

## VITA

Richard A. Tapia

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**Personal Data:**

Birth: March 25, 1939 - Santa Monica, California  
Wife: Jean Tapia (Married - July 25, 1959)  
Children: Circee (1960 - 1982)  
Richard (1968 - )  
Rebecca (1983 - )

**Education:**

Ph.D., University of California, Los Angeles, 1967 (Mathematics)  
M.A., University of California, Los Angeles, 1966 (Mathematics)  
B.A., University of California, Los Angeles, 1961 (Mathematics)

**Honors and Awards:**

Math and Science Hispanic Heritage Award, Hispanic Heritage Foundation, Washington, DC, September (2009)

SIAM Fellow, Society for Industrial and Applied Mathematics Annual Meeting, Denver, Colorado, July (2009)

Richard Tapia 70<sup>th</sup> Birthday Conference, Rice University, Houston, Texas, May (2009)

Honorary Degree, Doctor of Science, Claremont Graduate University, Claremont, California, May (2008)

Meritorious Service Award, Association of Rice Alumni, Rice University, May (2008)

Gary D. Keller Award, Arizona State University, November (2005)

University Professor, Rice University, Houston, Texas October (2005)

Maxfield and Oshman Professor in Engineering, Rice University, Houston, Texas, October (2005)

50 Most Important Hispanics in Technology and Business, Hispanic Engineer and Information Technology Magazine, April (2005)

Society for Industrial and Applied Mathematics (SIAM) Prize for Distinguished Service to the Profession, Portland, Oregon, July (2004)

Community Service Award, University of California Los Angeles Alumni Association, Los Angeles, California, May (2004)

Honorary Degree, Doctor of Science and Technology, Carnegie Mellon University, Pittsburgh, Pennsylvania, May (2004)

Hispanic Engineer & Information Technology Magazine, "One of the 50 Most Important Hispanics in Technology and Business" April (2004)

Distinguished Public Service Award, American Mathematical Society, Phoenix, Arizona, January (2004)

Original member of the Texas Academy of Science, Engineering and Medicine (TASEM), Inaugural Conference of the Texas Academy of Science, Engineering and Medicine, San Antonio, Texas, January (2004)

Honorary Doctorate Degree in Engineering, Colorado School of Mines, December (2003)

National Atomic Museum Foundation Hispanics in Science in Engineering Exhibit Honoree, Albuquerque, New Mexico, October (2003)

Texas Science Hall of Fame Inductee, Institute of Texan Cultures, University of Texas, San Antonio, Texas, January (2002)

Reginald H. Jones Distinguished Service Award, NACME, Inc., Baltimore, Maryland, October (2001)

Richard Tapia Celebration of Diversity in Computing Symposium, Association for Computing Machinery and IEEE-Computer Society, Houston, Texas, October (2001)

Distinguished Scientist Award, Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Conference, Atlanta, Georgia, October (2000)

2000 Peace Award for Education, International Day of Peace, The Spiritual Assembly of the Baha'is of Houston, Houston, Texas, October (2000)

David Blackwell and Richard Tapia Distinguished Lecture Series in the Mathematical and Statistical Sciences, Cornell University, Ithaca, New York, May (2000)

1999 Giants in Science Award, Quality Education for Minorities (QEM) Network, Washington, DC, February (1999)

Commencement address: "The Civic Scientist: Participation in Current National, Societal and Educational Problems," Division of Physical Science, University of California, Los Angeles, California, June (1998)

1997 Lifetime Mentor Award, American Association for the Advancement of Science, Philadelphia, Pennsylvania, February (1998)

Inducted into the Hispanic Engineer National Achievement Awards Conference Hall of Fame (1997)

Hall of Fame Inductee, The Houston Hispanic Forum, Houston, Texas (1997)

Recipient of the Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring, National Science Foundation, Washington, DC, September (1996)

Appointed to the National Science Board by President Clinton, August (1996)

Selected Hispanic Engineer of the Year, by Hispanic Engineer Magazine, Hispanic Engineer

National Achievement Awards Conference, Houston, Texas, October (1996)

Educator Achievement Award, National Science Foundation "Diversity in the Scientific and Technological Workforce" Conference, Washington, DC, September (1995)

First recipient of the A. Nico Habermann Award for outstanding contribution to aiding members of underrepresented groups within the computing research community, Computer Research Association, Snowbird, Utah, July (1994)

Selected "Professor of the Year" by the Association of Hispanic School Administrators, Houston Independent School District, Houston, Texas (1994)

National Academy of Engineering, February (1992)

George R. Brown Award for Superior Teaching, Rice University, Houston, Texas (1991)

Noah Harding Professor, Rice University, Houston, Texas (1991)

MAA-SIAM Address: "Interior-Point Methods for Linear Programming: An Overview," Joint Mathematics Meeting, Columbus, Ohio (1990)

Named one of twenty most influential leaders in minority math education by the National Research Council, Washington, DC (1990)

Selected College Level Educator of the Year, by Hispanic Engineer Magazine, Hispanic Engineer National Achievement Awards Conference, Houston, Texas, October (1990)

Centennial Lecture: "The Emergence of Numerical Optimization," SIAM National Meeting, Minneapolis, Minnesota (1988)

First Place in Rice University Student Teacher Evaluations, Houston, Texas (1985)

Listed in Who's Who in America

Listed in Who's Who in the South and Southwest

Listed in Who's Who in American Education

Listed in Who's Who among Hispanic Americans

Listed in American Men and Women of Science

Listed in 2,000 Notable American Men

Biography included in middle schools science textbook Science Connections, Merrill Publishing, 1991

In-depth interview: "Math Education in the Computer Age," *Hispanic Engineer*, Spring 1991

Featured in *Professional, the Quarterly Journal for Hispanics and Black Professionals*, Spring 1992

Featured in Houston Post article "Multiple Successes," March 21, 1993

Featured in *Saludos Hispanos*, April/May 1993

Featured in *Sallyport*, Rice alumni magazine, October/November 1993

Featured in National Council of Teachers of Mathematics brochure, 1993

Featured in SACNAS (Society for the Advancement of Chicanos and Native Americans in Science) brochure for K-12 teachers, 1994

Featured in Miller Brewing Company calendar "Hispanic Americans in the Sciences - Realizing Visions," January 1995

Featured in NACE (National Association of Colleges and Employers) guidebook of good role models for students thinking about the future and to encourage minorities in their careers, 1996 Minorities Edition, 1995

Featured in interview on "Weeknight Edition," Channel 8, Houston, Texas, April 18, 1996

Featured in Houston Chronicle article "By the Numbers," April 22, 1996

Featured in six-part documentary "Breakthrough: The Changing Face of Science in America," Channel 8, Houston, Texas, April 22, 1996

Featured in Hispanic Engineer Magazine cover article "Rice's Hot Rod Professor," Spring 1996

Featured in Houston Chronicle article "Clinton Taps Rice Prof," October 11, 1996

Featured in Houston Chronicle article "Presidential Award for Rice Professor," October 12, 1996

Featured in interview on "Hola Houston," Channel 26, Houston, Texas, October 27, 1996

Featured in Village News article "Rice Prof Wins Mentoring Award," October 29, 1996

Featured in interview on "The Spirit of Texas, Channel 11 Morning Show," Houston, Texas, October 31, 1996

Featured in interview on "Weeknight Edition," Channel 8, Houston, Texas, October 31, 1996

Featured in Nuestras Vidas Magazine article "More than Math," March 1997

Featured in "Becky Lee's Diary," Channel 11, Houston, Texas, June 14, 1997

Featured in "Hispanic Heritage Month," Channel 11, Houston, Texas, September 16-October 15, 1997

Featured in "Hola Houston," Channel 26, Houston, Texas, October 5, 1997

Featured in "Nuestra Vida" Channel 45, Houston, Texas, October 1997

Featured in Hispanic Engineer Magazine article "Best of the Best Top Hispanics in Technology," February/March 1998

Featured in SACNAS News article "Richard Tapia Wins AAAS Award for Lifetime Achievement," Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) Quarterly Journal, Spring 1998, Vol 2, No 2, pp. 10.

Featured in the Oklahoma State Regents for Higher Education 1998 Summer Academies Role Model brochure and poster for public and private schools, libraries, and home schooling organizations, 1998

Featured in "Hola Houston," Channel 26, Houston, Texas, June 21, 1998

Featured in "Weeknight Edition" Channel 8, Houston, Texas, July 29, 1998

Featured in Hispanic Engineer Magazine article "New Strategies Needed to Challenge Anti-Affirmative Action," June/July 1998

Featured in Hispanic Engineer Magazine article "What's Next After Affirmative Action Dies," June/July 1998

Featured in "Gender Equity in Technology" National Public Radio (NPR) Interview, KUHT, Houston, Texas, August 24, 1998

Featured in Biographical Encyclopedia of Mathematics, Marshall Cavendish, Tarrytown, New York, 1998

Featured in SACNAS News cover article "Hitting the Nation's Scientific Highway with Mathematician Richard Tapia," Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) Quarterly Journal, Fall 1999, Vol. 3, No 3, pp. 20-21.

Featured in Hispanic Outlook Magazine article "A Formula for More Minorities in Math and Science," November 5, 1999

Featured in Math Spans All Dimensions, Math Awareness Month article "Math of Car Racing", April, 2000 <http://www.math.brown.edu/~banchoff/MAM2000a/612/index.html>

Featured in FOCUS Newsletter of the Mathematical Association of America article "Cornell Honors David Blackwell and Richard Tapia with Lecture Series," August/September 2000, Vol. 20, No 6, p. 4

Featured in "Hispanic Heritage Month," Channel 39, Houston, Texas, September 16-October 15, 2000

Featured in Hispanic Engineer & Information Technology Magazine article "Hispanic Power Hitter," Spring 2002

Featured in Science Magazine, Sidelines, January 31, 2003, Vol. 299, No 5607, p. 659

Featured in Houston Chronicle article "Professor Uses Math to Uncover Flaw in BMX Racing," February 27, 2003

Featured in The Chronicle of Higher Education article "A Race That's About More Than Speed," March 28, 2003, Vol. 49, Issue 29, pg. A12

Featured in Sallyport, Volume 59, No. 3, page 12, Spring

Featured in Rice News article "Mathematician Tapia Earns Honors for Distinguished Public Service," Volume 13, No. 18, January 22, 2004

Featured in AMS News article "Richard Tapia Receives 2004 AMS Award for Distinguished Public Service," January 8, 2004

Featured in Carnegie Mellon News article "Three to Receive Honorary Degrees for Contributions to Science and Technology, and Public Policy," Vol. 14, No. 42, May 13, 2004

Featured in Rice News article "Tapia to Collect Honors for Efforts to Recruit Minority Students in Science, Engineering," Vol. 13, No. 31, April 29, 2004

Featured in UCLA Spotlight article "Richard Tapia, UCLA Alumnus, Rice Faculty," May 17, 2004

Featured in Rice News article "Tapia receives SIAM Prize for Distinguished Service," August 4, 2004

Featured in Rice News article "CAAM's Tapia Named One of Tech's 50 Most Important Hispanics for 2005," April 7, 2005

Featured in Hispanic Engineer & Information Technology Magazine article "The 50 Most Important Hispanics in Technology & Business: Pushing to the Top in American Industry," April 2005

Featured in Rice News article "Rice names Tapia University Professor," Vol. 15, No. 10, October 20, 2005

Featured in Diverse Issues in Higher Education article "On the Move," Vol. 22, No. 20, November 17, 2005

Featured in Berkeley Engineering News article "I'm here and I belong" March 13, 2006

Featured in Houston Chronicle article "Hometown hot rod among stars at O'Reilly AutoRama," November 19, 2006

Featured in Houston Chronicle article "Student Day at AutoRama focuses on engineering," November 11, 2007

Featured in Hispanic Business Magazine article "The 100 Most Influential U.S. Hispanics," October 2008

Appeared on Hola Houston, Fox 26 Network Houston in honor of Hispanic Heritage Month, October 2008

Featured in the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) Biography Video, September 2009  
<http://www.caam.rice.edu/~rat/biography.html>

Top 10 Movers & Shakers, Hispanic Outlook in Higher Education, January 4, 2010,  
<https://www.wdhstore.com/hispanic/data/pdf/jan4-top10.pdf>

### **Selected Activities:**

Chair, Department of Mathematical Sciences, Rice University, 1978 - 1983

Associate Director for Minority Affairs, Office of Graduate Studies, Rice University, 1989 - present

Director of Education and Outreach Programs, Center for Research on Parallel Computation, Rice University, 1989 - 2000

Member: Executive Committee, Center for Research on Parallel Computation, Rice University, 1989 - 2000

Member: SIAM Board of Trustees, 1989 - 1992

Member: Strategic Planning Task Force of the American Mathematical Society, 1990 - 1991

Member: Committee on Professional Recognition and Rewards, Joint Policy Board on Mathematics, 1992 - 1994

Member: Mathematical Sciences Education Board, National Research Council, 1992 - 1994

Keynote speaker: "Building the Future," Mathematics 2000, California Coalition for Mathematics, Sacramento, March 1992

Address to fourth and fifth grades: "Our Hispanic Heritage and Science," West University Elementary School, Houston, May 5, 1992

Member: National Academy of Engineering, 1992

Panelist: Duke Graduate School symposium, "The Future of Minorities in American Higher Education," November, 1992

Commencement speaker, Jefferson Davis High School, Houston, June 1994

Member: National Science Board, 1996 - 2002

Session Honoring the 60th Birthday of Professor Richard A. Tapia, 1998 SIAM Annual Meeting, Toronto, Canada, July 1998

Conference Committee Chair, "50 years of Alternating Direction Methods: Honoring the Contributions of Douglas Peaceman Rachford." Rice University, Houston, Texas, November 2005

Maxfield and Oshman Professor in Engineering, Rice University, 2005 – present

University Professor, Rice University, 2005 – present

### **University Positions:**

2005 – present

University Professor, Rice University

2005 – present

Maxfield and Oshman Professorship in Engineering, Rice University

2000 – 2006

Director of Education and Outreach Programs, HiPerSoft (Center for High Performance Software Research), Rice University

2000 – present

Adjunct Professor, College of Natural Sciences and Mathematics, University of Houston

1999 – present

Director, Alliances for Graduate Education and the Professoriate (AGEP), Rice University

1995 – present

Director, Center for Excellence and Equity in Education, Rice University

1991 – 2005

Noah Harding Professor of Computational and Applied Mathematics, Rice University

1989 – present

Associate Director of Minority Affairs, Office of Graduate Studies, Rice University

1989 – 2000

Director of Education and Outreach Programs, Center for Research on Parallel Computation, Rice University

1976 – 1991

Professor of Mathematical Sciences, Rice University

1986 – 1988

Lecturer, Department of Community Medicine, Baylor College of Medicine

1978 – 1983

Adjunct Professor, Texas Institute of Rehabilitation and Research, Baylor College of Medicine

1978 – 1983

Chair, Department of Mathematical Sciences, Rice University

1976 – 1977

Visiting Associate Professor of Operations Research, Stanford University (on leave from Rice)

1972 – 1976

Associate Professor of Mathematical Sciences, Rice University

1970 – 1972

Assistant Professor of Mathematical Sciences, Rice University

1968 – 1970

Assistant Professor, Mathematics Research Center, University of Wisconsin

1967 – 1968

Instructor in Mathematics, UCLA

#### **Non-university Positions:**

1973 - 1988

Consultant, Lockheed Electronics, NASA, United States Army Strategy and Tactics Analysis Group, Aerospace Corporation, Law firm of Rosenthal and Rosenblum and law firm of Nelkin and Nelkin (expert witness in Federal Court), IMSL, Capital Technology Corporation, and Shell Development Company

1963 - 1966

Part-time Scientific Programmer, IBM, Los Angeles, California

1961 - 1963

Mathematician, Todd Shipyards, San Pedro, California

#### **Rice University Services:**

1972

Founder of RAMAS (Rice Association of Mexican-American Students) and faculty advisor. Name changed in 1984 to HACER (Hispanic Association for Cultural Enrichment at Rice)



1972 - 1975

Member: University Affirmative Action Committee

1972 - 1977

Member: University Undergraduate Admissions Committee

1972 - 1977

Member: University Minority Recruiting Committee

1972 - 1974

Associate: Richardson College

1978 - 1983

Member: Managerial Studies Program Steering Committee

1979 - 1983

Member: University Committee on Computer Science

1981 - 1982

Member: University Committee on Public Lectures

1985 - 1987

Member: University Undergraduate Admissions Committee

1985 - 1989

Chair: Mathematical Sciences Department Graduate Admissions Committee

1987 - 1988

Member: Search Committee for the Director of Minority Affairs

1988

Member: Search Committee for the Director of Administrative Computing

1989 - 1993

Member: Mathematical Sciences Department Graduate Committee

1990

Member: University Committee on the Graduate House

1991

Representative to GEM (Graduate Education for Minorities) National Meeting, South Bend, Indiana, April

1991

Representative to COFHE (Council on Financing Higher Education) National Meeting, Washington, DC, October

1991 - 1998

Member: Executive Committee, Center for Research on Parallel Computation

1991 - 1996

Member: Steering Committee for Rice University's Computational Sciences Degree Program

1991 - 1996

Member: Steering Committee, Rice University School Mathematics Project

1993 - 1998

Member: Board of Directors, Center for Education

1993 - 1994

Member: Search Committee for Vice President for Student Affairs

1994 - 1996

Member: Search Committee for Associate Provost for Institutional Diversity

1997 - 1998

Chair: Provost's Graduate Fellowship Committee

1998

Faculty member: Structural and Computational Biology and Molecular Biophysics (SCBMB) Graduate Program

1998 - present

President's Council for Diversity and Minority Affairs

1999

Member: Search Committee for Provost

2003 - 2008

Chair: President's Lecture Series of Diverse Scholars

#### **Professional Societies:**

American Mathematics Society (AMS)

Society for Industrial and Applied Mathematics (SIAM)

Mathematical Programming Society

Mathematical Association of America (MAA)

National Academy of Engineering (NAE)

Society for the Advancement of Chicanos and Native Americans in Science (SACNAS)

#### **Professional Services:**

1972 - 1977

Member: National Board of Directors of Society for Advancement of Chicanos and Native Americans in Sciences (SACNAS)

1973

Member: Cabinet Committee on Opportunity for the Spanish Speaking, Washington, DC

1973 - 1974

Member: Board of Directors of League of United Latin American Citizens (LULAC) Houston Educational Service Centers

1973 - 1976

Member: Board of Directors of the Greater Houston Chapter of the American Civil Liberties Union

- 1974  
Member: NIH Site Visit Committee, for MSIP (Minority Institutions Science Improvement Program), Bethune-Cookman College, Daytona Beach, Florida
- 1975  
Member: Selection Committee for NSF Graduate Fellowships in Applications of Mathematics
- 1975  
Member: NSF Evaluation Committee for Minority Institutions Science Improvement Program (MISIP) Applications, Washington, D.C.
- 1975 - 1977  
Vice-President: National Board of Directors of Society for Advancement of Chicanos and Native Americans in Science (SACNAS)
- 1977  
Co-organizer: First Mexico-United States Workshop on Numerical Analysis, Mexico City
- 1977  
Session Organizer: 10th Interface Symposium on Computer Science and Statistics, Gaithersburg, Maryland
- 1979  
Co-organizer: 2nd Mexico-United States Workshop on Numerical Analysis, Mexico City
- 1979 - 1980  
Instructor and Director: NSF Chautauqua Short Course, "Computational Methods for Nonlinear Problems," Santa Ana, California; Portland, Oregon and Albuquerque, New Mexico
- 1979 - 1981  
Member: SIAM Committee on Human Rights of Mathematical Scientists
- 1979 - 1985  
Member: SIAM Program Committee
- 1980  
Chairman and Co-organizer: SIAM National Meeting, Houston, Texas
- 1981  
Co-organizer: 3rd Mexico-United States Workshop on Numerical Analysis, Cocoyoc, Mexico
- 1981 - 1982  
Member: NSF Advisory Committee on Minorities and Women
- 1984  
Co-organizer: 4th Mexico-United States Workshop on Numerical Analysis, Guanajuato, Mexico
- 1985  
Member: Accreditation Committee, High School for the Performing and Visual Arts (HSPVA), Houston, Texas
- 1985

Member: Accreditation Committee, High School for the Health Professions (HSHP), Houston, Texas

1985 - 1988

Mathematics Director: HMSIC Houston Mathematics and Science Improvement Consortium, NSF sponsored program for precollege teachers of mathematics and science, Baylor College of Medicine, Houston, Texas

1986

Organizer: Special Session on the Karmarkar Algorithm, SIAM National Meeting, Boston, Massachusetts

1986

Member: Committee on SIAM News

1986 - 1990

SIGOP Representative: SIAM News

1986 - 2000

Panel Member: Board on Assessment of NBS Programs

1986 - 1988

Program Chairman: SIAM SIGOP (Special Interest Group in Optimization)

1986 - 1988

Member: Advisory Committee Texas Coordinating Board

1986 - 1989

Member: AMS-MAA Task Force on Minorities

1987

Co-organizer: Second SIAM International Conference on Optimization, Houston, Texas

1988

Co-organizer: 5th Mexico-United States Workshop on Numerical Analysis, Merida, Mexico

1988

Member: Selection Committee, National Chicano Council for Higher Education (NCCHE) Hispanic Science Fellowship, Irvine, California

1989

Instructor and Director: NSF Chautauqua short course, "Interior-Point Methods for Linear Programming," Portland, Oregon

1989 - 1992

Member: SIAM Board of Trustees

1990 - 1991

Member: American Mathematical Society Committee on Education

1990 - 1991

Member: Strategic Planning Task Force, American Mathematical Society

1991

Co-organizer: 6th Mexico-United States Workshop on Numerical Analysis, Oaxaca, Mexico

1991 - 2000

Member: Committee on Minority Participation in Mathematics, Mathematical Association of America

1992

Member: AMS-MAA Speaker Selection Committee for 1993 AMS-MAA Joint National Meeting

1992 - 1994

Member: Rewards and Evaluations Committee, Joint Policy Board on Mathematics

1992 - 1994

Member: Mathematical Sciences Education Board, National Academy of Sciences

1992 - 2000

Member: The Computing Research Association Committee on Women

1995 - 2000

Member: Advisory Board of Texas Statewide Systemic Initiative for Mathematics, Science, and Technology Education (SSI), The University of Texas-Austin

1995 - present

Member: Formal Strategic Planning Committee, The Rice School/La Escuela Rice, Houston, Texas

1996 - 2002

Member: National Science Board

1996 - 1997

Member: Task Force on Values in Education, Joint Policy Board for Mathematics

1998 - 2000

Faculty member: Structural and Computational Biology and Molecular Biophysics (SCBMB) Graduate Program, Baylor College of Medicine

1999 - present

Faculty member: W.M. Keck Center for Computational Biology, Rice University

1999 - 2000

Co-chair: SIAM 2000 National Meeting, San Juan, Puerto Rico

1999 - 2001

Chair: Search Committee, Executive Director for the AMP program at the University of Houston, Houston, Texas

1999 - 2003

Chair: Advisory Board, HULINC, Houston, Texas

1999 - 2000

Member: Board of Directors, Ambassadors International Ballet Folklorico, Houston, Texas

1999 - present

Member: Board of Directors, Institute for Pure and Applied Mathematics, University of California-Los Angeles

1999 - 2001

Member: Public Affairs Advisory Group (PAAG), National Science Foundation

2000

Chair: VCCA National Meeting 2000, Nacogdoches, Texas, June 2000

2001 – 2004

Member: Board on Higher Education and Workforce, National Academy of Sciences/National Research Council

2001 – 2004

Co-chair: Research Board for Building Engineering and Science Talent (BEST)

2004 – present

Member: Research Advisory Committee, Texas Higher Education Opportunity Project

2004

Member: Search Committee, Assistant Director for Education and Human Resources at the National Science Foundation.

2005

Member: Prize Committee for INFORMS Optimization Society

2005 – 2006

Member: AAAS Committee on Nominations

2005

Conference Committee Chair, "50 years of Alternating Direction Methods: Honoring the Contributions of Douglas Peaceman Rachford." Rice University, Houston, Texas November

2005 – present

Member: Advisory Board, Computing Alliance for Hispanic-Serving Institutions (CAHSI)

2006 - present

Member: Board of Directors, the Academy of Medicine, Engineering, and Science of Texas (TAMEST)

2006 -present

Member: Human Resources Advisory Committee, Board of Trustees of Mathematical Sciences Research Institute (MSRI)

2006 - 2007

Member: GRE® Technical Advisory Committee (TAC), ETS

2006 - 2008

Member: Board of Directors, Math for America, New York, NY

2007

Member: Emerging Research Institutions Committee, NAE

2007 - 2012

Member: Distinguished Public Service Award Committee, AAAS

2007 – 2009

Member: Committee on Enhancing the Master's Degree in the Natural Sciences,

National

Research Council, NAS

- 2007 – present  
Member: Advisory Board, MIT Faculty Diversity Initiative Committee
- 2007 – present  
Member: National Center for Women and Information Technology (NCWIT) Executive Advisory Council
- 2007 – 2012  
Member: Society for Industrial and Applied Mathematics (SIAM) Diversity Advisory Committee
- 2008 – 2009  
Member: Advisory Board, Graduate Education in the Mathematical Sciences To Nurture Every Student (GEMSTONES)
- 2008 – present  
Member: Advancement of African-American Researchers in Computing (A4RC) Advisory Board
- 2008 – present  
Member: STAIRSTEP External Advisory Committee
- 2008 – present  
Member: New Image for Computing Board of Advisors
- 2011 – present  
Member: Science Committee for the National Park Service Advisory Board
- 2011 – present  
Advisory Board of the Houston Education Research Consortium (HERC)

**Services Related to Minority and Outreach Education:**

- 1972 Keynote speaker: "Why are there so few Mexican-Americans in Texas Universities?" University of Houston Symposium on Mexican-American Problems in Texas
- 1972 Invited speaker: University of Houston Workshop on Recruitment and Retention of Mexican-American Students
- 1973 Featured guest: 30-minute interview on Channel 13 show "La Raza" to discuss the problems of the Mexican-American in education, Houston, Texas
- 1973 Featured guest: Channel 2 show "Hola Amigos" to discuss problems of the Mexican-American in Education, Houston, Texas
- 1974 Invited speaker: "Interpretation of College Board Scores for Mexican-American Students," American Association for the Advancement of Science annual meeting, San Francisco, California
- 1975 Participant: American Association of Medical Colleges (AAMC) conference on evaluation of the MCAT (Standard entrance examination for medical schools) and its relationship to Mexican-American students, Los Angeles, California
- 1976 Invited guest: Channel 2 show "All the People" to discuss Mexican-Americans in science, Oakland, California

- 1978 Keynote speaker: Conference on the Status and Issues of Chicanos and Native American Participation in Science, sponsored by SACNAS, Boulder, Colorado
- 1979 Invited speaker: Symposium on Contemporary Role Models, sponsored by SACNAS and AAAS, Houston, Texas
- 1985 Judge: High School Science Essay Contest, Sponsored by Organization of Chinese American Women
- 1986 Keynote speaker: Hispanic Week, University of Texas, El Paso
- 1987 Invited speaker: Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Conference, El Paso, Texas
- 1988 Invited speaker: The National Chicano Council for Higher Education Research Symposium for Undergraduate Science Fellows, Irvine, California
- 1988 Commentary: "American Minority Students: A Valuable and Neglected Resource," SIAM News, November
- 1989 Keynote speaker: "The Role of American Minorities in Science and Engineering," NIH MBRS National Meeting, Houston, Texas, October
- 1989 Invited speaker: "A Career in Education: The Right Choice," The 1989 Hispanic Engineer National Achievement Awards Conference, Houston, Texas, October
- 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999  
Design, implement and direct the following CRPC Rice University minority programs:
- (a) One week Mathematical and Computational Sciences Awareness Summer Course for K-12 mathematics and science teachers from schools with significant minority enrollment;
  - (b) Spend the Summer with a Scientist program for minority science undergraduates
- 1989 Invited speaker: Region VI workshop-Making Mathematics Work for Minorities, a project of the Mathematical Sciences Education Board, San Antonio, Texas
- 1990 Invited speaker: Recruitment and Retention of Minority Students in Science and Engineering. Consult with the administration of the University of Tulsa concerning the design and implementation of minority education programs, March
- 1990 Consult with the administration of the University of California-Davis, concerning the design and implementation of minority education programs, May
- 1990 Invited speaker: "Minority Scientist-Conflicting Roles," Western regional meeting of Danforth-Compton Minority Fellows, University of Texas, Austin, Texas, April
- 1990 Invited speaker: Hispanic Education Summit, Houston, Texas, April
- 1990 Invited participant: National Convocation of Mathematical Sciences Education Board Making Mathematics Work for Minorities project, Washington, DC. Received award from National Research Council as one of twenty most influential leaders in minority mathematics education, May
- 1990, 1991, 1992, 1993, 1994  
Participate in Center for Research on Parallel Computation, California Institute of Technology, Mathematical and Computational Sciences Awareness course for mathematics teachers from high schools with significant minority enrollment, June



- 1990 Participate in Snowbird Conference, Computing Research Board, The Association for the Advancement of Computing Research, Snowbird, Utah and discuss Rice minority programs and minority pipeline issues in science and engineering, July
- 1990, 1991, 1992  
Invited speaker: "Minority Issues in Mathematics Education," RUSMP (Rice University Science and Mathematics Project) Program for High School Teachers, Houston, Texas, July
- 1990 Keynote speaker: "Minority Educational Issues and their Impact on Houston and Texas," Rice President's Luncheon Series, Houston, Texas, November
- 1990 Invited speaker: "Minority Women in the Mathematical Sciences," National Conference on Women in the Mathematical Sciences, Austin, Texas, December
- 1991 Invited speaker: "A Career in Industry or University," SACNAS (Society for the Advancement of Chicanos and Native Americans in Science), National Meeting, Irvine, California, January
- 1991 Invited speaker: "Nurturing Minority Graduate Students in Mathematics," American Mathematical Society and Mathematical Association of America Joint National Meeting, San Francisco, California, January
- 1991 Invited speaker: "The Changing Role of Mathematics and its Implication to Minority Education," Teacher in-service, High School for the Health Professions, Houston, Texas, February
- 1991 Invited speaker: "Minority Educational Issues: Motivation and Opportunities," presented to faculty and students of the High School for the Health Professions, Mercedes, Texas, February
- 1991 Invited speaker: "Recent Developments in Interior-point Methods for Linear Programming: An Overview," Exxon Production Research, Houston, Texas, March
- 1991 Invited speaker: "Opportunities in Science and Engineering" Address parents of first and second graders at J.P. Henderson Elementary School (predominantly Hispanic), Houston, April
- 1991 Invited speaker: "Recruitment and Retention of Women and Minorities in Science and Engineering" Address science faculty, University of Utah, April
- 1991 Invited speaker: "Diversity Issues in Mathematics" Address combined Math Department faculties of the University of California, San Francisco, April
- 1991 Invited speaker: "Recruitment and Retention of Graduate Minority Students" Address Chairs of Departments, College of Liberal Arts, Texas A&M University, College Station, September
- 1991 Invited speaker: "Meeting Today's Challenges: Minorities in the Sciences" Celebrating Diversity Conference, University of Houston, October (invited by President of the University), October
- 1991 Invited speaker and participant: "Equality of Opportunity," Workshop on Human Resources in Computer Science and Technology, National Research Council, Irvine, California, October
- 1991 Invited speaker: "Diversity Issues in Science and Engineering" Address Echo 1, Undergraduate Minority Support Group, University of Texas, Austin, November

- 1991 Invited speaker: "The Changing U.S. Demographics and the Mathematical Sciences Pipeline," 1991 Mathematical Sciences Department Chairs Colloquium, Board on Mathematical Sciences, Washington, DC, October
- 1992 Invited speaker: "Computation: An Indispensable Part of Today's Science," SACNAS (Society for the Advancement of Chicanos and Native Americans in Science), National Meeting, San Antonio, Texas, January
- 1992 Keynote speaker: "Building the Future," Mathematics 2000; California Coalition for Mathematics, Sacramento, March (invited by the Governor's Office)
- 1992 Participant: "Gender Equity," panel discussion, Pacifica Radio, Houston, March
- 1992 "The Changing Role of Mathematics," North Harris Community College Math Club, Houston, April
- 1992 Keynote speaker: "Diversity and the Changing Role of Mathematics," Hispanic Heritage Week, Sandia National Laboratory, Albuquerque, May
- 1992 "Our Hispanic Heritage and Science," address to the fourth and fifth grade class, West University Elementary School, Houston, May
- 1992 Conduct Computational and Mathematical Sciences Awareness Workshop for K-12 teachers from schools with large minority enrollments:  
     (i) July 19                      SIAM National Meeting, Los Angeles  
     (ii) July 31                     Sandia National Labs, Albuquerque
- 1992 Invited speaker: "The Dynamics of Exclusion," Changing the Culture Workshop, Center of Research in Astrophysics, University of California, Berkeley, June
- 1992 Commencement speaker, High School for the Health Professions, Mercedes, Texas, June
- 1992 "Why should I go to College?" address to graduating seniors, Milby High School, Houston, June
- 1992 In-service presentation: "The Necessity of High Expectations for Minority Youth," LaGrange Middle School faculty, LaGrange, Texas, August
- 1992 Keynote speaker: "Contemporary Educational and Diversity Issues," Sandia National Labs. Outreach Program for high school students and teachers, Livermore, California, September
- 1992 In-service presentation: "What Universities Expect from Today's Student," Milby High School faculty, Houston, September
- 1992 In-service presentation: "The Need for Sensitivity in Diversity Issues," West University Elementary School faculty, Houston, October
- 1992 Featured guest: "Hola Houston," Fox Channel 26 talk show, Houston, November
- 1992 Panelist: Duke Graduate School Symposium, "The Future of Minorities in American Higher Education," November
- 1993 Presentation: "Math is Necessary," 1993 Hispanic Forum Career and Education Day, Houston, February

- 1993 Presentation: "Rice Outreach Educational Activities," Society of Rice University Women, February
- 1993 Presentation: "Why be a Good Student," second grade class, West University Elementary School, Houston, March
- 1993 Keynote address: "The Value of Education," California Institute of Technology Minority Youth Program, Los Angeles, March
- 1993 In-service presentation: "Hispanic Heritage and Awareness," Hispanic Awareness Week, West Elementary School, Houston, May
- 1993 Keynote speaker: "The Mayan Connection," Association for the Advancement of Mexican Americans Cinco de Mayo celebration, Houston, May
- 1993 Speaker: Hispanic Awareness Week, Poe Elementary School, Houston, May
- 1993 Keynote speaker: Jackson Middle School First Annual Girl's Athletic Banquet, Pasadena, Texas, May
- 1993 Keynote speaker at the Cinco de Mayo celebration, King Middle School, Crosby, Texas, May
- 1993 Invited speaker: "The Changing Role of Mathematics and National Agenda Issues," Rice University School Mathematics Project, June
- 1993 Graduation speaker: (MS2) Middle School Math and Science Project, San Jacinto Community College, Pasadena, Texas, June
- 1993 Graduation speaker: Math/Science Institute mini-graduation, Kincaid High School, Houston, Texas, July
- 1993 Special lecture: "The Health of the Nation," Families Weekend, Rice University, Houston, September
- 1993 In-service presentations to teachers and students of Dibol Independent School District, Dibol, Texas, September
- 1994 Invited speaker: Hispanic Forum Career Day, George Brown Convention Center, Houston, Texas, February
- 1994 Invited speaker: Diversity Issues, staff development program, Dupont Corporation, LaPorte, Texas, February
- 1994 Address student body, staff, and teachers on the value of education, Scarsborough Elementary School, Houston, February
- 1994 Organize and lead one-day workshop: "Say 'Yes' to a Youngster's Future" The workshop was held on the Rice campus and attended by approximately 120 teachers, students and parents from Eighth Avenue Elementary School (predominantly Hispanic) in Houston, February
- 1994 Invited address: The Role of the Computational Sciences in Mathematics, SACNAS (Society for the Advancement of Chicanos and Native Americans in Science) National Meeting, Chicago, Illinois, March
- 1994 Keynote speaker: Rice Undergraduate Minority Student Program Advance Annual Banquet, Houston, Texas, April

- 1994 Invited speaker: "Multicultural Issues in Mathematics," Education Department Symposium, Rice University, Houston, Texas, April
- 1994 Keynote speaker: Promoting Representation of Women and Minorities in Mathematics, University of Houston Clear Lake Conference, Houston, Texas, April
- 1994 Keynote speaker: "Diversity Issues in Higher Education: 25 Years Later - What Has Changed," University of Illinois, Urbana-Champaign, Illinois, April
- 1994 Keynote speaker: Hispanic Heritage Program, University of Illinois, invited by Latino Graduate Student Association, Urbana-Champaign, Illinois, April
- 1994 Keynote Speaker: Semana Latina program, California Institute of Technology, invited by Latino Graduate Student Association, Pasadena, California, May
- 1994 Commencement Speaker, Jefferson Davis Night School, Houston, June
- 1994 Invited Speaker: "Society and Contemporary Issues in Mathematics Education," Rice University School Mathematics Project, June
- 1994 Invited speaker: "Societal and Contemporary Issues in Mathematics Education," California Institute of Technology Awareness Workshop for Secondary School Mathematics Teachers, Pasadena, California, June
- 1994 Invited speaker: "Contemporary Issues in Mathematics," CalTech, Pasadena, California, June
- 1994 Invited speaker: "Contemporary Issues in Mathematics," Rice University School Mathematics Project, Houston, Texas, June
- 1994 Invited speaker: "Contemporary Issues in Mathematics," The Rice K-8 School/La Escuela Rice, Houston, Texas, June
- 1994 Invited speaker: "Increasing the Representation of Minorities and Females in Science, Engineering, and Mathematics: Focusing on Educational Strategies," Texas Education Agency, Austin, Texas, July
- 1994 Keynote speaker: "Education: The Key to Success Not Only for the Individual but the Nation," 11th Annual Scholarship Banquet, Society of Mexican American Engineers and Scientists, Houston, Texas, July
- 1994 Invited speaker: "Orchestrating Mathematics Instruction to the National Needs of Science and Society," Conference for the Advancement of Mathematics Teaching, Houston, Texas, August
- 1994 Invited speaker: "Orchestrating Mathematics Instruction to the National Needs of Science and Society," Fiesta Young Leaders of the National Hispanic Institute, Houston, Texas, August
- 1994 Invited speaker: "Orchestrating Mathematics Instruction to the National Needs of Science and Society," 1960 Area Council Teachers of Mathematics, Tomball School District, Tomball, Texas, September
- 1995 Invited speaker: "The Rice Computational and Mathematical Sciences Awareness Workshop for K-12 Educators," Texas Education Agency, Austin, Texas, January
- 1995 Invited speaker: "Value of Education, Value of Mathematics, and Career Options,"

Westbury High School Luncheon, Houston, Texas, January

- 1995 Invited speaker: "Computational Science: The Contemporary Challenge of Mathematics," Department of Mathematics and Statistics, The University of New Mexico, Albuquerque, New Mexico, February
- 1995 Invited guest: Latin America into the 21st Century, Rice University, Houston, Texas, February
- 1995 Keynote speaker: "Challenges of Contemporary Mathematics Education," Annual Mathematics Conference for K-12 Mathematics Teachers, Houston Council of Teachers of Mathematics, Houston, Texas, February
- 1995 Invited speaker: "On the Retention of Minorities and Women in Mathematical Sciences Graduate Programs," 1995 American Association for the Advancement of Science, Atlanta, Georgia, February
- 1995 "Rice Minority and Educational Outreach Activity," National Science Foundation Site Visit, Rice University, Houston, Texas, April
- 1995 Invited speaker: Cinco de Mayo Celebration, Dickinson High School, Dickinson, Texas, May
- 1995 Invited speaker: "Underrepresentation: Anatomy of Failure and Steps Toward Success," Minorities in Computing, National Science Foundation, Washington, District of Columbia, May
- 1995 Invited speaker: "Orchestrating Mathematics Instruction to the National Needs of Science and Society," Rice University School Mathematics Project and GirlTech '95, Rice University, Houston, Texas, June
- 1995 Invited speaker: "A National Need: Enhanced Interaction with the K-12 Community," Seminars on Academic Computing, Snowmass Village, Colorado, August
- 1995 Invited speaker: "Encouraging Minorities in Computational Science and Engineering," Association of Computer and Information Science/Engineering Departments at Minority Institutions, ADMI '95 Workshop, New Orleans, Louisiana, August
- 1995 Keynote address: "The Ingredients of Success," The First SC-COSMIC Student Conference on Computational Sciences, University of Houston-Downtown, Houston, Texas, October
- 1995 Moderator: "The Real Deal: An Informal Graduate Student Session," SIAM National Meeting, Charlotte, North Carolina, October
- 1995 Invited speaker: "Underrepresentation and the Lack of Homogeneity in the Minority Population," Diversity Day, Shell Oil Company, Houston, Texas, November
- 1996 Invited speaker: "Mathematics Education and National Concerns," MAA Student Lecture, Joint Mathematics Meeting, Orlando, Florida, January
- 1996 Invited panel member: "Affirmative Action and Underrepresented American Minorities in Mathematics at the Graduate and Professional Levels," NAM Panel Discussion, Joint Mathematics Meeting, Orlando, Florida, January
- 1996 Invited speaker: "Orchestrating Mathematics Instruction to the National Needs of Science and Society," Student Conference on Mathematics and Its Applications, Department of Computing and Mathematical Sciences, Texas A&M University, Corpus

Christi, Texas, February

- 1996 Invited speaker: "A Case for Affirmative Action at Research Universities," Cornell University, Ithaca, New York, April
- 1996 Featured: interview on "Week Night Edition," Channel 8, Houston, Texas, April
- 1996 Featured: in six-part documentary "Breakthrough: The Changing Face of Science in America," Channel 8, Houston, Texas, April
- 1996 Invited speaker: "A Case for Affirmative Action at Research Universities," Cornell University, Ithaca, New York, April
- 1996 "Affirmative Action: What have we learned, what must we do?" Office of the President, Rice University, Houston, Texas, April
- 1996 Keynote speaker: 1996 Fifth Annual Scholars' Banquet, Houston Independent School District, Houston, Texas, May
- 1996 "Educational Outreach in the Computational and Mathematical Sciences," W.M. Keck Center for Computational Biology, Keck Retreat '96, Galveston, Texas, September
- 1996 Motivational address to the entire second grade class at West University Elementary, Houston, Texas, September
- 1996 Invited speaker: "Issues that Impact K-12 Math Education," HISD Math Summit Meeting, Houston, Texas, September
- 1996 Radio interview: Hispanic Radio Network, September
- 1996 Motivational address to the high school program at the Hispanic Engineer National Achievement Awards Conference (HENAAC), Houston, Texas, October
- 1996 Invited speaker: "Retention Issues at Rice University," Stanford and Sloan Conference on Increasing the Minority Ph.D.s in Engineering, Science, and Mathematics, Stanford, California, October
- 1996 Invited speaker: "Ways Industry and Universities Can Cooperate to Improve the Representation of Hispanics in Science and Engineering," Hispanic Engineer National Achievement Awards Conference (HENAAC), Houston, Texas, October
- 1997 Invited speaker: "The Death of Affirmative Action: What has Rice learned?" Association of Rice Alumni, Rice University, Houston, Texas, January
- 1997 Invited speaker: "Balancing Professional and Minority Issues," ADVANCE (Advocating Diversity and Assisting Career Exploration), Rice University, Houston, Texas, March
- 1997 Keynote speaker: "National Agenda Issues in Science and Underrepresentation," National Alliance of Research Centers of Excellence, El Paso, Texas, March
- 1997 Commencement speaker: George I. Sanchez High School, Houston, Texas, May
- 1997 Invited speaker: "Orchestrating Mathematics Instruction to the National Needs of Science and Society," Rice University School Mathematics Project, Rice University, Houston, Texas, June
- 1997 Invited speaker: "The Changing Role of Mathematics: Enter the Computational

- Sciences,” Alliance for Minority Participation Conference, Las Cruces, New Mexico, July
- 1997 Invited speaker: “National Agenda and Societal Issues Affecting Contemporary Mathematics Education,” Conference for the Advancement of Mathematics Teaching, Houston, Texas, July
- 1997 Invited speaker: “The Changing Role of Mathematics: Enter the Computational Sciences,” New Mexico State University, Las Cruces, New Mexico, July
- 1997 Invited speaker: “Diversity: A Contemporary National Challenge,” Northwestern University, Chicago, Illinois, September
- 1997 Invited speaker: “U.S. Hispanics: Diversity within Diversity,” National Hispanic Heritage Month Celebration, National Science Foundation, Washington, DC, September
- 1997 Conduct K-12 Science and Mathematics Enrichment Seminar for K-12 teachers from schools with large minority enrollments, SACNAS National Conference, Houston, Texas, October
- 1997 “Awareness and Sensitivity Issues Affecting K-12 Education,” K-12 Science and Mathematics Enrichment Seminar, SACNAS National Conference, Houston, Texas, October
- 1997 “U.S. Hispanics: Diversity within Diversity,” Office of the President, Rice University, Houston, Texas, November
- 1997 Keynote address (Education Component): “National Agenda and Societal Issues Affecting Contemporary Mathematics Education,” Supercomputing ‘97, San Jose, California, November
- 1997 “Integrating Applications, Computation, and Technology into Education,” Computational Biomedicine Symposium, Baylor College of Medicine, Houston, Texas, December
- 1998 “Assessing and Evaluating the Evaluation Tool - The Standardized Test,” 1998 NISE Forum: Assessment and the Promotion of Change, Washington, DC, February
- 1998 White House invited panelist: Meeting America’s Needs for the Scientific and Technological Challenges of the Twenty-First Century, AAAS 150th Anniversary Meeting, Philadelphia, Pennsylvania, February
- 1998 “What Can Computer Center Directors Do to Improve Underrepresentation,” Invited speaker, Coalition of Academic Supercomputing Centers (CASC) Meeting, Houston, Texas, April
- 1998 “Our National Health: Underrepresentation and Other Issues,” Invited speaker, University of Texas, Pan American, Edinburg, Texas, April
- 1998 Invited speaker: HISD Outstanding Progress Awards Event, Rice University, Houston, Texas, April
- 1998 Keynote address: “National Agenda and Societal Issues Affecting Contemporary Mathematics Education,” Fourth Conference for African-American Researchers in the Mathematical Sciences, Rice University, Houston, Texas, June

- 1998 Commencement address: "The Civic Scientist: Participation in Current National, Societal and Educational Problems," Division of Physical Science, University of California, Los Angeles, June
- 1998 Invited speaker: "National Agenda and Societal Issues Affecting Contemporary Mathematics Education," Rice University School Mathematics Project, Rice University, Houston, Texas, June
- 1998 Keynote address: "Mentoring for the 21st Century," Mentoring for the 21st Century: A Symposium, Presidential Awards for Excellence in Science, Mathematics, and Engineering Mentoring Program, Washington, DC, September
- 1998 Invited speaker: "Diversifying the Student Body in a Post Hopwood Era: The Rice Experience," Achieving Graduate Diversity Conference, University of California, Berkeley, California, September
- 1998 Invited speaker: "A Pyramid of Mentoring," Achieving Graduate Diversity Conference, University of California, Berkeley, California, September
- 1998 Invited speaker: "Diversifying the Student Body in a Post Hopwood Era: The Rice Experience," Boston University, Boston, Massachusetts, November
- 1998 Invited panelist: "Achieving Diversity in the Science and Engineering Professoriate," National Science Foundation, Arlington, Virginia, November
- 1998 Invited speaker: 1998 SHPE Region V RSLC, Rice University, Houston, Texas, November
- 1999 "Some Fundamental Issues in Affirmative Action, Admissions, Retention, and Faculty Hiring," Sloan Conference, Rice University, Houston, Texas, March
- 1999 "Mentoring Minority Women in Science: Special Struggles," Committee on Women in Science and Engineering Symposium - Careers of Women in Science: Who Will Do the Science of the Future, Washington, DC, April
- 1999 Commencement speaker, Jesse H. Jones High School, Houston, Texas, May
- 1999 Keynote address, SSRC-Mellon Summer Conference, Brown University, Providence, Rhode Island, June
- 1999 "Some Fundamental Issues in Affirmative Action, Admissions, Retention, and Faculty Hiring," The University of Wisconsin, Madison, Wisconsin, June
- 1999 "Promoting National Minority Leadership," The University of Wisconsin, Madison, Wisconsin, June
- 1999 "Diversity Awareness," South Texas Science Academy Summer Visitation Program, Rice University, Houston, Texas, June
- 1999 "Diversity Awareness," Milby Summer Visitation Program, Rice University, Houston, Texas, June
- 1999 U.S. Department of Energy Faculty and Student Undergraduate Research Education Conference, Argonne National Laboratory, Argonne, Illinois, July
- 1999 "But We're Not an Internet Company," Houston Hispanic Professionals Leadership Day, Jesse H. Jones Graduate School of Management, Rice University, Houston, Texas,



## August

- 1999 “The Educational, Outreach and Training Partnership for Advanced Computational Infrastructure,” 99 Conference, University of New Mexico, Albuquerque, New Mexico, August
- 1999 “Views on Latinos in the Academia,” (SOLAR) Society of Latino Alumni of Rice, Rice University, Houston, Texas, September
- 1999 Keynote address, Faculty Senate Meeting, University of Houston, Houston, Texas, October
- 1999 Welcoming address, National Science Foundation Summit Meeting on Promoting National Minority Leadership in Science and Engineering, Rice University, Houston, Texas, October
- 1999 “Lack of Minority Leadership: Possible Causes and Plausible Solutions,” National Science Foundation Summit Meeting on Promoting National Minority Leadership in Science and Engineering, Rice University, Houston, Texas, October
- 1999 “Mentoring Effectively: Preparing Minority Students for Careers in Physical and Mathematical Sciences,” MURPPS Annual Orientation, University of California, Davis, California, October
- 1999 “How is Society Failing our Children,” Schools of Excellence Conference for all elementary division teachers, administrative officials, and counselors, Houston, Texas, November
- 1999 “How is Society Failing our Children,” Schools of Excellence Conference for all secondary division teachers, administrative officials, and counselors, Houston, Texas, November
- 1999 Consulted with T.J. Watson Research Center’s Vice President for Research Paul Horn on issues of diversity and inclusiveness, December
- 2000 Keynote address, “Education and the Parents’ Role: Important Components of your Child’s Future,” Magnolia Learning Community Conference, Houston, Texas, January
- 2000 Keynote address, “Balancing the Role of Minority and Scientist,” 7th Biennial Symposium on Minorities, the Medically Underserved, and Cancer, Washington, DC, February
- 2000 “Mentoring Women and Minorities,” NPACI All Hands Meeting, San Diego, California, February
- 2000 Attended the Public Affairs Advisory Group (PAAG) Meeting, National Science Foundation, Washington, DC, February
- 2000 Chaired the Retention Session of the Workshop 2000: A National Dialogue to Move Minority Graduate Education Forward, Atlanta, Georgia, February
- 2000 “Research and Education: Bridging the Gap,” Texas Southern University, Houston, Texas, March
- 2000 Presented at the Undergraduate Research Symposium 2000, University of Wisconsin, Madison, Wisconsin, April
- 2000 Invited address, Racial Solidarity Week, Rice University, Houston, Texas, April

- 2000 Keynote address, McDonald's Award Luncheon, Houston, Texas, May
- 2000 "Diversity: Achievement," NISE Forum: Diversity and Equity Issues in Mathematics and Science Education, Detroit, Michigan, May
- 2000 Design, implement and direct the following Center for Excellence and Equity in Education (CEEE) Rice University outreach programs:
- (a) Two week GirlTECH - Mathematical and Computational Sciences Awareness Summer course for K-12 mathematics and science teachers from schools with significant minority enrollment;
  - (b) Alliances for Graduate Education and the Professoriate (AGEP) provides a year round community experience that encourages science, mathematics, and engineering graduate enrollment, supports Ph.D. degree completion, and exposes students to rigorous academic disciplines.
- 2000 "Diversity Awareness," South Texas Science Academy Summer Visitation Program, Rice University, Houston, Texas, June
- 2000 "Diversity Awareness," Milby/YES Summer Visitation Program, Rice University, Houston, Texas, June
- 2000 K-12 Teacher Workshop, SIAM National Meeting, San Juan, Puerto Rico, July
- 2000 Featured guest: "Underrepresentation: K-12 Education and the Cities," Math Medley talk show, Renaissance Radio, Phoenix, Arizona, July
- 2000 U.S. Hispanics: Diversity within Diversity, Keynote address in honor of Hispanic Heritage Month, Lawrence Livermore National Laboratory, Lawrence, California, October
- 2000 Tenure: You Can't Get There Without It," Session on Junior Faculty Issues, SACNAS National Meeting, Atlanta, Georgia, October
- 2000 U.S. Hispanics: Diversity within Diversity, Keynote address in honor of Hispanic Heritage Month, Compaq Computers, Houston, Texas, October
- 2000 The History of La Posada," La Posada, Hispanic Association for Cultural Enrichment at Rice (HACER), Rice University, Houston, Texas, December
- 2001 "Work Habits, Education, and Self Worth: Ingredients for Success," Invited speaker, Travis Elementary School, Parent-Teacher Association (PTA), Houston, Texas, February
- 2001 "State of EOT-PACI," NPACI All Hands Meeting, San Diego, California, February
- 2001 "Serving as a Mentor and Collaborator in Your Discipline and at Your Institution," QEM/TSU Scholarly Productivity Workshop, Texas Southern University, Houston, Texas, March
- 2001 "Texas K-12 Educational System: Should it be a national model?" National Council for Supervisors in Mathematics, Orlando, Florida, April
- 2001 "Work Habits, Education, and Self Worth: Ingredients for Success," Joe Barnhart Lectureship, Beeville, Texas, April
- 2001 "Some Fundamental Issues in Affirmative Action, Admissions, Retention, and Faculty Hiring," Alfred P. Sloan Engineering and Science Underrepresented Minority Ph.D.

- Recruitment and Retention Conference, The City College of New York of The City University of New York, New York, New York, April
- 2001 Welcome address, GK-12 Fellows Reception, Rice University, Houston, Texas, May
- 2001 Design, implement and direct the following Center for Excellence and Equity in Education (CEEE) Rice University outreach programs:
- (a) Two week TeacherTECH - Mathematical and Computational Sciences Awareness summer course for K-12 mathematics and science teachers from schools with significant minority enrollment;
  - (b) Alliances for Graduate Education and the Professoriate (AGEP) provides a year-round community experience that encourages science, mathematics, and engineering graduate enrollment, supports Ph.D. degree completion, and exposes students to rigorous academic disciplines.
- 2001 Invited address, United Way Scholars, Enron and United Way of the Texas Gulf Coast, Houston, Texas, June
- 2001 "Diversity Awareness," South Texas Science Academy Summer Visitation Program, Rice University, Houston, Texas, June
- 2001 "Diversity Awareness," Milby/YES Summer Visitation Program, Rice University, Houston, Texas, June
- 2001 "Promoting Participation of Underrepresented Groups in Science and Engineering," TeacherTECH '01 Awareness Day, Rice University, Houston, Texas, June
- 2001 "What Is Computation? How Has It Changed the Way Science is Done?" TeacherTECH '01 Awareness Day, Rice University, Houston, Texas, June
- 2001 "Computational Science in K-12," Contemporary Topics in Computational Science Education Session, Society for Industrial and Applied Mathematics (SIAM) Annual Meeting, San Diego, California, July
- 2001 "The need for Minority Leadership at the National Level" Invited speaker, Purdue University, West Lafayette, Indiana, September
- 2001 Invited speaker, Burbank Middle School Visit, Rice University, Houston, Texas, October
- 2001 "Diversity and Underrepresentation at Rice and Beyond," Parents Weekend, Rice University, Houston, Texas, October
- 2001 Invited speaker, Institute of Technology-Monterrey, Mexico Visit, Rice University, Houston, Texas, October
- 2001 Invited speaker, Hogg Middle School Visit, Rice University, Houston, Texas, October
- 2001 "Diversifying Computing: Its Successes, Challenges, and Contradictions," Richard Tapia Celebration of Diversity in Computing Symposium 2001, Houston, Texas, October
- 2001 "Contemporary Successes, Challenges, and Contradictions in Diversifying Education," Invited address, Rice University Chinese American Association, Rice University, Houston, Texas, November
- 2002 "No Child Left Behind: Its Anticipated Successes, Challenges, and Contradictions," Holland Lecture, Washington State University, Pullman, Washington, February

- 2002 "Minority Mathematics Professor: Confessions of a Round Peg in a Square Hole," Issues for Ethnic Minorities and Women in Science and Engineering Lecture Series, University of Washington, Seattle, Washington, February
- 2002 HISD Engineer Activity Week, Rice University, Houston, Texas, February
- 2002 "How Computation is Changing Science and Mathematics," A Texas Leadership Conference: Using Modeling, Visualization, and Data Management as Tools for Transferring Current Research into High School Mathematical Sciences, Rice University, Houston, Texas, March
- 2002 "Communication at the Heart of a Community for Underrepresented Minorities and Women in Graduate School, The Sixth Annual Writing Across the Curriculum 2002 Conference, Rice University, Houston, Texas, March
- 2002 "Contributions to Session Two of the 1998 NISE Forum: Assessment and the Promotion of Change: Assessing and Evaluating the Evaluation Tool - The Standardized Test," Psychology Testing Class, Rice University, Houston, Texas, March
- 2002 Invited speaker, Minority Graduate Education at Mountain State Alliance ([MGE@MSA](mailto:MGE@MSA)) Faculty Doctoral Mentoring Institute, Arizona State University, Tempe, Arizona, March
- 2002 Invited speaker, Diaz Music Institute Gala, Houston, Texas, April
- 2002 Invited speaker, Hogg Middle School, Houston, Texas, April
- 2002 Invited panel participant, "Science and Engineering Education," Space: A Critical Issues Workshop, James A. Baker III Institute, Rice University, Houston, Texas, May
- 2002 "Diversifying Computing: Its Successes, Challenges and Contradictions," 2002 All Hands Meeting – "Expeditions for the Future," Champaign-Urbana, Illinois, May
- 2002 "Success for All: Its Contradictions and Challenges," TeacherTECH '02 Awareness Day, Rice University, Houston, Texas, June
- 2002 "Success for All: Its Contradictions and Challenges," South Texas Science Academy Workshop, Rice University, Houston, Texas, June
- 2002 "Success for All: Its Contradictions and Challenges," Keynote address, The Annual RSI Systemic Leadership Institute, Corpus Christi, Texas, June
- 2002 "Success for All: Its Contradictions and Challenges," Alliances for Graduate Education and the Professoriate (AGEP) Summer Program, Rice University, Houston, Texas, June
- 2002 "Success for All: Its Contradictions and Challenges," Milby High School/YES Summer Workshop, Rice University, Houston, Texas, June
- 2002 Invited speaker, "Diversifying Computing: Its Successes, Challenges, and Contradictions," CRA Conference at Snowbird 2002, Snowbird, Utah, July
- 2002 Invited plenary address, "Diversifying Computing: Its Successes, Challenges, and Contradictions," MGE@MSA Doctoral Mentoring Institute, University of Utah, Salt Lake City, Utah, September
- 2002 Congressional testimony, BEST (Building Engineering and Science Talent) Leadership Meeting on Capitol Hill, Washington, DC, September

- 2002 "Promoting Teacher Leadership through University Collaboration," CEEE International Visitor Session, Rice University, Houston, Texas, October
- 2002 Panel discussion, National Campus Diversity Project Visit, Rice University, Houston, Texas, November
- 2002 Plenary session, "Creating Environments for Change," Sigma Xi Forum, Galveston, Texas, November
- 2002 Keynote address, RAMAS 30th Anniversary Celebration, Rice University, Houston, Texas, November
- 2002 Invited address, "National Science Foundation: Priorities and Opportunities," 2002 Governor's Conference on Science, Technology, and Mathematics Education, Leading Texas to the Next Level: No Child Left Behind and Beyond, Austin, Texas, November
- 2003 "Let's Tackle the Hard Questions," Engineering Bridges Symposium, Rice University, Houston, Texas, January
- 2003 Invited address, "Promoting Participation of Underrepresented Groups in Science and Engineering," Chevron Phillips Chemical Company, Kingwood, Texas, February
- 2003 "Examining the Minority-Majority Achievement Gap," UK Educational Group, Rice University, Houston, Texas, February
- 2003 Invited address, "Some Applications in Mathematics in My Real Life", Eastwood Academy, Houston, Texas, February
- 2003 Invited speaker, Say Yes to Engineering Group, Rice University, Houston, Texas, February
- 2003 Invited address, Vision 2003, Rice University, Houston, Texas, February
- 2003 Invited address, "Success for all: A Personal and a National Challenge," IMPACT 03, University of Michigan, Ann Arbor, Michigan, March
- 2003 Invited address, "Mentoring Underrepresented Minority Graduate Students" Third Annual Minority Graduate Education at Mountain States Alliance (MGE@MSA) Student Research Conference and Graduate Fair, Arizona State University, Tempe, Arizona, April
- 2003 Invited address, "Post-Affirmative Action Challenges to Diversity in Higher Education", California Institute of Technology, Pasadena, California, May
- 2003 Invited address, "Some Applications in Mathematics in My Real Life", Role Model Program, Rice University, Houston, Texas, May
- 2003 Invited address, "Maximizing the Impact on Higher Education" GEM/NACME "Engineering Collaborations" Conference, Houston, Texas, May
- 2003 Invited address, "Post-Affirmative Action Challenges to Diversity in Higher Education", AGEP Summer Program, Rice University, Houston, Texas, June
- 2003 Invited address, "Some Applications in Mathematics in My Real Life," South Texas Science Academy Workshop, Rice University, Houston, Texas, June
- 2003 Invited address, "Some Applications in Mathematics in My Real Life" Milby High School/YES Summer Workshop, Rice University, Houston, Texas, June

- 2003 Keynote address, 2003 Summer Research Opportunities Program (SROP) Conference, University of Minnesota, Minneapolis, Minnesota, July
- 2003 Keynote speaker, Texas Leadership, Education, and Diversity Conference at Jones Graduate School of Management, Rice University, Houston, Texas, August
- 2003 Invited panelist, "Changing Demographics and Challenges of the Future," National Science Board Workshop, Broadening Participation in Science and Engineering Research and Education, August
- 2003 Invited address, "Success for All: Its Challenges and Contradictions" University of New Mexico AGEP, Socorro, NM, September
- 2003 Panelist, "Politically Incorrect, Fast Pitch, Hardball Or Asking the Hard Questions about Diversity in Computing: An Inquisition of Richard Tapia", Richard Tapia Celebration of Diversity in Computing Symposium 2003, Atlanta, Georgia, October
- 2003 Invited speaker, "Mentoring Underrepresented Minority Graduate Students" Minority Graduate Education at Mountain State Alliance (MGE@MSA) Utah Faculty Mentoring Institute, October
- 2004 "Promoting Teacher Leadership through University Collaboration" UK Educational Group, Rice University, February
- 2004 "Fusing Art and Mathematics through Cars" Rice University - Say "YES" to Engineering Program, February
- 2004 Invited address, "Fusing Art and Mathematics through Cars" Vision 2004, Rice University, Houston, Texas, February
- 2004 Invited address, "Mentoring Underrepresented Minority Graduate Students," Minority Graduate Education at Mountain State Alliance (MGE@MSA) Faculty Mentoring Institute, Arizona State University, March
- 2004 Invited address, "Fusing Art and Mathematics through Cars" Burbank Middle School group, Rice University, March
- 2004 "Examining the Minority-Majority Achievement Gap" UK Educational Group, Rice University, April
- 2004 Invited address, Women@SCS Organization Presentation, Carnegie Mellon University, Pittsburgh, Pennsylvania, May
- 2004 Invited address, "Mathematics is Everywhere in My Real Life", South Texas Science Academy Workshop, Rice University, Houston, Texas, June
- 2004 "Issues and Opportunities in Underrepresented Populations", NAE Committee on Diversity in the Engineering Workforce, June
- 2004 Invited address, "Mathematics is Everywhere in My Real Life", Milby High School/YES Summer Workshop, Rice University, Houston, Texas, June
- 2004 Invited Panelist, "Politically Incorrect, Fast Pitch, Hardball or Asking the Hard Questions about Diversity in Computing: An Inquisition of Richard Tapia", CRA Conference, Snowbird, Utah, July

- 2004 "Success For All: Its Contradictions and Challenges", TeacherTECH '04 Awareness Day, Rice University, Houston, Texas, July
- 2004 Invited address, "A Lifetime of Diversity: Challenges and Successes", CIRTL Conference, Madison, Wisconsin, August
- 2004 Invited address, H-LSAMP 4th Annual Student Presentation Conference, University of Houston, Houston, Texas, October
- 2004 Participant, Workshop on Broadening Participation in Computing, Washington, DC, October
- 2004 "A Lifetime of Diversity: Challenges, Successes, and Rewards," Blackwell-Tapia Conference and Prize Presentation, Los Angeles, California, November
- 2004 Invited speaker, NSF-Computer Science, Engineering, Mathematics Scholar Awards, Houston Community College, Houston, Texas, November
- 2005 Invited speaker, Costa Rica Alternative Spring Break Fundraiser, Rice University, Houston, Texas, February
- 2005 "Examining the Minority-Majority Achievement Gap," UK Education Group Visit, Rice University, Houston, Texas, February
- 2005 Invited speaker, Latin American Experience 2005 Gala, Museum of Fine Arts Houston, Texas, February
- 2005 Invited speaker, "A Lifetime of Diversity: Challenges, Successes, and Rewards", Center for Subsurface Modeling, University of Texas, Austin, Texas, March
- 2005 Participant, EPIC Leadership Team Meeting, Washington, DC, March
- 2005 Invited speaker, "Promoting Students' Appreciation for Math through Applications to Very Cool Activities," NCTM Annual Meeting, Anaheim, California, April
- 2005 Invited speaker, "Science Research at your Service: Several Exciting Examples," University of Texas, Brownsville, Texas, April
- 2005 Invited speaker, "Mentoring Underrepresented Minority Graduate Students," MGE@MSA, Tempe, Arizona, April
- 2005 Invited speaker, "A Lifetime of Diversity: Challenges, Successes, and Rewards," IMA, Minorities & Applied Mathematics Workshop, University of Minnesota, Minneapolis, Minnesota, April
- 2005 Invited speaker, "Promoting Appreciation for Mathematics through Applications to Very Cool Activities," Kitchen Lecture, Kalamazoo College, Kalamazoo, Michigan, April
- 2005 Invited speaker, "Success and Failures of K-12 High Stakes Testing: A Study of Recent Testing in Texas," Kalamazoo College, Kalamazoo, Michigan, April
- 2005 Invited speaker, "Fusing Art and Mathematics through Cars," Alma Public Schools, Alma, Michigan, April
- 2005 Participant, EPIC Leadership Team Meeting, Rice University, Houston, Texas, May
- 2005 Invited workshop leader, "Mentoring Underrepresented Minority Graduate Students: A Faculty Workshop," Indiana University School of Medicine, Indianapolis, Indiana, May

- 2005 Invited speaker, "Reflections on the Achievement Gap," RUSMP/MLI, Pin Oak Middle School, Houston, Texas, June
- 2005 "Promoting Students' Appreciation for Math through Applications to Very Cool Activities," South Texas Science Academy Visit, Rice University, Houston, Texas, June
- 2005 "Success For All: Its Contradictions and Challenges," TeacherTECH '05 Awareness Day, Rice University, Houston, Texas, June
- 2005 Invited speaker, "Examining the Minority-Majority Achievement Gap," RUSMP/MLI, Pin Oak Middle School, Houston, Texas, June
- 2005 Invited speaker, "Promoting Students' Appreciation for Math through Applications to Very Cool Activities," RUSMP/MLI, Pin Oak Middle School, Houston, Texas, June
- 2005 Invited speaker, "A Lifetime of Diversity: Challenges, Successes, and Rewards," RUSMP/MLI, Pin Oak Middle School, Houston, Texas, June
- 2005 "Promoting Students' Appreciation for Math through Applications to Very Cool Activities," Milby Yes Visit, Rice University, Houston, Texas, June
- 2005 Keynote speaker: "STEM Leadership in the 21st Century: Are You Willing to Lead?," 2005 National Science Foundation Intern Summit, National Science Foundation, Washington, DC, July
- 2005 Invited luncheon speaker, Diversity Day, SIAM Annual Meeting, New Orleans, Louisiana, July
- 2005 Graduate Student Workshop on Diversity, Diversity Day, SIAM Annual Meeting, New Orleans, Louisiana, July
- 2005 Keynote speaker, "Mathematics is Everywhere in My Real Life," Title V Mathematics Workshop, Title V Faculty Leadership Program, Houston Community College System, Houston, Texas, August
- 2005 Invited speaker, "A Lifetime of Diversity: Challenges, Successes, and Rewards," University of California-Berkeley, Berkeley, California, September
- 2005 Participant, Public and Research Advisory Committee Meeting, Austin, Texas, September
- 2005 Invited speaker, "Mentoring Underrepresented Minority Graduate Students" Minority Graduate Education at Mountain State Alliance (MGE@MSA) Utah Faculty Mentoring Institute, September
- 2005 Participant, EPIC All Hands Meeting, Albuquerque, New Mexico, October
- 2005 Invited Panelist, "Leadership: A Diverse Perspective", Richard Tapia Celebration of Diversity in Computing Symposium, Albuquerque, New Mexico, October
- 2005 The Richard Tapia Celebration of Diversity in Computing Symposium, Albuquerque, New Mexico, October
- 2005 "Education for All: Successes and Challenges," UK Education Group Visit, Rice University, Houston, Texas, October



- 2005 Invited speaker, "Mentoring Underrepresented Minority Graduate Students", COMPACT for Faculty Diversity, 2005 Institute on Teaching and Mentoring, Arlington, Virginia, October
- 2005 Invited speaker: "A Lifetime of Diversity: Challenges, Successes, and Rewards – Examining the Minority-Majority Achievement Gap", COMPACT for Faculty Diversity, 2005 Institute on Teaching and Mentoring, Arlington, Virginia, October
- 2005 Invited speaker, "Education Today: Challenges and Successes", Society of Rice University Women, Houston, Texas, October
- 2005 Invited speaker, "Diversity is Stepping on the Toes of Underrepresentation." Quarterly Community Dialogues, Rice University, Houston, Texas, November
- 2005 Welcome Address, SOLAR Homecoming, Rice University, Houston, Texas, November
- 2005 Reactor for the paper entitled "It's Not Rocket Science: 25 Years of Successful Latino Student Advancement and the Prospects for 25 Years More" by Gary Keller, and Antonio G. García which will appear in the July 2006 issue of *The Journal of Hispanic Higher Education*, Latino Achievement in the Sciences, Technology, Engineering and Mathematics Invitational Conference, Princeton, New Jersey, November
- 2005 Invited speaker, "Successes and Challenges in Diversifying Rice, Research Universities, and the National Scientific Workforce", University Professor Lecture, Rice University, Houston, Texas, November
- 2006 Invited speaker, "Mentoring Underrepresented Minority Graduate Students," Faculty Mentoring Institute, Las Vegas, Nevada, February
- 2006 Keynote speaker, "Underrepresentation, Diversity, and the Workforce in Science and Engineering," University of California-Berkeley Regents' Lecturer, March
- 2006 Invited speaker, "Minority Mathematics Professor: A Round Peg in a Square Hole?," Berkeley Diversity Research Initiative Seminar, University of California-Berkeley, March
- 2006 "Examining the Minority-Majority Achievement Gap," UK Education Group Visit, Rice University, Houston, Texas, April
- 2006 Invited speaker, "Texas Education Issues," Jewish Community Center, Houston, Texas, April
- 2006 Invited speaker, "Texas Education Issues," Rice Women's Center, Houston, Texas, April
- 2006 Invited panelist moderator, "USA Immigration: Truths and Myths," Rice University, Houston, Texas, April
- 2006 Invited speaker, "Math is Cool," Yes College Preparatory Southeast, Houston, Texas, April
- 2006 Invited speaker, "Maintaining the Health of the Nation through Diverse Workforce," Diversity Summit 2006, Sugar Land, Texas, April
- 2006 Invited speaker, "Math is Cool," Arlington Independent School District, Arlington, Texas, May

- 2006 Invited speaker, "Promoting Innovation Through Increased Diversity", NSF & the National Center for Women & IT (NCWIT) joint Town Hall Meeting, Washington, D.C, May
- 2006 Invited speaker, "Challenges and Successes in Providing Quality Science and Math Education for All Our Children," 2nd International Conference on Youth & Education, Corpus Christi, Texas, May
- 2006 "Challenges in Providing Quality Education in Science and Mathematics for All Children", TeacherTECH '06 Awareness Day, Rice University, Houston, Texas, June
- 2006 Invited speaker, "Mathematics is Cool," RUSMP/MLI, Pin Oak Middle School, Houston, Texas, June
- 2006 Invited speaker, "The Changing Demographics of California and Texas and its Impact on Public Education," RUSMP/MLI, Pin Oak Middle School, Houston, Texas, June
- 2006 Invited speaker, "Diversity versus Underrepresentation," RUSMP/MLI, Pin Oak Middle School, Houston, Texas, June
- 2006 Invited speaker, "Diversity, Innovation, and our Scientific and Technological Workforce," SIAM Annual Meeting, Boston, Massachusetts, July
- 2006 Keynote speaker, "Diversity, Innovation, our Scientific and Technological Workforce, and You," Mickey Leland Energy Fellowship Technical Forum (MLEF), Houston, Texas, August
- 2006 Keynote speaker, Research Alliance in Math and Science, Oak Ridge National Laboratory, Knoxville, Tennessee, August
- 2006 Invited speaker, "Hispanics and the Challenges of Texas," Hispanic Heritage Month, Kinkaid School, Houston, Texas, September
- 2006 Invited speaker, "What Universities Still Do Not Understand about Race in America," Doctoral Education and the Faculty of the Future, 2006-2007 CHERI Policy Research Conference, Cornell University, Ithaca, New York, October
- 2006 Invited speaker, "Judging Performance: The Hispanic Perspective," Hispanic Heritage Month NIH-Hispanic, Employee Organization (HEO) Celebration, Bethesda, Maryland, October
- 2006 "Education for All: Successes and Challenges," UK Education Group Visit, Rice University, Houston, Texas, October
- 2006 Invited panelist, "Negotiating the Ideal Faculty Position," A Workshop for Women in Science and Engineering, ADVANCE Institutional Transformation Program, Rice University, Houston, Texas, October
- 2006 Invited panelist, "The Road to Maturity and Leadership in the Computing Community," Second Academic Workshop for Underrepresented Junior Faculty, College Station, Texas, October
- 2006 "Education for All: Successes and Challenges," UK Education Group Visit, Rice University, Houston, Texas, November
- 2006 Invited talk, "Minority Mathematics Professor: A Round Peg in a Square Hole," HLSAMP Conference, Texas State University, Houston, Texas, November

- 2006 Invited talk, "Math Culture and Minority Success," Leadership Workshop: Finding and Keeping Diverse Graduate Students in the Mathematical Sciences, AIM Research Conference Center (ARCC), Palo Alto, California, December
- 2006 Invited talk, "Underrepresentation: What Universities Still Don't Understand About Race," CITI@20 Technical Symposium, Rice University, Houston, Texas, December
- 2006 Invited talk, Computing Alliance for Hispanic – Serving Institutions Advisory Board Meeting, University of Texas at El Paso, El Paso, Texas, December
- 2007 Invited talk, "Underrepresentation: What American Universities Still Don't Understand About Race," Harvey Mudd College, Claremont, California, January
- 2007 Invited talk, "Promoting Students' Appreciation for Math through Applications to Very Cool Activities," Colorado College, Colorado Springs, Colorado, March
- 2007 Invited talk, "Underrepresentation: What Universities Still Do not Understand about Race in America," University of Colorado, Boulder, Colorado, March
- 2007 Invited talk, "STEM (Science, Technology, Engineering, and Mathematics) Leadership: Where are the Hispanics?" American Association of Hispanics in Higher Education, Costa Mesa, California, March
- 2007 "Demographics of Country and State," Rice-Houston Alliance for Graduate Education and the Professoriate (AGEP) Faculty Workshop, Rice University, Houston, Texas, April
- 2007 "Education for All: Successes and Challenges," ISSET Educational Group Visit, Rice University, Houston, Texas, April
- 2007 Invited talk, "Mentoring Underrepresented Minority Graduate Students," Minority Graduate Education at Mountain State Alliance ([MGE@MSA](mailto:MGE@MSA)) Faculty Doctoral Mentoring Institute, Arizona State University, Tempe, Arizona, April
- 2007 Invited talk, "The Minority-Majority Achievement Gap: How Do We Close It?" Mathematics Leadership Institute, Houston, Texas, June
- 2007 Invited talk, "Math Faculty Representation: New Games Bring New Challenges," Mathematics Leadership Institute, Houston, Texas, June
- 2007 Invited panelist, "Constitution Day Event- Affirmative Action: Past, Present, and Future," Baker Institute Student Forum, Rice University, Houston, Texas, September
- 2007 Invited talk, "Math and Science Education for All: A Challenge to the Greatness of Texas," The Academy of Medicine, Engineering and Science of Texas - Baker Institute, Rice University, October
- 2007 Keynote address, "Promoting Students' Appreciation for Math Through Applications to Very Cool Activities," SACNAS National Conference 2007, Kansas City, Kansas, October
- 2007 "Promoting Students' Appreciation for Math Through Applications to Very Cool Activities," Richard Tapia Celebration of Diversity in Computing, Orlando, Florida, October

- 2007 The Richard Tapia Celebration of Diversity in Computing, Orlando, Florida, October
- 2007 Invited talk, "Academic Diversity: A Look at Race, Ethnicity, and Gender in Higher Education," Newsmaker Media Briefing, National Press Club, Washington, DC, October
- 2007 Invited talk, "Academic Diversity: A Look at Race, Ethnicity, and Gender in Higher Education," Public Luncheon Briefing, Rayburn House Office Building, Washington, DC, October
- 2007 "Promoting Students' Appreciation for Math Through Applications to Very Cool Activities," Third Annual Texas Undergraduate Mathematics Conference, Sam Houston State University, Huntsville, Texas, November
- 2007 Planned, organized and presented "Cars and Education: A Good Fit" for an audience of parents, students and teachers for "Engineering Speed" Student Day at the 48th Annual Houston AUTORAMA, George R. Brown Convention Center, Houston, Texas, November
- 2007 Panalist, Professionalism Panel, 2007 Academic Workshop for Underrepresented Participants (assistant faculty, associate faculty, and senior doctoral students), Texas A&M University, College Station, Texas, November
- 2008 Invited speaker "Math and Science Education for All: A Challenge to the Greatness of Texas," Texas A&M University, College Station, Texas, February
- 2008 Invited speaker "Community College: A Path to Many Places," Houston Community College's Annual Faculty Conference, Houston, Texas, February
- 2008 Invited speaker, "RACE for an Engineering Career Day," Rice University, Houston, Texas, March
- 2008 "Promoting National Leadership," Empowering Leadership Texas Meeting, Rice University, Houston, Texas, April
- 2008 "Fusing Art and Mathematics Through Cars: The Construction of a Psychedelic Show Car Video," Bailey Middle School Visit, Rice University, Houston, Texas, April
- 2008 Invited commencement address, "The Road Ahead," Claremont Graduate University, Claremont, California, May
- 2008 Invited speaker, "Underrepresentation: External Factors," Mathematics Leadership Institute, Pin Oak Middle School, Houston Texas, June
- 2008 Invited speaker, "Underrepresentation: Internal Factors," Mathematics Leadership Institute, Pin Oak Middle School, Houston Texas, June
- 2008 Invited welcome address, Hispanic Engineer National Achievement Awards Conference (HENAAC) Summit, Houston, Texas, July

- 2008 Invited address, “The Flaws in the Mismatch Theory,” Testimony before the U.S. Commission on Civil Rights Briefing on Encouraging Minorities to Pursue Careers in Science, Technology, Engineering, and Mathematics, Washington, DC, September
- 2008 Keynote address, 2008 Ford Fellows’ Conference “Bringing Our Research Home: Activist Scholarship for Systemic Change,” Washington, DC, September
- 2008 Presentation to the Committee on Underrepresented Groups and the Expansion of the Science and Technology Workforce Pipeline, The National Academies, Washington, DC, October.
- 2008 Organized “Engineering Speed-Student Day,” 49<sup>th</sup> Annual Houston Autorama, George R. Brown Convention Center, Houston, Texas, November
- 2009 “Education for All: Successes and Challenges,” ISSET Visitors-UK, Rice University, Houston, Texas, February
- 2009 Invited panelist, The Status of Hispanics in America: Challenges and Opportunities, American Association of Hispanics in Higher Education (AAHHE) Conference, San Antonio, Texas, March
- 2009 The Richard Tapia Celebration of Diversity in Computing, Portland, Oregon, April
- 2009 Invited address “Math is Cool,” Hispanic Male Summit, Lone Star College - North Harris, Kingwood, Texas, April
- 2009 Invited address, MLI 3<sup>rd</sup> Cohort, Mathematics Leadership Institute, Pin Oak Middle School, Houston Texas, June
- 2009 Invited speaker, “Contemporary Challenges to Increasing Representation in Research and Leadership Positions,” 15<sup>th</sup> Annual Conference for African-American Researchers in the Mathematical Sciences (CAARMS15), Rice University, Houston, Texas, June
- 2009 Invited speaker, Diversity Symposium, Georgia Tech University, Atlanta, Georgia, September
- 2010 Invited speaker, Second Annual Arizona MGE@MSA Faculty Postdoctoral Mentoring Institute Arizona State University Tempe, Arizona, January
- 2010 Invited speaker, “Yet Two More Bumps in the Road to Equitable Representation in Higher Education” Seminar on Underrepresentation and the Mathematical Sciences Harvey Mudd College Claremont, California, January
- 2010 Special Advisory Group to the UT System Board of Regents regarding the possible merger of San Antonio institutions Dr. Tapia was a committee member. San Antonio, TX February

- 2010 Invited speaker, International Space School Education Trust (ISSET) - UK Group Visit – Chris Barber Director accompanied a group of teachers visiting Houston. Dr. Tapia gave a presentation and followed with a Q&A session in Duncan Hall. February
- 2010 Invited speaker, “The Remarkable Isoperimetric Problem and the Euler-Lagrange Equation Revisited” Stanford Operations Research Seminar Series Stanford University Stanford, California, March
- 2010 Invited speaker, “It’s All About Math” Plenary Session American Association of Hispanics in Higher Education (AAHHE) 5th Annual National Conference Costa Mesa, California, March
- 2010 Invited speaker, "Yet Two More Bumps in the Road to Equitable Representation in Higher Education" Community Dialogue Luncheon Rice University Houston, Texas March
- 2010 Invited speaker, Commencement Address University of Texas-Pan American Edinburg, Texas, May
- 2010 Joint Advisory Board meeting, Texas Higher Education Coordinating Board, Dr. Tapia is a committee member and reviewed proposals to the THECB Austin, Texas, June
- 2010 LATINA VOICES: Smart Talk show on PBS Dr. Tapia was invited to discuss underrepresented minority issues. Houston, TX August
- 2010 Invited speaker, “Science, Technology & Diversity for a Sustainable Future Global Excellence” SACNAS Keynote Address, Society for the Advancement of Chicano and Native Americans in Science (SACNAS) Annual Conference Anaheim, CA, September
- 2010 "The Browning of America: Cause for Celebration or Concern?" National Hispanic Heritage Month National Science Foundation Arlington, VA, October
- 2010 Invited speaker, MGE@MSA Doctoral Mentoring Institute, The University of Utah Salt Lake City, UT, October
- 2010 Invited speaker, Blackwell-Tapia Conference Mathematical Biosciences Institute (MBI) Columbus, OH November
- 2010 Invited speaker, SOC 314 “Science at Risk”, Rice University, Houston, TX, November
- 2010 Invited speaker, Natural Sciences and Mathematics Career Forum University of St. Thomas Houston, TX November
- 2010 Invited speaker, Commencement Address University of Nevada-Reno Reno, NV December
- 2011 Invited speaker, Educating Texas’ Future Innovators panel 8th Annual Conference of The Academy of Medicine, Engineering and Science of Texas (TAMEST) Austin, Texas January

- 2011 Invited speaker, The Historical Development of the Rice CAAM Department, Houston, Texas, March
- 2011 Invited speaker, Educating the Nation's Future Innovators - The Role of HBCUs and HSIs The Department of Defense Western Regional HBC/MI Meeting, Houston, Texas June
- 2011 Invited speaker, Engaging Students with Exciting Math Applications IRACDA Conference (Baylor) Houston, Texas, June
- 2011 Invited speaker, Educating The Nation's Future Innovators 2011 APS-IPPC Joint Meeting Honolulu, Hawaii, August
- 2011 Invited speaker, The Need for New Leadership: Crisis in Texas Higher Education, Houston, Texas September

**Invited Mathematical Presentations or Participations:**

- 1971 Symposium on Nonlinear Functional Analysis, University of Wisconsin, Madison
- 1974 Nonlinear Programming I Symposium, University of Wisconsin, Madison
- 1974 Annual Meeting of the Institute of Mathematical Statistics, Edmonton, Alberta, Canada
- 1975 Featured speaker: Southern Regional Education Board (SREB) Summer Conference, Biloxi, Mississippi
- 1977 Nonlinear Programming 3 Symposium, University of Wisconsin, Madison
- 1977 Special Session on Functional Analysis Methods in Numerical Analysis, AMS National Meeting, St. Louis, Missouri
- 1978 Featured speaker (with J.R. Thompson): Johns Hopkins Distinguished Lecture Series in the Mathematical Sciences, Baltimore, Maryland. Presented 10 lectures.
- 1978 Conference on Applied Nonlinear Analysis, University of Texas, Arlington, Texas
- 1978 SIAM Meeting, Columbia, South Carolina
- 1978 Distinguished Lecture Series, Clemson University, Clemson, South Carolina
- 1978 1st Mexico-United States Workshop on Numerical Analysis, Mexico City
- 1979 International Conference on Nonlinear Optimization and Applications sponsored by Italsiel and the Italian Mathematical Society, L'Aquila, Italy
- 1979 2nd Mexico-United States Workshop on Numerical Analysis, Mexico City
- 1980 Keynote address: National Meeting of El Congreso Mathematica de Mexico, Monterrey, Mexico

- 1981 3rd Mexico-United States Workshop on Numerical Analysis, Cocoyoc, Mexico
- 1981 Present 5 lectures at SIAM Summer Conference on Numerical and Statistical Analysis, University of Delaware, Newark
- 1981 NATO Advanced Research Institute on Optimization, Cambridge University, Cambridge, England
- 1983 16th Annual Symposium on the Interface of Computer Science and Statistics, Houston, Texas
- 1983 3rd Oberwolfach Conference on Mathematical Programming, Oberwolfach, Germany
- 1984 4th Mexico-United States Workshop in Numerical Analysis, Guanajuato, Mexico
- 1985 4th Oberwolfach Conference on Mathematical Programming, Oberwolfach, Germany
- 1987 International Workshop on Reliability in Computing, Columbus, Ohio
- 1988 5th Oberwolfach Conference on Mathematical Programming, Oberwolfach, Germany
- 1988 Centennial Lecture, SIAM National Meeting, Minneapolis, Minnesota
- 1989 Plenary presentation: "Recent Advances in Secant Methods for Constrained Optimization," 3rd SIAM Conference on Optimization, Boston
- 1989 5th Mexico-United States Workshop in Numerical Analysis, Merida, Yucatan, Mexico
- 1989 Third International SIAM Meeting on Optimization, Trier, Germany
- 1990 6th Oberwolfach Conference on Mathematical Programming, Oberwolfach, Germany
- 1990 4th Conference on Scientific and Technical Computing, sponsored by INRIA, Paris, France
- 1990 Second Asilomar Workshop on Progress in Mathematical Programming, Asilomar, California
- 1990 TIMS-ORSA National Meeting, Las Vegas, Nevada
- 1990 Snowbird Conference for Chairs of Computer Science Departments, sponsored by the Computer Research Board of the Association for Advancement of Computing Research Snowbird, Utah
- (a) Invited presentation on Educational Pipeline Issues
  - (b) Invited presentation on Academic Computational Sciences Programs
  - (c) Invited presentation on Human Resources
- 1990 SIAM National Meeting, Chicago, Illinois, July
- 1990 An Optimization Day in Iowa City, one-day conference on interior-point methods, University of Iowa, July
- 1990 TIMS-ORSA National Meeting, Philadelphia, Pennsylvania, October
- 1991 TIMS-ORSA National Meeting, Nashville, Tennessee, May
- 1991 "The Work of Magnus Hestenes in Constrained Optimization," Hestenes Memorial Symposium, UCLA, November



- 1992 "Recent Advances in Interior-Point Methods," 6th Mexico-United States Workshop in Numerical Analysis, Oaxaca, Mexico, January
- Linear 1992 "Convergence of the Iteration Sequence in Primal-Dual Interior-Point Methods for Programming," Fourth SIAM Conference on Optimization, Chicago, May
- 1992 "Convergence Properties of Primal-Dual Interior-Point Methods for Linear Programming," TIMS-ORSA National Meeting, San Francisco, California, November
- 1993 Plenary session: "On the Formulation of Interior-Point Methods for Linear and Nonlinear Programming," Panamerican Workshop for Applied and Computational Mathematics, Caracas, Venezuela, January
- 1993 Plenary session: "The Historical Development of Computational Optimization," regional meeting of the American Mathematical Society, Knoxville, Tennessee, March
- 1993 "A Primal-Dual Interior-Point Method for Large-Scale Linear Programming," TIMS-ORSA meeting, Chicago, May
- 1993 Invited address: "On the Historical Development of Theoretical and Computational Optimization Theory," at the XXVI National Congress of the Sociedad Matematica Mexicana (SMM), Morelia, Michoacan, Mexico, October 1993. (Selection made by President of the AMS at the invitation of the President of the SMM), October
- 1993 "On the Formulation of Interior-Point Methods for Nonlinear Programming," TIMS-ORSA National Meeting, Phoenix, Arizona, November
- 1994 Invited series of lectures: Distinguished Visitor Program, Department of Mathematics, University of Iowa, Iowa City, Iowa, February
- 1994 Invited speaker: "On the Formulation of the Karmarkar and Primal-Dual Interior-Point Algorithms for Linear Programming," 15th International Symposium on Mathematical Programming, Ann Arbor, Michigan, August
- 1995 Invited speaker: "Computational Science: The Contemporary Challenge of Mathematics," Department of Mathematics and Statistics, University of New Mexico, Albuquerque, New Mexico, February
- 1995 Invited speaker: "On the Formulation of Interior-Point Methods for Linear Programming," Georgia Institute of Technology, Atlanta, Georgia, February
- 1995 "Interior-Point Methods: An Effective Way of Handling Inequality Constraints," W.M. Keck Center for Computational Biology, Rice University, Houston, Texas, March
- 1995 Invited speaker: "Rice Activity in Interior-Point Methods for Linear and Nonlinear Programming," Department of Energy, Albuquerque, New Mexico, March
- 1995 "On the Characterization of Q-Superlinear Convergence of Quasi-Newton Interior-Point Methods for Nonlinear Programming," INFORMS (Institute for Operations Research and the Management Sciences) National Meeting, Los Angeles, California, April
- 1995 Invited speaker: "Interior-Point Methods for Linear and Nonlinear Programming: An Effective Way of Handling Inequality Constraints," Center for Communications Research, La Jolla, California, June
- 1995 Invited speaker: "Interior-Point Methods: An Effective Way of Handling Inequality

- Constraints” The University of Texas at Austin, Austin, Texas, August
- 1995 “On the Choice of Merit Function for the Primal-Dual Interior-Point Method for Nonlinear Programming,” SIAM National Meeting, Charlotte, North Carolina, October
- 1995 “On the Application of Interior-Point Methodology to Groundwater Remediation,” The Fifth Annual Industrial Meeting, University of Texas at Austin, Austin, Texas, October
- 1996 Invited speaker: “On the Fundamental Role of Interior-Point Methodology in Constrained Optimization,” University of Texas at Austin, Austin, Texas, March
- 1996 Invited speaker: “On the Fundamental Role of Interior-Point Methodology in for Constrained Optimization,” Cornell University, Ithaca, New York, April
- 1996 “On the Global Convergence of Interior-Point Methods for Linear Programming,” INFORMS Washington, DC Spring 1996 National Meeting, Washington, DC, May
- 1996 “On the Application of Interior-Point Methodology to Groundwater Remediation,” Fifth SIAM Conference on Optimization, Victoria, BC, Canada, May
- 1997 “On the Fundamental Role of the Interior-Point Methodology in Constrained Optimization,” Department of Computational and Applied Mathematics, Rice University, Houston, Texas, February
- 1997 “Recent Advances in Interior-Point Methods,” Department of Mathematics, University of Houston, Houston, Texas, March
- 1997 “Contributions to Interior-Point Methodology for Linear and Nonlinear Programming,” Applied Mathematical Sciences (AMS) Department of Energy Meeting, Lawrence Berkeley National Laboratory, Berkeley, California, April
- 1997 “An Algorithmic Linear Programming Paradox: Complexity Versus Performance,” Computational Science for the 21st Century, Tours, France, May
- 1997 “Interior-Point Methods: New Algorithmic Methodology for Large-Scale Inequality Constrained Optimization,” INTERFACE ‘97, Houston, Texas, May
- 1997 “Some Computational Issues Related to Interior-Point Methods for Nonlinear Programming,” International Symposium on Mathematical Programming, Lausanne, Switzerland, August
- 1998 Invited speaker: “Rayleigh Quotient Iteration as Newton's Method,” Department of Mathematics, Texas A&M University, College Station, Texas, April
- 1998 “On the Fundamental Role of Interior-Point Methodology in Constrained Optimization,” CITI Distinguished Lecture Series, Rice University, Houston, Texas, October
- 1999 “Some Mathematical Insights Into Car and Bicycle Racing,” The I.E. Block Community Lecture, SIAM Optimization and Annual Meeting, Atlanta, Georgia, May
- 1999 “On the Fundamental Role of Interior-Point Methodology in Constrained Optimization,” Tulane University, New Orleans, Louisiana, September
- 1999 “On the Fundamental Role of Interior-Point Methodology in Constrained Optimization,” Instituto Tecnológico Autónomo de México, Mexico City, Mexico, September
- 1999 “An Introduction to Computational Optimization Theory,” Mathematics and Statistics

Scientific Symposia, SACNAS National Meeting, Portland, Oregon, October

- 1999 Keynote address: "Some Mathematical Insights into BMX Bicycle and Drag Racing," SACNAS National Meeting, Portland, Oregon, October
- 1999 "Historical Development of the Mathematical and Computational Sciences," J. Ernest Wilkins Jr. Lecture, MathFest IX, Texas Southern University, Houston, Texas, October
- 1999 "On the Fundamental Role of Interior-Point Methodology in Constrained Optimization," T.J. Watson Research Center, December
- 2000 "Mathematical Insights in BMX Bicycle and Car Drag Racing," CITI Lecture Series, Computer and the Information Technology Institute, Rice University, Houston, Texas, April
- 2000 "If It Is Fast, Must It Always Be Newton's Method?" Department of Mathematics, University of Wisconsin, Madison, Wisconsin, April
- 2000 "If it is Fast, Must it Always be Newton's Method?" Blackwell-Tapia Distinguished Lecture Series, Cornell University, Ithaca, New York, May
- 2000 "If it is Fast, Must it Always be Newton's Method?" University of Colorado-Boulder, Boulder, Colorado, September
- 2000 "Computational Biology," Structural and Computational Biology and Molecular Biophysics Program, Baylor College of Medicine, Houston, Texas, November
- 2000 OMB, Washington, DC, November
- 2001 "On Sizing and Shifting the BFGS Update within the Sized Broyden Family of Secant Updates," 7th US-Mexico Workshop on Numerical Analysis, Yucatan, Merida, Mexico, January
- 2001 "If It Is Fast and Effective, It Must Be Newton's Method," Invited Kieval Lecture, Humboldt State University, Arcata, California, March
- 2001 "Some Mathematical Insights Related to BMX Bicycle and Drag Racing," Humboldt State University, Arcata, California, March
- 2001 "The Fundamental Role of Interior-Point Methodology in Constrained Optimization," Department of Industrial Engineering, Texas A&M University, College Station, Texas, March
- 2001 "The Fundamental Role of Interior-Point Methodology in Constrained Optimization," Department of Mathematical Science, University of Texas-El Paso, El Paso, Texas, April
- 2001 "Open Discussion of Computational Science Education Topics," Contemporary Topics in Computational Science Education Session, Society for Industrial and Applied Mathematics (SIAM) Annual Meeting, San Diego, California, July
- 2002 "If It Is Fast and Effective, It Must Be Newton's Method," Department of Mathematics, Washington State University, Pullman, Washington, February
- 2002 "Some Mathematical Insights in BMX Bicycle and Drag Racing," University of Houston-Downtown, Houston, Texas, April
- 2002 Invited speaker, "Interpreting the Classical Inverse, Shifted, Inverse, and Rayleigh Quotient Iteration Methods as a Standard Formulation of Newton's Method from the

- Nonlinear Programming Literature," 2nd Annual McMaster Optimization Conference: Theory and Applications (MOPTA 02), Hamilton, Ontario, CANADA, August
- 2002 Invited speaker, "Some Mathematical Insights Related to Automobile Drag Racing," Conference and Prize in Honor of David Blackwell and Richard A. Tapia, Mathematical Sciences Research Institute, Berkeley, California, November
- 2002 David Blackwell and Richard Tapia Distinguished Lecture Series in the Mathematical and Statistical Sciences, Berkeley, California, November
- 2002 Guest speaker, "On a Mathematical Formulation and Solution of the Fair-Lane Assignment Problem in Bicycle Motocross Racing," Department of Electrical and Computer Engineering, Rice University, Houston, Texas, November
- 2003 Invited keynote address, "Some Mathematical Insights into Car and Bicycle Racing," MAA/AMS Joint Mathematics Meetings, Baltimore, Maryland, January
- 2003 Invited address, "Interpreting the Classical Inverse, Shifted, Inverse, and Rayleigh Quotient Iteration Methods as a Standard Formulation of Newton's Method from the Nonlinear Programming Literature," Department of Mathematics, Trinity University, San Antonio, Texas, February
- 2003 Invited address, "Inverse, Shifted Inverse, and Rayleigh Quotient Iteration as Newton's Method," Department of Mathematics, University of Michigan, Ann Arbor, Michigan, March
- 2003 Invited address, "Math at Top Speed: Mathematical Insights into BMX Bicycle and Car Drag Racing," Houston Community College Central Campus, Houston, Texas, March
- 2003 Invited address, "Math at Top Speed: Mathematical Insights in BMX Bicycle and Drag Racing" Southwest Texas State University, San Marcos, Texas, April
- 2004 Invited address, "Inverse, Shifted Inverse, and Rayleigh Quotient Iteration as Newton's Method" California Institute of Technology, Pasadena, California, May
- 2003 Invited address, "Inverse, Shifted Inverse, and Rayleigh Quotient Iteration as Newton's Method" Purdue University, West Lafayette, Indiana, June
- 2003 Invited address, "Mathematics is Everywhere in My Real Life," Department of Mathematics, University of Texas El Paso, El Paso, Texas September
- 2003 Invited address, "Math at Top Speed: Breaking myths in the drag racing folklore" Rice University, Houston, Texas, September
- 2003 Invited address, "Mathematics in my real life: BMX bicycle racing and the construction of a car show video," Jefferson Lab, Newport News, Virginia, September
- 2003 Invited address, "Math at Top Speed: Breaking myths in the drag racing folklore" Mathematical Sciences Research Institute (MSRI), Texas Southern University, Houston, Texas, September
- 2003 Invited address, "Math at Top Speed: Breaking myths in the drag racing folklore" University of Texas - Pan American Mathematics Department, Edinburg, Texas, October
- 2003 Invited address, "Fusing Art and Mathematics through Cars" Rice University Homecoming Lecture, Houston, Texas, November

- 2003 Invited address, "Inverse, Shifted Inverse, and Rayleigh Quotient Iteration as Newton's Method" University of Minnesota, Minneapolis, Minnesota, November
- 2003 Invited address, "Math at Top Speed: Breaking Myths in the Drag Racing Folklore" University of Minnesota IMA Public Lecture Series, Minneapolis, Minnesota, November
- 2004 Invited address, "Inverse, Shifted Inverse, and Rayleigh Quotient Iteration as Newton's Method" University of Arizona - Math Colloquium, Tucson, Arizona, April
- 2004 Invited address, "Math at Top Speed: Breaking Myths in the Drag Racing Folklore" University of Arizona public lecture, Tucson, Arizona, April
- 2004 Invited address, "Inverse, Shifted Inverse, and Rayleigh Quotient Iteration as Newton's Method" International Joint Meeting of the AMS and the Sociedad Matemática Mexicana (SMM), Houston, Texas, May
- 2004 "Fusing Art and Mathematics through Cars," Families Weekend, Rice University, Houston, Texas, October
- 2004 David Blackwell and Richard Tapia Distinguished Lecture Series in the Mathematical and Statistical Sciences, Los Angeles, California, November
- 2005 Invited guest, The Academy of Medicine, Engineering, and Science of Texas Annual Conference, Irving, Texas, January
- 2005 "Math at Top Speed: Exploring and Breaking Myths in the Drag Racing Folklore," Computational and Applied Mathematics Graduate Seminar Speaker, Rice University, Houston, Texas, January
- 2005 Invited speaker, "Inverse, Shifted Inverse, and Rayleigh Quotient Iteration as Newton's Method," Distinguished Minority in Engineering Scholars Lecture Series, Northwestern University, Chicago, Illinois, March
- 2005 Invited speaker, "Promoting Students' Appreciation for Math through Applications to Very Cool Activities," Cesar Chavez Birthday Celebration, Scottsdale, Arizona, April
- 2005 Invited speaker, "Math at Top Speed: Exploring and Breaking Myths in the Drag Racing Folklore," Annual Meeting of the Michigan Section of the MAA, Alma College, Alma, Michigan, April
- 2005 Invited speaker, "Inverse, Shifted Inverse, and Rayleigh Quotient Iteration as Newton's Method," Arizona State University, Tempe, Arizona, August
- 2005 Invited speaker, "Inverse, Shifted Inverse, and Rayleigh Quotient Iteration as Newton's Method," Department of Mathematics, University of California-Berkeley, Berkeley, California, September
- 2005 Invited speaker, "On Sizing and Shifting the BFGS Update within the Sized-Broyden Family of Secant Updates," MSRI Special Lecture, Berkeley, California, September
- 2006 Keynote speaker, "Math at Top Speed: Exploring and Breaking Myths in the Drag Racing Folklore," University of California-Berkeley Regents' Lecturer, March
- 2006 Invited panelist, "Pulmonary Function Imaging from 4D CT for Radiation Oncology," PIONEER Meeting, Trevisio Restaurant, Houston, TX, June

- 2006 Keynote speaker, "Promoting Students' Appreciation for Math through Applications to Very Cool Activities," Mathematical Association of America, Mathfest 2006, Knoxville, Tennessee, August
- 2006 Invited speaker, "Math at Top Speed: Exploring and Breaking Myths in the Drag Racing Folklore," SIAM Rice Chapter, Rice University, Houston, Texas, September
- 2006 Invited speaker, "Inverse, Shifted Inverse, and Rayleigh Quotient Iteration as Newton's Method," International Conference on Numerical Analysis and Optimization dedicated to M.J.D. Powell's 70<sup>th</sup> Birthday, Beijing, China, September
- 2006 Invited speaker, "Math at Top Speed: Exploring and Breaking Myths in the Drag Racing Folklore," Blackwell-Tapia Conference, Minneapolis, Minnesota, November
- 2006 David Blackwell and Richard Tapia Distinguished Lecture Series in the Mathematical and Statistical Sciences, Minneapolis, Minnesota, November
- 2006 Invited talk, "Math at Top Speed: Exploring and Breaking Myths in the Drag Racing Folklore," CEEE Middle School Technology Seminar, Rice University, Houston, Texas, December
- 2007 Invited talk, "On Sizing and Shifting the BFGS Update within the Sized-Broyden Family of Secant Updates." 8<sup>th</sup> US-Mexico Workshop on Optimization and its Applications, Huatulco, Oaxaca, Mexico, January
- 2007 Invited talk, "Promoting Students' Appreciation for Math through Applications to Very Cool Activities," Harvey Mudd College, Claremont, California, January
- 2007 Invited talk, "Inverse, Shifted Inverse, and Rayleigh Quotient Iteration as Newton's Method," Sandia National Laboratories, Albuquerque, New Mexico, January
- 2007 Invited talk, "Inverse, Shifted Inverse, and Rayleigh Quotient Iteration as Newton's Method," Colorado College, Colorado Springs, Colorado, March
- 2007 Invited talk, "Math at Top Speed: Exploring and Breaking Myths in the Drag Racing Folklore," Mathematical Association of America (MAA) Carriage House Mathematical Sciences Conference Center Opening Celebration, Washington, DC, April
- 2007 Invited talk, "Math at Top Speed: Exploring and Breaking Myths in the Drag Racing Folklore," Broadening Participation and Retaining Underrepresented Students in STEM and Computing Conference, University of California-Los Angeles, Los Angeles, California, November
- 2008 Invited talk, "Inverse, Shifted Inverse, and Rayleigh Quotient Iteration as Newton's Method," Department of Mathematical Sciences, University of Texas-El Paso, El Paso, Texas, October
- 2008 David Blackwell and Richard Tapia Distinguished Lecture Series in the Mathematical and Statistical Sciences, Research Triangle Park, North Carolina, November
- 2009 Invited talk, "Optimization: The Cradle of Contemporary Mathematics," Fifth Blackwell-Tapia Conference, Hosted by the Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, North Carolina, November
- 2009 "Optimization: The Cradle of Contemporary Mathematics," Department of Computational and Applied Mathematics Colloquium, Rice University, Houston, Texas, January

- 2009 Invited talk, "If It's Fast It Must Be Newton's Method, International Conference on Computational and Information Sciences (ICCIS), University of Houston – Downtown, Houston, Texas, May
- 2009 Richard Tapia 70<sup>th</sup> Birthday Conference, Rice University, Houston, Texas, May
- 2009 "Math at Top Speed: Exploring and Breaking Myths in the Drag Racing Folklore," 2009 Alliances for Graduate Education and the Professoriate Summer Program, Rice University, Houston, Texas, June
- 2009 Invited speaker, "The Remarkable Life of the Isoperimetric Problem: The World's Most Influential Mathematics Problem," Mathematics Leadership Institute, Pin Oak Middle School, Houston Texas, June
- 2009 Invited speaker, "The Remarkable Life of the Isoperimetric Problem: The World's Most Influential Mathematics Problem," 15<sup>th</sup> Annual Conference for African-American Researchers in the Mathematical Sciences (CAARMS15), Rice University, Houston, Texas, June
- 2009 Invited speaker, "Heavy Metal," Summer Math Days, Rice University, Houston, Texas, June
- 2009 Invited speaker, "Math at Top Speed: Exploring and Breaking Myths in the Drag Racing Folklore," Engineering Bridge Program (ENGI 101), Rice University, Houston, Texas, July
- 2010 Invited speaker, "Math at Top Speed: Exploring and Breaking Myths in the Drag Racing Folklore" Dr. Tapia presented a talk to the students of SAE International (formerly Society of Automotive Engineers). University of Texas-Austin Austin, TX, March
- 2010 Invited speaker, "The Remarkable Isoperimetric Problem and the Euler-Lagrange Equation Revisited" Department of Mathematics Colloquium Series Rice University Houston, Texas April
- 2010 Invited speaker, "The Remarkable Isoperimetric Problem and the Euler-Lagrange Equation Revisited", Department of Mathematics Colloquium Series University of Houston Houston, Texas, April
- 2010 Invited speaker, "The Remarkable Isoperimetric Problem and the Euler-Lagrange Equation Revisited", Department of Mathematics Distinguished Lecture Series University of Texas-Pan American Edinburg, Texas, May
- 2010 Invited speaker, "Math at Top Speed: Exploring and Breaking Myths in the Drag Racing Folklore," Georgia Tech University, Atlanta, Georgia, September
- 2010 Invited speaker, "Math at Top Speed: Exploring and Breaking Myths in the Drag Racing", Folklore MBI - COSI - Metro High Public Lecture Series Columbus, OH, November
- 2011 The BFGS Secant Update as a Simple Average Update, Houston, Texas, March

**Ph.D. Students (Directed or Co-Directed):**

- 1972  
Mary Anne McCarthy, Lulejian and Associates, Los Angeles, California
- 1973  
Gilbert Mayor de Montricher, Princeton University (directed jointly with J.R. Thompson)
- 1974  
Victor M. Guerra, Universidad Nacional Autonoma de Mexico
- 1976  
Richard H. Byrd, University of Colorado  
David W. Scott, Rice University (directed jointly with J.R. Thompson)
- 1978  
Kathie L. Hiebert, Sandia National Laboratories, Albuquerque, New Mexico  
Jorge Nocedal, Northwestern University
- 1979  
Naresh Garg, University of Kentucky
- 1983  
Rodrigo Fontecilla, Booz Allen & Hamilton
- 1985  
Maria Rosa Celis, Silicon Graphics, Mountain View, California (directed jointly with J.E. Dennis)  
Edward Dean, University of Houston (directed jointly with J.E. Dennis)  
Teresa Parks, Rice University, Houston, Texas (directed jointly with J.E. Dennis)
- 1987  
Mohammedi El-Hallabi, Ecole Hassamia de Travaux Publics, Casablanca, Morocco
- 1988  
Hector J. Martinez, Universidad del Valle, Cali, Colombia (directed jointly with J.E. Dennis)  
Mahmoud El-Alem, Alexandria University, Egypt (directed jointly with J.E. Dennis)
- 1989  
Jershan Chiang, Culture University, Taiwan  
Shou-Bai Li, Houston Community College System (directed jointly with J.E. Dennis)
- 1991  
Marcos Raydan, Universidad Central de Venezuela (directed jointly with J.E. Dennis)
- 1992  
Amr El-Bakry, ExxonMobil Production Research Company, Houston, Texas  
Catherine Samuelsen, ExxonMobil Production Research Company, Houston, Texas
- 1994  
Debora Cores, INTEVEP (Research center for the Venezuelan oil companies)  
Mark Gockenbach, University of Michigan-Ann Arbor (directed jointly with W.W. Symes)



- 1995  
Maria Gonzalez-Lima, Texas A&M University, Corpus Christi
- 1996  
Anthony Kearsley, National Institute of Science and Technology, (directed jointly with R. Glowinski)
- 1997  
Miguel Argaez, University of Texas-El Paso  
Zeferino Parada, Universidad Nacional Autonoma de Mexico
- 1998  
Monica Martinez, Sandia National Laboratories  
Pamela Williams, Sandia National Laboratories
- 1999  
Cassandra McZeal, ExxonMobil Production Research Company, Houston, Texas
- 2000  
Leticia Velazquez, University of Texas-El Paso  
M. Cristina Villalobos, University of Texas-Pan American
- 2001  
Olena Sinkevich, University of Michigan-Ann Arbor
- 2002  
Genetha Gray, Sandia National Laboratories  
Diane Jamrog, Lincoln Laboratory, Massachusetts Institute of Technology
- 2004  
Timothy Redl
- 2005  
Vinod Kumar  
Victor Udoewa
- 2009  
Joanna Papakonstantinou

**M.A. Students:**

- 1971  
Gilbert Mayor de Montricher, Princeton University
- 1972  
Victor Guerra, Universidad Nacional Autonoma de Mexico
- 1975  
Kristin Lucas
- 1984  
Hector Martinez, Universidad del Valle, Cali, Colombia
- 1990  
Rodolfo Elizondo, PROS Strategic Solutions, Houston, Texas

- 1995  
Tamara Carter, Professor of Mathematics, Oklahoma City Community College
- 1996  
Sarah Benkendorf, Netherland Sewell and Associates, Houston, Texas
- 2002  
Ebonii Anderson, Lockheed Martin Aeronautics Company, Fort Worth, Texas  
Emily Barra
- 2004  
Leticia Benitez
- 2006  
Naomi Reed  
Donald Williams
- 2009  
Joanna Papakonstantinou

**Editorial Activities:**

- 1990  
Co-editor: Proceedings of Fifth Mexico-United States Workshop on Numerical Analysis
- 1990  
Editor: Special issue of Linear Algebra and Its Applications dedicated to interior-point methods for linear programming
- 1990 - 1991  
Editor: SIAM Journal on Optimization
- 1981 - 1996  
Editor: Journal of Optimization Theory and Applications
- 1978 - 1991  
Editor: SIAM Journal on Numerical Analysis

**Research Interests:**

Computational sciences in general. In particular mathematical optimization theory and iterative methods for nonlinear problems. Current research is in the area of algorithms for constrained optimization problems and interior-point methods for linear and nonlinear programming.

**Research Support:**

Principal Investigator or Co-Principal Investigator on the following grants or contracts:

- 2009 – present  
Rice University Faculty Initiatives Fund, “Community and Mentoring Program for Undergraduate Success (CAMPUS)”

- 2007 – present

National Science Foundation, "BPC-A-Empowering Leadership: Computing Scholars of Tomorrow"

2005 - present

Alfred P. Sloan Foundation, "The Enhancement and Support of Graduate Education for Underrepresented Minority Students in Science, Technology, Engineering, and Mathematics"

2005 – 2008

National Science Foundation, "Engaging People in Cyberinfrastructure (EPIC)"

2004 - 2006

National Science Foundation, "K-16 Outreach Activity: "Math is Cool" -- Building on Success"

2004 - present

National Science Foundation "The Rice University Mathematics Leadership Institute"

2004 - present

National Science Foundation, "Rice-Houston Alliance For Graduate Education And The Professoriate"

2003 – 2009

National Science Foundation, "ITR: Virtual Grid Application Development Software (VGrADS)"

2002 - 2004

National Science Foundation, "Engineering Bridges"

2002 - 2008

National Science Foundation, "CS-CAMP"

2002 – 2005

National Action Council for Minorities in Engineering (NACME), "Reginald H. Jones Distinguished Service Award"

2001 - 2005

Alfred P. Sloan Foundation, "Investing in the Future: Promoting Graduate Education for Underrepresented Minorities"

2001

National Science Foundation, "7th US-Mexico Workshop on Numerical Analysis"

2000 - 2003

RGK Foundation, "The Center for Excellence and Equity in Education"

1999 – 2002

Department of Energy/Los Alamos National Laboratory, "Los Alamos Computer Science Institute (LACSI)"

1999

National Science Foundation, "Summit Meeting on Promoting National Minority Leadership in Science and Engineering"

1998 - 2003

National Science Foundation, "GK-12"

1998 - 2005

- National Science Foundation, National Computational Science Alliance, "Access and Inclusion"
- 1998 - 2005  
National Science Foundation, National Partnership for Advanced Computational Infrastructure, "Access and Inclusion"
- 1998  
Exxon Education Foundation, "Complex Problems Related to Industry"
- 1998  
Alfred P. Sloan Foundation, "Engineering and Science Underrepresented Minority Recruitment and Retention Conference"
- Ph.D.s
- 1997  
Exxon Education Foundation, "Complex Problems Related to Industry"
- 1996 - 1999  
National Science Foundation, "Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring"
- 1996  
Exxon Education Foundation, "Complex Problems Related to Industry"
- 1995 - 2001  
Alfred P. Sloan Foundation, "The Enhancement and Support of Graduate Education Activities for Underrepresented Minority Students in Mathematical Sciences"
- 1995 - 1999  
Department of Energy, "Extensions and Applications of Interior-Point Methodology in Nonlinear Programming"
- 1995  
Exxon Education Foundation, "Complex Problems Related to Industry"
- 1994  
Exxon Education Foundation, "Complex Problems Related to Industry"
- 1993  
Exxon Education Foundation, "Complex Problems Related to Industry"
- 1991-1992  
National Science Foundation, "6th Mexico-United States Workshop on Numerical Analysis"
- 1990 - 1995  
Department of Energy, "Research on Trust-Region Algorithms for Nonlinear Programming"
- 1989 - 1995  
Air Force Office of Sponsored Research, "Integrated Approaches to Parallelism in Optimization and the Solution of Inverse Problems"
- 1988 - 1989  
National Science Foundation, "5th Mexico-United States Workshop on Numerical Analysis"

1986 - 1989

Air Force Office of Sponsored Research, "Quasi-Newton Methods for Large-Scale Nonlinear Equations and Constrained Optimization"

1985 - 1989

Department of Energy, "Quasi-Newton Methods for Large-Scale Nonlinear Equations and Constrained Optimization"

1985 - 1986

Air Force Office of Sponsored Research, "Research in Constrained Optimization"

1984 - 1985

National Science Foundation, "4th Mexico-United States Workshop on Numerical Analysis"

1982 - 1985

Department of Energy, "Research on Quasi-Newton Methods for Unconstrained and Constrained Optimization"

1981 - 1982

National Science Foundation, "3rd Mexico-United States Workshop on Numerical Analysis"

1980 - 1981

Department of Energy, "Extension of Quasi-Newton Methods to Constrained Optimization"

1976 - 1980

Department of Energy, "Extension of Quasi-Newton Methods to Constrained Optimization and to General Systems of Nonlinear Equations and Inequalities"

1975 - 1976

ERDA, "Extension of Quasi-Newton methods to Constrained Optimization and to General Systems of Nonlinear Equations and Inequalities"

1972 - 1975

Office of Naval Research, "Probability Density Estimation"

### **Publications:**

#### Books

Nonparametric Density Estimation, Johns Hopkins University Press, Baltimore, Maryland, 1978 (with J.R. Thompson).

Nonparametric Function Estimation, Modeling, and Simulation, SIAM, Philadelphia, Pennsylvania, 1990. A revision of Nonparametric Density Estimation (with J.R. Thompson).

An Introduction to Mathematical Optimization Theory, Jones and Bartlett, in preparation.

#### Papers: To appear or Accepted

1. Mathematical Ship lofting, *Journal of Ship Research*, 10 (1966), 203-222 (with S. Berger, W. Webster, and D. Atkins).
2. An Application of a Newton-like Method to the Euler-Lagrange Equation, *Pacific*

- Journal of Mathematics*, 29(1969), 235-245.
3. The Weak Newton Method and Boundary Value Problems, *SIAM Journal on Numerical Analysis*, 6 (1969), 539-550.
  4. Hamel versus Schauder Dimension, *American Mathematical Monthly*, 77 (1970), 385-388 (with J.W. Evans).
  5. The Kantorovich Theorem for Newton's Method, *American Mathematical Monthly*, 78 (1971), 389-392.
  6. The Differentiation and Integration of Nonlinear Operators, *Nonlinear Functional Analysis and Applications*, (1971), (ed. L.B. Rall) Academic Press, New York, 45-101.
  7. The Gradient Projection Method under Mild Differentiability Conditions, *SIAM Journal on Control*, 10 (1972), 93-98 (with G.P. McCormick).
  8. The Metric Gradient in Normed Linear Spaces, *Numerical Mathematics*, 20 (1972), 115-124 (with M. Golomb).
  9. An Extremum Problem, *SIAM Review*, 14 (1972), 365.
  10. Kantorovich Estimates for Some Convex Programs, *SIAM Journal on Control*, 11 (1973), 375-377 (with A.A. Goldstein).
  11. A Characterization of Inner Product Spaces, *Bulletin American Mathematical Society*, 79 (1973), 530-532.
  12. A Characterization of Inner Product Spaces, *Proc. American Mathematical Society*, 41 (1973), 569-574.
  13. Optimal Error Bounds for the Newton-Kantorovich Theorem, *SIAM Journal on Numerical Analysis*, 11 (1974), 10-13 (with W.B. Gragg).
  14. Newton's Method for Problems with Equality Constraints, *SIAM Journal on Numerical Analysis*, 11 (1974), 174-196.
  15. A General Approach to Newton's Method for Banach Space Problems with Equality Constraints, *Bulletin American Mathematical Society*, 80 (1974), 355-360.
  16. Newton's Method for Optimization problems with Equality Constraints, *SIAM Journal on Numerical Analysis*, (1974), 874-886.
  17. A Stable Approach to Newton's Method for General Mathematical Programming Problems in  $\mathfrak{R}^n$ , *SIAM Journal of Optimization Theory and Applications*, 14 (1974), 453-476.
  18. An Extension of Curry's Theorem to Steepest Descent in Normed Linear Spaces, *Mathematical Programming*, 9 (1975), 247-254 (with R.H. Byrd).
  19. Nonparametric Maximum Likelihood Estimation of Probability Densities by Penalty Function Methods, *Annals of Statistics*, 3 (1975), 1329-1348 (with G. de Montricher and J.R. Thompson).
  20. Computable A Posteriori  $L_{\infty}$  Error Bounds for the Approximate Solution of Two-Point Boundary Value Problems, *SIAM Journal on Numerical Analysis*, 12 (1975), 919-937 (with Mary Anne McCarthy).

21. Kernel Density Estimation Revisited, *Nonlinear Analysis, Theory, Methods and Applications*, 1 (1977), 339-372 (with D. Scott and J.R. Thompson).
22. Diagonalized Multiplier Methods and Quasi-Newton Methods for Constrained Optimization, *Journal of Optimization Theory and Applications*, 22 (1977), 135-194.
23. Quasi-Newton Methods for Constrained Optimization: Equivalence of Existing Methods and a New Implementation, in *Nonlinear Programming*, 3 (1978), Eds. O.L. Mangasarian, R.R. Meyer, and S.M. Robinson, Academic Press, New York, 125-164.
24. Optimal Smoothing of Direct Estimates of the Power Spectrum, *Communications in Statistics*, 4 (1978), (with R. Byrd and J. Thompson).
25. On the Role of Slack Variables in Quasi-Newton Methods for Constrained Optimization, in *Numerical Optimization of Dynamic Systems*, (1980) L.C.W. Dixon and G.P. Szegö (eds.), North Holland Press, 235-246.
26. Nonparametric Probability Density Estimation by Discrete Maximum Penalized Likelihood Criteria, *Annals of Statistics*, 8 (1980), 820-832 (with D. Scott and J.R. Thompson).
27. Nonlinear Programming, *McGraw Hill Encyclopedia of Science and Technology*, (1981).
28. Recent Advances in Nonlinear Programming, *McGraw-Hill Yearbook of Science and Technology*, (1981).
29. A Trust Region Strategy of Equality Constrained Optimization, in *Numerical Optimization*, (1984), ed. by P.T. Boggs, R.H. Byrd and R.B. Schnabel, SIAM, 71-82 (with M.R. Celis and J.E. Dennis).
30. A Convergence Theory for a Class of Quasi-Newton Methods for Constrained Optimization, *SIAM Journal on Numerical Analysis*, 24 (1987), 1133-1151 (with R. Fontecilla and T. Steihaug).
31. On the Characterization of q-Superlinear Convergence of Quasi-Newton Methods for Constrained Optimization, *Math. Comp.*, 49 (1987), 581-584 (with J. Stoer).
32. The Projected Newton Method has Order  $1 + \sqrt{2}$  for the Symmetric Eigenvalue Problem, *SIAM Journal on Numerical Analysis*, 25 (1988), 1376-1382 (with David Whitley).
33. Secant Updates for use in General Constrained Optimization, *Math. of Comp.*, 51 (1988), 181-202.
34. A Convergence Theory for the Structured BFGS Secant Method with an Application to Nonlinear Least-Squares, *Journal of Optimization Theory and Applications*, 61 (1989), 161-178 (with J.E. Dennis and H. Martinez).
35. A Cubically Convergent Method for Locating a Nearby Vertex in Linear Programming, *Journal of Optimization Theory and Applications*, 67 (1990), 217-225 (with Y. Zhang).
36. An Optimal Basis Identification Technique for Interior-Point Linear Programming Methods, *Linear Algebra and Its Applications*, 152 (1991), 343-363, special issue devoted to interior-point methods (with Y. Zhang).

37. An SQP Augmented Lagrangian BFGS Algorithm for Constrained Optimization, *SIAM Journal on Optimization*, 2 (1992), 210-241 (with R.H. Byrd and Y. Zhang).
38. On the Superlinear and Quadratic Convergence of Primal-Dual Interior-Point Linear Programming Algorithms, *SIAM Journal on Optimization*, 2 (1992), 304-324 (with Y. Zhang and J.E. Dennis).
39. Superlinear and Quadratic Convergence of Primal-Dual Interior-Point Methods for Linear Programming Revisited, *Journal of Optimization Theory and Applications*, 73 (1992), 229-242 (with Y. Zhang).
40. On the Superlinear Convergence of Interior-Point Algorithms for a General Class of Problems, *SIAM Journal on Optimization*, 3 (1993), 413-422 (with Y. Zhang and F. Potra).
41. A Superlinearly Convergent Polynomial Primal-Dual Interior-Point Algorithm for Linear Programming, *SIAM Journal on Optimization*, 3 (1993), 118-133 (with Y. Zhang).
42. Sizing the BFGS and DFP Updates: A Numerical Study, *Journal of Optimization Theory and Applications*, 78 (1993), 93-108 (with Martha Contreras).
43. A Quadratically Convergent  $O(\sqrt{n}L)$ -Iteration Algorithm for Linear Programming, *Mathematical Programming*, 59 (1993), 151-162 (with Y. Ye, O. Güler and Y. Zhang).
44. On the Quadratic Convergence of the Singular Newton's Method (an essay), *SIAG/OPT Views and News: A Forum for the SIAM Activity Group in Optimization*, Ed. Larry Nazareth, No. 1, Fall 1992, 6-8 (with Y. Zhang).
45. A Unified Approach to Global Convergence of Trust-Region Methods for Optimization, (revised July 1993), *Mathematical Programming*, 68 (1995), 319 (with J.E. Dennis and Shou-Bai Li).
46. The Mehrotra Predictor-Corrector Interior-Point Method as a Perturbed Composite Newton Method, *SIAM Journal on Optimization*, 6 (1) (1996), 47-56 (with Y. Zhang, M.J. Saltzman, and A. Weiser).
47. A Study of Indicators for Identifying Zero Variables in Interior-point Methods, *SIAM Review*, 36 (1994), 45-72 (with A.S. El - Bakry and Y. Zhang).
48. On the Characterization of Q-Superlinear Convergence for Quasi-Newton Interior-Point Methods for Nonlinear Programming, *El Boletín de la Sociedad Matemática Mexicana*, inaugural issue of the Journal of Mexican Mathematics Society, 1 (3) (1995), 137-148 (with H.J. Martinez and Z. Parada).
49. On the Convergence of the Iteration Sequence in Primal-Dual Interior-Point Methods, *Mathematical Programming*, 68 (1995), 141-154 (with Y. Zhang and Yinyu Ye).
50. On the Convergence of the Mizuno-Todd-Ye Algorithm to the Analytic Center of the Solution Set, *SIAM Journal on Optimization*, 7 (1) (1997), 47-65 (with C. Gonzaga).
51. On the Quadratic Convergence of the Simplified Mizuno-Todd-Ye Algorithm for Linear Programming, *SIAM Journal on Optimization*, 7 (1) (1997), 66-85 (with C. Gonzaga).
52. An Extension of the Karush-Kuhn-Tucker Necessity Conditions to Infinite Programming, *SIAM Review*, 36 (1) (1994), 1-17 (with M. Trosset).



53. Numerical Experience with Polyhedral Norm CDT Trust-Region Algorithms, *Journal of Optimization Theory and Applications*, 85 (1995), 575-591 (with M. El-Alem).
54. On the Formulation and Theory of the Newton Interior-Point Method for Nonlinear Programming, *Journal of Optimization Theory and Applications*, 89 (1996), 507-541 (with A. El-Bakry, T. Tsuchiya and Y. Zhang).
55. On the Construction of Strong Complementarity Slackness Solutions for DEA Linear Programming Problems Using a Primal-Dual Interior-Point Method, *The Annals of Operations Research*, 66 (1996), 139-162 (with M.D. Gonzalez-Lima and R.M. Thrall).
56. The Solution of the Metric STRESS and SSTRESS Problems in Multidimensional Scaling Using Newton's Method, *Computational Statistics*, 13 (3) (1998), 369-396 (with A. Kearsley and M. Trosset).
57. An Approach to Parallelizing Isotonic Regression, *Applied Mathematics and Parallel Computing: Festschrift for Klaus Ritter*, H. Fischer, B. Riedmuller, S. Schaffler (Editors), Physica-Verlag, Heidelberg, (1996) 141-147 (with A.J. Kearsley and M.W. Trosset).
58. On the Convergence Rate of Newton Interior-Point Methods in the Absence of Strict Complementarity, *Computational Optimization and Applications*, 6 (1996), 157-167 (with A. El-Bakry and Y. Zhang).
59. An Interior-Point Method with Polynomial Complexity and Superlinear Convergence for Linear Complementarity Problems, (with J. Ji, F. Potra and Y. Zhang).
60. Perturbation Lemma for Newton's Method with Application to the SQP Newton Method, *Journal of Optimization Theory and Applications*, 97 (1) (1998), (with D. Cores).
61. On Effectively Computing the Analytic Center of the Solution Set by Primal-Dual Interior-Point Methods, *SIAM Journal on Optimization*, 8 (1) (1998), (with M. Gonzalez-Lima and F. Potra).
62. A Robust Choice of the Lagrange Multiplier in the SQP Newton Method, *Investigación Operativa*, 7 (1,2) (1997), (with D. Cores).
63. Assessing and Evaluating the Evaluation Tool - The Standardized Test, *Synthesis and Proceedings of the Third Annual NISE Forum*, Workshop Report No. 6, National Institute for Science Education.
64. Computing an Exact Solution in Interior-Point Methods for Linear Programming, *Contemporary Mathematics*, 252 (1999), 9-29 (with P. Williams and A. El-Bakry).
65. On the Global Convergence of a Modified Augmented Lagrangian Linesearch Interior-Point Newton Method for Nonlinear Programming, *Journal of Optimization Theory and Applications*, 114 (1) (2001), (with M. Argaez).
66. Comparison of Two Sets of First-Order Conditions as Bases of Interior-Point Newton Methods for Optimization with Simple Bounds, *Journal of Optimization Theory and Applications*, 113 (1) (2002), (with D. Jamrog and Y. Zhang).
67. A Fast Newton's Method for Entropy Maximization in Phase Determination, *SIAM Review*, 57 (6) (2002), 681-685, (with Z. Wu, G. Phillips, and Y. Zhang).
68. The Local Behavior of Newton's Method on Two Equivalent Systems from Linear Programming, *Journal of Optimization Theory and Applications*, 112 (2) (2002), 239-263, (with C. Villalobos and Y. Zhang).

69. Selective Search for Global Optimization of Zero or Small Residual Least-Squares Problems: A Numerical Study, *Computational Optimization and Applications*, 20 (2001), 299-315, (with L. Velazquez, G. Phillips, and Y. Zhang).
70. On Convergence of Minimization methods: Attraction, Repulsion and Selection, *Journal of Optimization Theory and Applications*, 107 (2000), 529-546, (with Y. Zhang and L. Velazquez).
71. A Global Optimization Method for the Molecular Replacement Problem in X-ray Crystallography, *Mathematical Programming, Series B, published online*, May 3 2005, (with D. Jamrog, G. Phillips, and Y. Zhang).
72. On Sizing and Shifting the BFGS Update within the Sized Broyden Family of Secant Updates, *SIAM Journal of Optimization*, 15 (1) (2004), 139-160, (with H. Yabe and H.J. Martinez).
72. Quantification of Regional Ventilation from Treatment Planning CT, *Int. J. Radiation Oncology Biol. Phys.*, 62 (3) (2005), 630-634, (with T. Guerrero, K. Sanders, J. Noyola-Martinez, E. Castillo, Y. Zhang, R. Guerra, Y. Borghero, and R. Komaki).
73. Research in Optimization on Parallel Computers, *International Journal of Supercomputer Applications*, 8 (2) (1994), (with B. Averick, G. Bischof, R. Bixby, A. Carle, A. El-Bakry, M. El-Alem, A. Griewank, G. Johnson, R. Lewis, J. More, V. Torczon, and K. Williamson).
74. Augmented Lagrangian Homotopy Method for the Regularization of Total Variation Denoising Problems, *JOTA Paper 133/2/02* (May 2007), (In Press) (with L. Melara, T. Kearsley).

Papers: Submitted

1. A Global Convergence Theory for Arbitrary Norm Trust-Region Methods for Nonlinear Equations, (with M. El-Hallabi).

Papers: In Preparation

1. Inverse, Shifted Inverse, and Rayleigh Quotient Iteration as the Projected Newton Method, (with J.E. Dennis).
2. An Algorithm Based on a Convenient Trust-Region Subproblem for Nonlinear Programming, (with M.R. Celis and J.E. Dennis).
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