systems: a multi-agent based approach.” (2004)

Annual Meeting of the AMS/MAA, Phoenix, AZ. (2004)

- Co-organizer for MAA invited paper session “Mathematical experiences in business, industry and government.”
- “A leg in both worlds: consulting in academics.” Special session on applications of mathematics.

Annual Meeting of the American Mathematical Society, Baltimore, MD. (2003)

- Co-organizer for MAA contributed papers session on “Experiences in Business, Industry and Government Mathematics.”

Annual Meeting of the American Mathematical Society, San Diego, CA. (2002)

- Moderator for panel discussion on “Projects in Business, Industry and Government.”
- Moderator for panel discussion on “Career Tracking of Mathematics Majors.”

Annual Meeting of the American Mathematical Society, New Orleans, LA. (2001)

- “Optimal stopping rules for directionally reinforced process.” Contributed paper session.
- Moderator for panel discussion on “Mathematics in Industry.”

Annual Meeting of the American Mathematical Society, Washington, D.C. “How to stop well on the average.” (2000)

Joint Meeting of the American and Mexican Mathematical Societies, Denton, TX. “Applications of random probability measures.” (1999)

Annual Meeting of the American Mathematical Society, San Antonio, TX. “Multi-dimensional sequential barycenter arrays.” (1999)

Annual Meeting of the American Mathematical Society, San Diego, CA. “Sequential barycenter arrays and random probability measures.” (1997)

Annual Meeting of the American Mathematical Society, Orlando, FL. “Directionally reinforced processes on graphs.” (1996)

Annual Meeting of the American Mathematical Society, San Francisco, CA. “Strategic planning for capacity expansion under uncertainty.” (1995)

Annual Meeting of the American Mathematical Society, San Antonio, TX. “Multi-dimensional sequential barycenter arrays.” (1993)

Annual Meeting of the American Mathematical Society, Baltimore, MD. “Markov gambling problems – minimizing time to a goal.” (1992)

Texas Section Meeting of the MAA, Nacogdoches, TX. “Exchangeable tree priors.” (1991)

SE Section Meeting of the American Mathematical Society, Tampa, FL. “Exchangeable trees and random rescaling.” (1991)

### **Professional Organization Membership**

American Mathematical Society

Mathematical Association of American

International Environmental Modelling and Software Society

International Association of Science and Technology for Development

### **Journal Reviewer**

Mathematics of Operations Research

Operations Research

Annals of Statistics

Environmental Modelling and Software

Journal of Environmental Management

Advances in Mathematics

IASTED

Navigation

Naval Research Logistics

## **TEACHING AND GRADUATE MENTORING**

### **Study Abroad**

Instructor, Spain Field School – University of Alicante, Alicante, Spain. (2006)

- Course focused on modeling vegetation recovery after disturbance in grass and shrub ecosystems. Project promoted scientific exchange as well as collaboration in educational activities for undergraduate and graduate students in Spain and the USA.

Instructor, Research Experiences for Undergraduates, Alicante, Spain. (2005)

- NSF supported research in vegetation dynamics and watershed modeling in Mediterranean environments with UNT undergraduate and graduate students.

### **Classroom Instruction**

#### **Undergraduate Courses**

Statistics

Probability

Discrete Mathematics

Calculus

Multi-variable Calculus

Real Analysis

#### **Graduate Courses**

Stochastic Processes

Bayesian Decision Theory

Measure-theoretic Probability

Categorical Data Analysis

Martingale Theory

Stochastic Optimal Control

Multivariate Statistics

Probability Models

Markov Processes

### **Student Mentoring**

#### **Ph.D. thesis advisor**

Travis Cogdill. (2005-Present).

Leroy Valdes. (Graduated 2002).

#### **Ph.D. (Minor Professor) thesis advisor**

Kelly Kelling (BCIS Department, Graduated 1999).

**Masters thesis/project advisor**

Hui Yang (2007 – Present)  
Elizabeth Steeley (Graduated 2008)  
Matthew Browning (Graduated 2007)  
Evan Brooks (Graduated 2007).  
Travis Cogdill (Graduated 2005).  
Rong Liu (Graduated 2004).  
Charles Reed (Graduated 1997).  
Louis Revor (Graduated 1996).  
Rebecca Sullivan (Graduated 1992).

**Undergraduate thesis advisor**

Maria Ascenio (McNair Scholar, 2005-2007).  
Adam Kinney (2002-2003).  
Travis Cogdill (2001-2002).  
Amber Pearson (1996-1997).

**Supervision of student internships**

Malinda Cockrum (2006).  
Sarah Gorena (2006).  
Angela Howard (2000)

**Ph.D. thesis committee member**

Hicham Benjelloun (Finance Department)  
Eric Aurand (Math).  
Daekum Lim (Math).  
James Forjan (Finance).  
R. K. Tiwari (Finance).  
Artemi Berlinkov (Math).  
Lars Olsen (Math).  
Glen Schlee (Math).  
Peter Richardson (Math).  
Jing Ling Wong (Math).

**Masters thesis committee member**

Chris Wood (Environmental Science).