

RAMIRO JORDAN

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PROFILE

Twenty five years of experience creating and leading STEM education, R&D and entrepreneurial organizations and activities in Ibero-America and other regions in the world. A leader in international engineering education research. Proven capabilities in fund raising and creating partnerships, regionally and internationally, among academia, industry, government and multilateral organizations. Extensive experience in education, industry and entrepreneurship.

PHILOSOPHY

Research and education go hand-in-hand. I strongly believe in sharing the knowledge learned in research in a simple and clear fashion, and across diverse borders, so people can further the work into the future. This experience should be brought into undergraduate programs to pass the knowledge, challenge students' curiosity and creativity, and to encourage them to pursue graduate work. I also believe that the results produced by research should be reproducible by the community and be made to benefit us globally. Research and education produce what I refer to as social and business entrepreneurs, our future world leaders.

PROFESSIONAL PREPARATION

- Ph.D. Electrical Engineering, Kansas State University, 1987.
- M.S. Electrical Engineering, Kansas State University, 1984.
- B.E. Electrical Engineering, Universidad Nacional de La Plata, Argentina, 1981.

APPOINTMENTS

University of New Mexico

- Assistant Professor, ECE Department, University of New Mexico, Albuquerque, NM, August 1987 – July 1993
- Associate Professor, ECE Department, University of New Mexico, Albuquerque, NM, August 1993 – Present
- Associate Chair of ECE-UNM, Undergraduate Programs, August 2001 – December 2003.
- Associate Dean of Engineering, International Programs, UNM, August 2012 – Present.
- Associate Chair of ECE-UNM, Undergraduate Programs, August 2011 – May 2014.
- Interim Chair, ECE-UNM, 2013.

ISTEC (Ibero-American Science & Technology Education Consortium)

- Founder & Executive Director/President, ISTEC, 1990-2000
- Board Member, ISTEC, 1990-2000
- VP of Strategy and Planning, ISTEC, 2001-2007
- Executive Vice-President, ISTEC, 2008-2011
- Board Member, ISTEC, 2013-Present

- Director, Los Libertadores Initiative, the ISTECS Science and Technology Entrepreneurship for Economic Development Program, 1990-Present

GINET (Global Innovation Network for Entrepreneurship and Technology)

- Founder & Board Member, Global Innovation Network for Entrepreneurship and Technology (GINET), 2013-Present.

Gridline Communications Holdings, Inc.

- Executive VP & Chief Development Officer, responsible for business development, identification of emerging technologies, R&D, and fund raising, Gridline Communications Holdings, Inc., 2006-2009
- Member of advisory team for Gridline Communications Holdings, Inc., 2011

Universidad de Aquino, Bolivia

- President, Universidad de Aquino, Bolivia, 2004

Motorola

- Director of University Relations, Motorola Global Software Group, 2000-2002

IFEES (International Federation of Engineering Education Societies)

- Co-Founder & Vice President for the Americas, IFEES, 2009-2010
- Executive Committee, International Federation of Engineering Education Societies (IFEES), 2009- Present
- Special Advisor to IFEES President Elect, 2011

ASEE (American Society for Engineering Education)

- International Committee Member, ASEE, www.asee.org, 2008, 2009, 2010

Organization of American States (OAS) EftA

- Co-Founder & Executive Committee Member, Engineering for the Americas (EftA), Organization of American States, www.efta.oas.org, 2003, 2008, 2009, 2010, 2011

United Nations

- IT Advisor to United Nations Latin American Ambassadors, 1999-2000

NSF (National Science Foundation)

- Panel Member, National Sciences Foundation (NSF) Division of Research, Evaluation, Dissemination, and Applications of Advanced Technologies Program, 1994-1995

Unión Panamericana de Asociaciones de Ingenieros

- Executive Committee, Unión Panamericana de Asociaciones de Ingenieros, 2011-Present

GDEC (Global Engineering Deans Council)

- UNM representative for Latin American Chapter of Global Engineering Deans Council (GEDC), 2012-Present
- UNM representative to the Global Engineering Deans Council (GEDC), 2012-Present

IADB (Inter-American Development Bank)

- Member of Board of IT Advisors to President of Inter-American Development Bank (IADB), 1999-2000

Comisión Sectorial de Investigación Científica

- Panel Member, CSIC - Comisión Sectorial de Investigación Científica (equivalent to USA NSF), Uruguay, 1997

COLCIENCIAS

- Panel Member, COLCIENCIAS (equivalent to USA NSF), Colombia, 1995-1997

eDoorways International

- Member of Board of Directors, eDoorways International, 2011-Present

SABBATICALS / LEAVES OF ABSENCE

- Sabbatical: Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil, 1995
- Leave of Absence: Director of University Relations, Motorola Global Software Group: Worldwide University Relations: training, education, R&D, spinoffs, laboratory setups. 2000-2002
- Leave of Absence: President, Universidad de Aquino, Bolivia, 2004
- Leave of Absence: Executive VP & Chief Development Officer, responsible for business development, identification of emerging technologies, R&D, and fund raising, Gridline Communications Holdings, Inc., 2006 – July 2009

FOUNDER/Co-FOUNDER

- Founder, Global Innovation Network for Entrepreneurship and Technology (GINET), 2013
- Founder, Ibero-American Science & Technology Education Consortium (ISTEC), 1990
- Co-Founder, The Khoros Group and Khoral Research Inc. (KRI), Albuquerque NM, 1987
- Co-founder, International Federation of Engineering Education Societies (IFEES), www.ifees.net, 2011
- Co-founder, Engineering for the Americas (EftA), Organization of American States, 2003
- Founder, Journal of Computer Science and Technology, <http://journal.info.unlp.edu.ar/>, 2005
- Founder, Revista Iberoamericana de Tecnología en Educación y Educación en Tecnología, (Iberoamerican Journal in Technology in Education and Education in Technology), <http://teyet-revista.info.unlp.edu.ar/>, 2006

AWARDS AND HONORS

- Bestowed with the *Order of Rio Branco, in the rank of Officer*, by the Brazilian Federal Congress and President, April 24, 1997.
- *Motorola Inc. Silver Quilt Award - Award for Technical Articles*, "A Microcoded Neural Net System and System Interface" – Hardware Design Winner, 1994.
- *Motorola Inc. Silver Quilt Award - Award for Technical Articles*, "A SIMD Neural Network Computer and DSP Engine for Compute Intensive Algorithms," – Hardware Design Winner, 1994.
- *Meritorious Work in Engineering and Computer Education Award*, presented at the 1999 International Conference on Engineering and Computer Education, August 11, 1999.
- *Contributions in Higher Education and Science and Technology Award*, Organization of American States, 2000.
- *International Excellence Award*, University of New Mexico, 2000.
- *International Excellence Award*, University of New Mexico, 2001.
- *Professional Progress Award in Recognition for Significant Success and Accomplishment Midway Through Professional Career*, Kansas State University, 2002.
- *Honorary PhD for contributions to Engineering Education*, Universidad de Aquino, Bolivia, 2002.
- *Achievement Award for Innovations and Accomplishments in Multilingual IT Infrastructure in Engineering Education*, 2003, iNEER-ICEE.
- *Growing with Technology Award*, Cisco Systems, 2004.
- *Harrison Faculty Recognition Award for Innovation, Education and Community Services*, University of New Mexico School of Engineering, 2007.

- *ECE-UNM Lawton-Ellis Award in Recognition for Exemplary Teaching and Research with a Record of Involvement with Student Organizations and Community*, University of New Mexico, 2014.

PROFESSIONAL MEMBERSHIPS & ACTIVITIES

Memberships

- Member, IEEE
- Member, ASEE
- Member, IEEE Digital Signal Processing Society
- Member, IEEE Communications Society
- Member, HKN
- Member, Executive Committee, IFEEES
- Member, National Academy of Sciences of Bolivia, Since 1999
- Member, Latin American and Iberian Institute on Engineering Education
- Member, Latin American and Caribbean Consortium of Engineering Institutions (LACCEI)
- Member, EftA

Advisory Activities

- Advisor to the IEEE, Latin America Region
- Advisor/Collaborator to Student Platform for Engineering Education (SPEED)

Publication Activities

- Reviewer, IEEE Transactions on Circuits and Systems
- Reviewer, IEEE Transactions on Acoustics, Speech, and Signal Processing
- Reviewer, IEEE Transactions on Instrumentation and Measurement
- Reviewer, IEEE Transactions on Education Computers and Electrical Engineering
- Reviewer, IEEE Transactions on Vehicular Technology
- Reviewer, IEEE Communication Letters
- Reviewer, CCCT – Computing, Communications and Control Technologies
- Editor & Reviewer, Journal of Computer Science and Technology, 2005-Present
- Editorial Committee Member & Reviewer, Revista Iberoamericana de Tecnología en Educación y Educación en Tecnología, 2006-Present

Conference Activities

- Reviewer, World Engineering Education Forum
- Reviewer, ISTE General Assembly, 1990-Present
- Reviewer, ICECE (International Conference on Engineering and Computer Education), Rio de Janeiro, August 11-14, 1999
- Reviewer, LACCEI
- Reviewer, CACIC (Congreso Argentino de Ciencias de la Computación)
- Reviewer, CLEI (Latin-American Center for Informatics Studies)
- Co-Chairman for Publications, IEEE International Conference on Acoustics, Speech & Signal Processing, 1990
- Technical Committee, IEEE/ACM International Conference on Engineering and Computer Education, August 11-14, Rio de Janeiro, Brazil, 1999.

- Organizing Committee, World Engineering Education Forum, 2012 - Present
- Organizing Committee Chair, Global Student Design Challenges , 2011 - Present
- General Chair & Member of the Organizing Committee of the ISTECH General Assemblies, 1990- Present
- Organizing Committee, IEEE Seventh thru Ninth International Caribbean Conference on Devices, Circuits and Systems
- Advisory Committee, XII Congreso Internacional en Innovación Tecnología Informática, Buenos Aires, Argentina, 2012, 2013, 2014
- Organizing Committee, LACCEI
- Organizing Committee, IFEES
- Member of Executive Office of ICEE 2000, International Conference on Engineering Education, Taipei, Taiwan, August 14-16, 2000
- Program Committee, ICEE

Motorola-ISTECH IT Challenge Events Organized

- 1st ISTECH-Motorola IT Challenge, S&T Policies for Mexico, Cuernavaca, Morelos Mexico, November 28-29, 2000
- 2nd. ISTECH-Motorola IT Challenge, Albuquerque, NM, USA, First Annual Research and Development Summit (AIRDS), May 7-9, 2001
- 3rd ISTECH-Motorola IT Challenge, II Encuentro: Sociedad y Tecnologías de la Información, Santiago de Chile, Chile, December 13-14, 2001
- Annual Iberoamerican Research & Development Summit (AIRDS), Albuquerque, NM, USA, May 29-30, 2002
- “Ibero-American Summit on Engineering Education”, a priority of all Heads of State of the Latin and Caribbean Region, (www.efta.oas.org), March 24-27, 2003
- Engineering for the Americas Symposium, Lima, Peru, November 29 – December 2, 2005
- Discussion Forum on Policies for Scientific and Technological Development in Bolivia, La Paz, Bolivia, October 10-11, 2002
- Discussion of Scientific and Technological Development in Colombia, Corporación Universitaria Autónoma de Occidente (CUAO), Cali, Colombia, November 8, 2002
- Panamá as a Scientific / Technological platform and Digital Crossroads for the Americas; Accepting the Challenge of Information Technologies, Panamá, November 19, 2002
- Panamá as a Scientific / Technological platform and Digital Crossroads for the Americas; Accepting the Challenge of Information Technologies”, Panamá City, Panamá, November 19, 2002
- Uruguay IT Challenge – June 2001
- Spain IT Challenge – March 2003
- Ecuador IT Challenge – June 2003
- Annual Ibero-American Research and Development Summit, UNM, New Mexico, USA, May 29-30, 2002
- III Encuentro Sociedad y Tecnologías de la Información, IT Challenge, “Education and the Digital Divide”, Universidad de Chile, December 12-13, 2002
- 10th ISTECH-Motorola IT Challenge, Engineering Education for the Americas, San Jose dos Campos, Brazil, March 24-26, 2003
- Extension to IT Challenges: Science and Technology Entrepreneurship for Economic Development, Campinas, Brazil, Dec 5-6, 2005

UNM COMMITTEES

- Member of UNM Faculty Senate and Operations Committee of the Faculty Senate, 2010-2012
- ECE Computer Use Committee
- ECE Computer Use and Teaching Labs Committee
- ECE Laboratories Committee
- ECE IT Committee
- Graduate Committee for Minority Students
- UNM Undergraduate Education Committee
- ECE Graduate and Undergraduate Program Committees
- UNM International Affairs Council member
- Faculty Concilium on Latin America and Iberia, 1999-Present
- GEO Advisory Board
- Vice-Provost's Committee for International Programs
- SOE Dean's Advisory Committee
- ECE CompE and EE Search Committees
 - Microelectronics Search Committee
 - Telecom/DSP Search Committee
- ECE Strategic Planning
- ECE Awards Committee
- Extended University Committee, liaison to SOE

VISITING PROFFORSHIPS (Incomplete List)

- Universidad Nacional de La Plata, Argentina
- Universidad Abierta Interamericana, Argentina
- Universidad Católica de Bolivia, Bolivia
- Universidad Privada de Bolivia, Bolivia
- Universidad Privada Santa Cruz de la Sierra, Bolivia
- Universidade Estadual de Campinas, Brazil
- Pontificia Universidade do Rio Grande do Sul, Brazil
- Universidad Javeriana, Colombia
- Universidad del Valle, Colombia
- Universidad Autónoma de Occidente, Colombia
- Particular de Loja, Ecuador
- Escuela Politécnica Nacional, Ecuador
- Universidad Tecnológica Equinoccial, Ecuador
- Universidad de Guadalajara, Mexico
- Universidad Nacional Autónoma de México, México
- Pontificia Universidad Católica de Peru, Peru
- Universidad de Ingeniería y Tecnología, Perú
- Universidad de Vigo, Spain
- Universidad Carlos Tercero, Spain

- Universidad Simón Bolívar, Venezuela

UNM COURSES TAUGHT (Undergraduate and Graduate levels)

- Introduction to C programming (in-class, on-line)
- Intermediate Programming and Engineering Problem Solving (in-class, on-line)
- Computer Logic Design (in-class, on-line)
- Signals and Systems (in-class, on-line)
- Introduction to Computer Architecture and Organization (in-class)
- Intermediate Logic Design (in-class)
- Probabilistic Methods in Engineering [Probabilistic Methods in Electrical Engineering] (in-class)
- Microprocessors (*created*) (in-class)
- Computer Engineering Design Project (in-class)
- Introduction to Digital Signal Processing (in-class, on-line)
- Introduction to Computer Networks (*created*) (in-class, on-line)
- Introduction to Communication Systems (in-class)
- Wireless Communications (*created*) (in-class, on-line)
- Undergraduate Problems (in-class)
- Engineering Honors Seminar (in-class)
- Pattern Recognition (in-class)
- Digital Image Processing (in-class, on-line)
- Digital Signal Processing (in-class, on-line)
- Advanced Networking Topics (*created*) (in-class, on-line)
- Probability Theory and Stochastic Processes (Random Signal Processing) (in-class)
- Digital Communication Theory (in-class)
- Signal Detection and Estimation (in-class)
- Spread Spectrum Communications (in-class)
- Information Theory and Coding (in-class)
- Adaptive Filtering (in-class)
- Advanced Topics in DSP (*created*) (in-class)

LABORATORY DEVELOPMENT AT UNM

- Microprocessor/Microcontroller Lab
- Chips & Salsa Gateway, 2001-2003
 - Video and Audio Streaming
 - Course Content Development, Administration and Maintenance
 - Microsoft, Sun Microsystems, Hewlett-Packard
- Motorola Benchmark, 2001
 - M-CORE
 - DSP 586XX
- Multi-Dimensional Signal Processing Lab
 - Khoros
 - Sun Microsystems, DEC, Hewlett-Packard
- Digital Signal Processing Lab, 2002
 - Texas Instruments

- Software Defined Radio Lab, 2014
 - National Instruments

GRADUATE STUDENTS

Graduated MS Students, Committee Chair

- Ram Attaluri
- Sandilya Birudavolu Ulises
- Hung Nguyen
- Vinod Ramdas
- Michael Thurgood
- Fabricio Ourique
- Daniel Vargas
- Victor Vergara
- Murad Hijazi
- Ulises Lay de Gracia
- Inaki Gasteluiturri
- Alexandre Franco
- Noe Mendivil
- Jason Krein
- Luis Martinez
- Steven Aragon
- Ian Wilcox
- Alma Linan Rodriguez
- Carlos Adrian Martinez Yero
- Scott Watson
- Glen Abousleman
- Larry Canady
- Ali Asgharzadeh
- Luay Shawwa
- Arun Tirumalai
- Jon King
- Vijayakumar Raghavendran
- David Modl
- Vinicius Licks
- Beiqi Gu
- Jorge Perez
- Olajide Durosinmi
- Shaibal Shovon Saha
- Jeremy Worley

Graduated MS Students, Committee Member (Incomplete List)

- Cesar Carranza
- Bai Hao, MS
- Uday Kadaboina

- Ding Li, MS
- Cherish Franco
- Miguel Gallegos
- David Manzaneres
- Ruifu Zhou
- Bokai Zu
- Abdul-Jelili O.Ade-Bello
- Ismail Guvenc

Graduated PhD Students, Committee Chair

- Vinicius Licks
- Henry Jerez, PhD
- Fabricio Ourique
- Patrick Valdez, PhD
- Jose Ricardo Otazo Torres
- Jim Andrews
- Willie Kiser
- Rene Arechiga
- Chris Keiser

Graduated PhD Students, Committee Member (Incomplete List)

- Soraya Abad-Mota
- Victor Vergara
- Simon Barriga
- Alonzo Vera
- Jorge Parra
- Renato Borges
- Jorge Crichigno
- Feng Xu
- Quach Tu-Toan
- Renato Borges, PhD, (UNICAMP-UNM Double Degree Program), 2009
- Carla Agurto
- Paul Rodriguez
- Victor Manuel Murray Herrera
- Simon Barriga
- Sergio Murillo
- Paulo Franco
- Jonio Cavelcanti, PhD Candidate

Current MS Students, Committee Chair

- Vicente Leyba, MS
- Edgar Chavez, MS
- Irteza Rana, MS

Current PhD Students, Committee Chair

- Zhiwu Xei, PhD
- Claudio Silva, PhD, (UNM-UNICAMP double degree)
- Eric Ehrhardt Hamke, PhD
- Anees Abrol, PhD

SHORT COURSES (Incomplete List)

Digital Signal Processing,

- Interactive On-line Course, over 2 million downloads

Signal Processing in Medical Applications: Hardware/Software Issues

- Universidad de Vigo, Vigo, España, 1991.

Digital Signal Processing (DSP): Theory to Hardware Implementation (Hands-on experiments on Texas Instruments TMS320C25 and TMS320C30)

- University of New Mexico, USA, 1991.

Digital Image Processing

- Universidad Politécnica de Madrid, Electrical Engineering Department, Madrid, Spain, March 1991.
- Universidad Nacional Autónoma de México, Electrical Engineering Department, Mexico City, Mexico, March 1992.

Digital Signal Processing (DSP): Theory to Hardware Implementation (Hands-on experiments on Texas Instruments TMS320C30)

- UNM, Albuquerque NM, USA, 1992.

Khoros: A Software Development Environment, Applications in Image Processing

- Universidad Autónoma Metropolitana, México DF, México, 1992.

Microprocessors, Microcontrollers and DSP

- Universidad Autónoma Metropolitana, Electrical Engineering Department, Mexico City, Mexico, November 1993.

Multidimensional Signal Processing

- Escuela Politécnica Nacional, Electrical Engineering Department, Quito, Ecuador, April 1995.

Digital Image Processing with Khoros 2

- Universidad de La Plata, La Plata, Argentina, 1995.
- Short Course at the Simposio Nacional de Reconocimiento de Formas y Análisis de Imágenes”, Universidad de Córdoba, Córdoba, Spain, March 1995.
- Universidad de Córdoba, Córdoba, España, 1995.
- Universidad de Campinas, Campinas, Brazil, 1995 y 1996.
- Universidad Carlos III, Madrid, Spain, July 1996.
- Universidad de la Republica, Montevideo, Uruguay, October 1996.
- Universidad Carlos III, Madrid, España, 1996.
- Universidad de la República, Montevideo, Uruguay, 1996.
- Universidad Católica del Peru, Lima, Peru, February 1997.

Digital Image Processing with Khoros 2 and Software Development

- Broadcast to IberoAmerica via HISPASAT, 1999
- Khoros Research Inc., Albuquerque, NM, USA. Training and short courses delivered 1995-2002.

Computer Networks

- Broadcast to IberoAmerica via HISPASAT, 1999
- Various on site courses, 1999-2005

Computer Networks, 1999

- Various on site training 1999-2005

Wireless Communications, 2002

- Various on site training 2002-Present

Digital Signal Processing

- Universidad Privada de Bolivia, Cochabamba, Bolivia, May 2014

Digital Image Processing

- Universidad Privada de Bolivia, Cochabamba, Bolivia, May 2014

PROFESSIONAL AND SYNERGESTIC ACCOMPLISHMENTS

- **ISTEC**

Founder/President/Board member of the Ibero-American Science and Technology Education Consortium (ISTEC) (<http://www.istec.org>). ISTEC, created in 1990, is the outcome of a R&D effort in Engineering Education in Ibero-America funded by Motorola, Inc. which addressed questions related to the effectiveness of engineering education and research in Ibero-America and its socio-economic impact. ISTEC is a non-profit organization composed of more than one hundred member institutions (industrial, academic, multilateral, and governmental) in the Americas and Iberian Peninsula. The Consortium fosters common goals regarding the promotion of education, technology transfer, research and development, culture of quality and entrepreneurship. Our partnership seeks to provide access to the talent available in universities and R&D centers in many countries, to enhance a quality-trained workforce, and to explore new business opportunities. The benefits to the countries that participate in the consortium are enhanced educational levels in science and engineering, investment opportunities, support for existing industries, enriched economic development, access to international scientific communities, access to R&D centers, and self-sufficiency using the latest technology. The ISTEC model is currently being replicated in other regions of the world.

- **Khoros**

Member of the Khoros Group, a highly successful spinoff of ECE-UNM that created Khoros, open source software that integrated multidimensional data analysis, data visualization, visual programming, and automated software development into a system for creating turnkey solutions. Khoros was a standard platform for software development for many years, and outperformed MATLAB and LabView in data processing, data visualization, and graphical programming.

Led development of algorithm libraries that performed N-dimensions DSP operations, N-dimensional linear algebra, the first multidimensional Wavelet transforms, and many novel spectral estimation techniques. Pushed the envelope in distributed and parallel computing, installing Khoros on all Cray supercomputers. In partnership with ISTEC, deployed the first supercomputer (CRAY Y-MP) in Latin America at the Universidad Nacional Autónoma de Mexico (UNAM) in 1991.

- **Khoral Research Inc. (KRI)**
Founding member of Khoral Research Inc. (KRI). Founded in 1992 by the creators of Khoros, The mission of KRI was to empower the scientific and technological community by improving productivity and facilitating collaboration. KRI accomplished this by establishing the family of Khoros software products and services as the preeminent solution for image processing, data exploration, and visualization and software development.
- **IT Challenge for Ibero-America, 1999-2010**
Via ISTEAC and Motorola, sponsored conferences, workshops and forums throughout Ibero-America to catalyze social and economic development for the decade 2000-2010. Invited governments, academia, multilateral organizations, R&D centers and the private sector to analyze technology needs, strengths and expectations, resulting in an Information Technology (IT) agenda and commitments to implement it.

Direct results of the IT Challenge include:

- Strategic alliances among the public and private sector, academia and international organizations: *Ex: NSF, CONACYT-Mexico, OAS, UN, IADB, CAF, other.*
- New and enhanced policies for science and technology: *co-founded OAS-EftA, IADB -joint actions to implement IT policies and programs; UN collaboration in IT - ECOSOC, innovated S&T policies with governments throughout the region.*
- Creation of networks of excellence for education and R&D: *CEITEC, CoE at Universidad de Monterrey.*
- Investment in education and leadership: *labs, equipment grants & licenses, accreditation – GRANA, student/faculty exchange programs (mobility); educational workshops*
- Creation of favorable environments to foster free trade and competitiveness: *entrepreneurial activities; TECNOPUC and others.*
- Creation of adequate content on the Internet considering social and cultural values
- Creation and enhancement of information technology infrastructure
- Universal access and open standards: *ISTEC-OAS Portal; Digital Library*
- Coordinated several IT hemispheric summits with OAS.
- Replicated the ISTEAC model in other parts of the world.

Motorola committed \$500,000 for 2000-2004, with additional grants for equipment and licensing. Many organizations augmented or matched these funds, including the Inter-American Development Bank, Organizations of American States, Corporacion Andina de Fomento, CONACYT, CNpQ, FAPESP, COLCIENCIAS, CSIC, SANDIA National Laboratories, HP, Sun Microsystems, Microsoft, Nortel Networks, CISCO, FreeScale and others.

- **Centers of Excellence**
 - **Center for Advanced Electronic Technology (CEITEC), 2002**
Through ISTEAC and in collaboration with Motorola and the Brazilian government, created CEITEC, a highly successful Center of Excellence in microelectronics and nanotechnology in Brazil. CEITEC is an initiative of the State of Rio Grande do Sul funded by the Brazilian S&T Ministry. It fosters local development of high technology and expertise in microelectronics. CEITEC became a public-private company in 2008.

CEITEC's charter is to create a solid foundation in semiconductors education, research, development, design, manufacture and sales to meet the high demand of the microelectronics markets in Brazil and South America, while generating local businesses, jobs and revenues. CEITEC built the first submicron CMOS prototyping and production facilities in Latin America, driving and stimulating advanced CMOS capability. CEITEC has R&D partnership with companies worldwide and provides strong support for advanced electronics technology and materials innovation in Latin America. CEITEC serves as an incubator for Electronic Systems and IC Design start-ups.

- **University of Monterrey Center of Excellence, Mexico**
- **TECNOPUC, Brazil**
- **GINET**
Founding member of the Global Innovation Network for Entrepreneurship and Technology (GINET). The goal of GINET is to create a Global Innovation Network of Entrepreneurial Programs among Academia, Industry, Research & Development Centers, Governments, Investors/Mentors, Multilateral Organizations, and Individuals/Visionaries/Entrepreneurs (serial and first time). The objective is to identify innovative ideas, services, applications, prototypes, and products and through strategic alliances with investors, industry and government agencies, bring these innovations to the marketplace (www.ginetllc.com).
- **United Nations Science & Technology bylaws**
Through ISTECE, worked with United Nation ambassadors from Latin America, Asia, Africa and Europe to incorporate S&T policies in the Socio-Economic Council of the UN. Also, with the assistance of Motorola and other multinational companies, assisted governments in improving their S&T legislation.

EDUCATIONAL INITIATIVES

- **Research and Teaching Labs in Ibero-America**
Replicated ECE-UNM microprocessor labs and content at over 200 sites, mainly in Ibero-America, training over 500,000 engineers using equipment donated by Motorola. Similar efforts were carried out with HP, Sun Microsystems, Nortel Networks, Microsoft, and many other companies. (UNM-ISTEC)
- **Digital Signal/Imaging Processing Training and Labs in Ibero-America**
In 1995 partnered with UNICAMP to develop a fully interactive Internet on-line Digital Image Processing (DIP) course based on Khoros. Over two million downloads of the DIP course from USA Khoros site and mirror sites in Japan, Brazil and Germany. Funding from the Organization of American States sponsored deployment of over 500 Khoros labs in Ibero-America. (UNM-ISTEC)
- **GRANA-ISTEC™ Software Environment for Accreditation and Certification 2007-Present**

Co-creator of GRANA-ISTEC™ (Generation of Resources for Accreditation of Academic Programs Nations of America), an evaluation system aligned to the traditions and regional contexts of institutions of higher education that is responsive to the increasing demands for globalization in engineering education. The GRANA-ISTEC™ philosophy promotes an institutional culture of quality, emphasizing the training of individuals who will make social contributions, promoting a vision of development that is regionally and globally relevant. The evaluation system is recommended for institutions that want to enhance academic capacity and competitiveness in the global community and consists of five areas: (1) training of internal and external evaluators, (2) continuous updating of quality indicators and procedures, (3) process and procedures, (4) online assessment system, and (5) system for monitoring continuous improvement of educational programs

The GRANA-ISTEC™ program has had active participation in the OAS EftA initiative that seeks to establish mechanisms for education reform in the Latin America region. EftA and GRANA-ISTEC™ address the needs of various sectors of society by: (a) encouraging the development of engineers with skills that are certifiable by transparent systems, (b) enhancing professional mobility, (c) ensuring adequate levels of investment in engineering curriculum and program development, and (d) supporting regional economic growth. To date, GRANA-ISTEC™ has trained 600 external reviewers and made external assessments in 15 Latin American countries.

- **Innovation-Plaza**

In 2011, created and equipped ECE-UNM Innovation-Plaza (Corporate sponsors Quanser & National Instruments). The Innovation-Plaza helps bridge the gap connecting Math, Physics and Chemistry to Engineering at a very early stage by linking theory to real world experience. The Innovation-Plaza realizes the creativity and innovation of students, improves retention and graduation rates and fosters entrepreneurship. Through the Innovation-Plaza, three undergraduate teams have won annual UNM Business Plan Competitions and some student projects have been integrated in commercial products. The intent is to follow the model of the microprocessor and Khoros labs and deploy and connect these labs throughout Ibero-America. (UNM-ISTEC)

- **Student Contests**

Involved for over 10 years in the organization and fund raising for awards and travel costs for regional and final student design contests. Worked with industry and other NGOS in fund raising. (UNM-ISTEC)

- **Business Plan Competitions**

In partnership with the Anderson School of Management (ASM) we are encouraging undergraduate and graduate engineering students to participate in the UNM Business Plan competitions. In the past three years (2011-2014) we had four groups of undergraduate students, junior and senior, win second and third places. Coaching is also being provided by the ASM to engineering students on how to write business plans, how to present, marketing, and accounting.

Outreach Programs (August 2011 - May 2014)

Developed outreach program to recruit high-school students into engineering. Through this program, students earn university credit while in high-school. Qualified high school faculty are

certified as UNM faculty to facilitate this program. ECE-UNM senior students act as ambassadors, working with disadvantaged middle school students and encouraging them to consider engineering as a career.

- **Recruitment**

The ISTECON Consortium is a great network for recruiting students in exchange program and for graduate study. In addition, through ISTECON we attract faculty and staff for sabbaticals. Thanks to ISTECON UNM has recruited over well over 500 students.

- **Agreements between UNM and International Academia**

- **Graduate Double Degree Programs (MS, PhD)**

Led initiative to establish Graduate Double Degree program (2004) where UNM partners with strategic international universities to offer graduate degrees that provide increased mobility and globalization. Half of the required credits are taken at UNM and half at the partnering university. Credits can transfer to both universities. A joint committee is assigned for thesis and dissertation. Once fulfilled, the student receives the MS or PhD from both institutions.

Signed Agreements:

Argentina: UNLP (2013)

Bolivia: UPB (2008)

Brazil: UNICAMP (2005), PUCRS (2013), USP (2013), PUCRIO (2013)

Colombia: UAO (2012), UDFJC (2012)

Chile: UCV (2011), UC (2007)

China: SJTU (2009)

Ecuador: REDU (2013) (Network of top 11 academic institutions in Ecuador)

Egypt: Sinai University (2013)

Germany: U. of Hamburg (2013)

India: AMRITA (2012)

Mexico: ITESM (2012), UdG (2013)

Panama: UTP (2013)

Peru: PUCP (2012), UTEC (2012), UPCH (2013)

Spain: UPM (2013), Carlos III, U. Complutense (2013), U. de Vigo (2013), U. de Alcalá (2013), U. Rey Juan Carlos (2013), U. Autónoma (2013), EOI (2013)

Turkey:

United Kingdom:

Uruguay: UR (2013)

- **Shared Credit (4+1) Program**

Led effort to establish Shared Credit (4+1) program, in which students in Ibero-America work on a BS for 4 years in their home country, then attend UNM the fifth year. There is agreement between partnering institutions that credits will transfer to both universities. When the student earns the BS degree in their home country, they also receive a MS from UNM. This agreement became active 2014, and all institutions listed above have signed or are in process of signing with UNM.

- **Government Agreements**

- HEC – Pakistani Government (signed 2012)
 - Fall 2013 - Over 6000 applicants to 750 graduate scholarships fully funded by the Pakistani government; UNM is the only US academic institution on the list
- CAPES – Brazilian Government (on hold)
- COLCIENCIAS – Colombian Government (in progress)
- CONACYT – Mexican Government (complete, updates pending)

- **Entrepreneurship and Technology Management Program (ETM)**
 Collaborated with UNM business school to create the graduate ETM program (MS, PhD), offered Spring 2015. This program is not an MBA. It is designed to analyze and design ecosystems for entrepreneurship with an international flavor to facilitate the commercialization of technology. Topics include tech parks, tech transfer, IP protection and licensing, incubation of companies, etc. The program is networked across universities and is part of the Graduate Double Degree program.

- **Digital Libraries**
 Led effort to provide access to technical information by networking academic university libraries, urging them to share their collections, and negotiated with publishers for access to their content. IFEES is now replicating this effort world-wide. (UNM-ISTEC)

- **Endowed Chair**
 Participated in the creation of the Prince of Asturias Endowed Chair in the UNM School of Engineering.

- **Distance Education**
 - Developed “Portal of the Americas” for the Organization of American States for distance education.
 - Led development of Spanish language UNM engineering courses which were broadcast via HISPASAT Satellite to Ibero-American educational institutions. (UNM-ISTEC)
 - Developed fully interactive online courses using Khoros. (UNM-ISTEC-KRI)
 - Developing online content in multiple languages using Dotsub technology (UNM-ISTEC-GINET)

RESEARCH ACTIVITIES

- Extensive research in Engineering education
- Designed a highly scalable and adaptable Neural Network computer, first of its kind. Awarded two Motorola Inc. Silver Quilt Awards in 1994.
- Designed educational microprocessor and microcontroller boards for Motorola
- Distributed and parallel computing, CRAY research
- Developed DSP and DIP algorithms for MRI imaging and spectroscopy.
- Developed the first multidimensional Wavelet transform algorithms and many novel spectral estimation techniques
- Developed water marking algorithms
- Extensive DSP/Communication algorithm development for cognitive radio

- Redesigned campus-wide network
- Development of the Chips and Salsa Ibero-American Gateway in Science & Technology Education
- Developed QUEJESE.NET Web Services Portal at Universidad Privada de Santa Cruz de la Sierra (UPSA), Bolivia, 2004

SOURCES OF FUNDING (incomplete list)

ISTEC, Inc.:

ISTEC, Inc. to UNM-ECE:

State of New Mexico:

K&A Wireless:

Raytheon:

Texas Instruments:

Digital Equipment Corporation:

Motorola:

Inter-American Development Bank (IADB):

Hewlett Packard:

Mentor Graphics/VeriBest Inc.:

Sun Microsystems:

National Science Foundation:

3B Graphic Computersysteme (GMBH):

Sandia National Laboratories:

UNM Center for Non-invasive Diagnosis:

John Fluke Corp.:

New Mexico State University:

Northern Telecom Inc./Nortel Networks:

Office of Naval Research:

Organization of American States:

Synopsys:

Dotsub:

Silterra:

City of Albuquerque:

Hispanic Chamber of Commerce:

Cadence:

Universidad Privada de Santa Cruz de la Sierra (UPSA):

Cray Research:

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Quanser:

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- [14] V. M. Vergara, S. E. Barbin, R. Jordan: Waterfilling Estimation for AWGN MIMO Channel Modeled as a Random Matrix; *JCM* 3(5): 12-22, 2008.
- [15] R. Otazo, Fa-Hsuan Lin, G. Wiggins, R. Jordan, D. Sodickson, S. Pose, "Superresolution parallel magnetic resonance imaging: application to functional and spectroscopic imaging," *Neuroimage* 04/2009; 47(1):220-30.
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INVITED/KEYNOTE TALKS & PANELS (Incomplete List)

- [1] Universidad Nacional de La Plata, Electrical Engineering Department, La Plata, Argentina, December 1992.
 - Keynote: “Information Technology in Ibero-America”
- [2] 11th Simposio Brasileiro de Redes de Computadores, Campinas, Brazil. May 10-13, 1993.
 - Keynote: “Multidimensional Software Development, Khoros 1.0.5 and Khoros 2.0.”
- [3] Ideas in Science and Electronics (ISE) Conference, May 1994.
 - Keynote: “Khoros 2.0: The Next Generation”
- [4] Pontifica Universidad Javeriana, Electrical Engineering Department, Bogota, Colombia, November 1994.
 - Keynote: “Information Technology in Ibero-America”
- [5] Simposio Nacional de Reconocimiento de Formas y Análisis de Imágenes, Universidad de Córdoba, Córdoba, Spain, March 1995.
 - Invited “Digital Image processing with Khoros 2”
- [6] Universidad Tecnológica Equinoccial, Quito, Ecuador. November, 1995.
 - Keynote: “Information Technology in Ibero-America”
- [7] International Conference on Modeling and Simulation of Microsystems, Semiconductors, Sensors and Actuators (MSM-98), Santa Clara, CA, USA. April 6-8 1998.
 - Keynote: “Visual Programming Environment for Modeling and Simulation”
- [8] Motorola Corporate Engineering and Project Management Council 1998 Simulation and Modeling for 10X Cycle Time Reduction Symposium, Phoenix, AZ, USA. June 1-2 1998.
 - Keynote: “Visual Programming Environment for Modeling and Simulation on Computer Networks”
- [9] I Certamen Iberoamericano y III Congreso de Tecnologías Aplicadas a la Enseñanza de la Electrónica, Madrid, Spain. September 16-18 1998
 - Keynote: “Trends and Needs of Networks in Education and R&D”
- [10] American Chamber of Commerce for Brazil - Sao Paulo, Brazil, August 4, 1998.
 - Keynote: “Internet Software Development: Business Agenda for Electronic Commerce in Brazil”
- [11] Conferencia Internacional de Reconocimiento de Patronos, Havana, Cuba, March 1999.
 - Keynote
- [12] Universidad de Santiago de Compostela/Centro de Supercomputación de Galicia, Santiago de Compostela, Spain. March 1999.

- Invited: “Simulation and Modeling Environments”
- [13] Organization of American States Integral Development Meeting, Wash. D.C., April, 1999.
- Keynote
- [14] NTGTS 1st Annual Latin American Telecommunications Conference, Richardson, TX. May 5, 1999.
- Keynote: “I2K Plan for Ibero-America”
- [15] Universidad Nacional de La Plata, La Plata, Argentina. July 1999.
- Invited: “Computer Networks: Theory and Practice”
- [16] 1999 International Conference on Engineering and Computer Education, Rio de Janeiro, Brazil. August 11-14 1999.
- Keynote: “Los Libertadores: Science and Technology Integration of Ibero-America”
- [17] Primer Congreso Internacional de Tecnología y Política de Investigación Científica, Mexico City, October 5-6, 1999.
- Keynote
- [18] Control and Mitigation of Natural Disasters Workshop, Santa Fe, NM, October, 1999.
- Keynote
- [19] Amigos 2000 Conference, Puebla, Mexico, February 2000.
- Keynote: “Towards a Digital Library”
- [20] ICEE 2000, Taipei, Taiwan. August 2000.
- Keynote: “Portals in the Education”
- [21] EduCause 2000, Nashville, Tennessee. October 2000.
- Panel: “Internationalization in Higher Education”
- [22] General Assembly of the Inter-American Development Bank, New Orleans, Louisiana, March 27-29, 2000
- Panel: “The New Economy and Development: Innovation and Growth in Wealth”
- [23] Conference of the Institute of Electrical and Electronics Engineers (IEEE) and Motorola DSP licensing, Cancun, Mexico, March 2000
- Invited: “ISTEC”
- [24] 2nd IEEE Latin American Test Workshop, Cancun, México, February 2001
- Panel
- [25] Annual Iberoamerican Research & Development Summit, Albuquerque, NM, May 2001
- Panel

- [26] CUDI High Speed Networking Conference, México, D.F., Mexico, April, 2001
 - Invited
- [27] CHI 2001 – Consortium in the Development of Human Interaction, Seattle, Washington, April 2001
 - Invited
- [28] CLEI, Cartagena, Colombia, August 2001
 - Invited
- [29] ICEE Congress, Oslo, Norway, August 2001
 - Invited
- [30] CEITEC Conference, Porto Alegre, Brazil, August 2001
 - Invited
- [31] IEEE CCA/ISIC 2001 Conference, Mexico City, Mexico, October 2001
 - Invited
- [32] XXI International Conference of the Chilean Computer Science Society, Punta Arenas, Chile, November 2001
 - Invited
- [33] International Seminar of Informatics, University of Guadalajara, Mexico, November 2001
 - Invited
- [34] INAOE Anniversary Events, Puebla, Mexico, November 2001
 - Panel
- [35] E-Mexico Summit, Acapulco, México, Nov-Dec 2001
 - Keynote
- [36] Forum Social Mundial – Programa para Ciencia e Tecnologia para Democracias em Desenvolvimento, Porto Alegre, Brazil. January 31 – Feb 5, 2002.
 - Invited: “The ISTECH Model for Collaboration: ISTECH Initiatives”
- [37] 4th IEEE International Caracas Conference on Devices, Circuits and Systems ICCDCS 2002, Aruba, Dutch Caribbean. April 17-21, 2002.
 - Invited: “The ISTECH Model: ISTECH Initiatives”
- [38] Annual Iberoamerican Research & Development Summit, Sandia National Labs, Albuquerque, NM. May 2002.
 - Panelist
- [39] Meso-American and Caribbean Digital Libraries and Distance Education Workshop at INAOE, Puebla, Mexico. May 15-17, 2002.

- Invited: “The ISTECE Model for Collaboration: LIBLINK Initiative”
- [40] V Taller Internacional de Educación a Distancia, Havana, Cuba. May 20-24, 2002.
- Invited: “The ISTECE Model for Collaboration: The Advanced Continuing Education (ACE) Initiative”
- [41] Inauguration of the First ISTECE Center of Excellence , Universidad de Monterrey, México. May 24, 2002.
- Invited: “ISTECE Los Libertadores Initiative”
- [42] Virtual Educa 2002, Valencia, Spain. June 2002.
- Invited “Advanced Continuing Education Initiative of ISTECE”
- [43] 6th World Multi-Conference on Systematics, Cybernetics & Information, SCI 2002, Orlando, Florida. July 14-18, 2002.
- Invited: “R&D Initiative of ISTECE”
- [44] 1st Andean Forum on Competitivity –Sponsored by the Interamerican World Bank and CAF, Santa Cruz, Bolivia. July 18, 2002.
- Keynote: “The ISTECE Model for Collaboration: ISTECE Initiatives”
- [45] X Brazilian Symposium of Microwaves and Opti-Electrics, Recife, Brazil. August 12, 2002.
- Invited: “Evolution, trends and perspectives R&D Initiative of ISTECE”
- [46] ICEE 2002, Manchester, England. August 18, 2002.
- Invited: “The ISTECE Model for Collaboration: Entrepreneurship”
- [47] 15th Symposium on Integrated Circuits and Systems Design Chip in the Pampa SBCCI 2002, Porto Alegre, Brazil. September 9-14, 2002.
- Keynote: “The ISTECE Model for Collaboration: R&D Initiative and CEITEC”
- [48] Hewlett-Packard Mobility Conference, San Jose, California. October 23, 2002.
- Invited: “ECE – ISTECE Online Education Platform: Chips and Salsa”
- [49] ISTECE Centers of Excellence Workshop, Santo Domingo, Dominican Republic. September 17, 2002.
- Invited “ISTECE Los Libertadores Initiative”
- [50] III Encuentro Sociedad y Tecnologías de la Información, IT Challenge, Universidad de Chile, December 12-13, 2002
- Invited: “Education and the Digital Divide”
- [51] NSF-LACCEI Workshop on Global Engineering Education Challenge for the Americas, Tampico, Mexico, May 29, 2007.
- Invited: “Entrepreneurship in Engineering Education”

- [52] XVII ISTECE General Assembly, Loja, Ecuador, June 4-8, 2007.
- Invited: “S&T Entrepreneurship for Economic Development”
- [53] Americas Competitive Forum, Organized by the US Department of Commerce, Atlanta, June 11-13, 2007.
- Invited: “S&T Entrepreneurship for Economic Development”
- [54] XXI Congreso Nacional de Posgrado y EXPO Posgrado, Guadalajara, Mexico. Nov 20-23, 2007.
- Invited: “Impacto y Pertinencia del Posgrado (COMEPO)”
- [55] Feria Internacional de Ciencia y Tecnología, Universidad de Guadalajara, Autlan, Mexico, November 10-13, 2008.
- Invited: “S&T, Education and Entrepreneurship for Economic Development”
- [56] 2008 ASEE Annual Conference and Exposition, Pittsburg, PA, June 22-25, 2008.
- Invited: “ISTEC-GRANA: Accreditation and Certification Efforts in Ibero-America”
- [57] 2nd IFEEES Global Engineering Education Summit and the 7th ASEE Global Colloquium on Engineering Education, Cape Town, South Africa, October 19-23, 2008.
- Invited: “Science and Technology Entrepreneurship for Economic Development (STEED)”
- [58] 6th Latin American and Caribbean Conference For Engineering Technology, Tegucigalpa, Honduras, June 4-6, 2008.
- Invited: “Entrepreneurship and Building Human Capacity in Ibero-America: Graduate Double Degrees”
- [59] 6th Latin American and Caribbean Conference For Engineering Technology, Tegucigalpa, Honduras, June 4-6, 2008.
- Panelist: “Sustainability, Environment, and Energy for Latin America and the Caribbean (SEELAC)”
- [60] IFEEES-ASEE, 2009
- Keynote: “GRANA: Assessment, Evaluation and Accreditation of Educational Programs”
- [61] LACCEI, 2009
- Keynote: “GRANA: Assessment, Evaluation and Accreditation of Educational Programs”
- [62] ISTECE GA, 2009
- Keynote: “GRANA: Assessment, Evaluation and Accreditation of Educational Programs”
- [63] EftA, 2009
- Keynote: “GRANA: Assessment, Evaluation and Accreditation of Educational Programs”
- [64] IFEEES-ASEE, 2010
- Keynote

- [65] LACCEI, 2010
 - Keynote
- [66] Sisoft 2010
 - Keynote
- [67] Brazil – Internationalization of Higher Education, 2010
 - Keynote
- [68] ICEE, 2010
 - Keynote
- [69] EftA, 2010
 - Keynote
- [70] ISTE General Assembly, Porto Alegre, Brazil, May 2011
 - Keynote: “Innovating Curricula: An idea from the lab to the Marketplace”
- [71] World Engineering Education Forum - Lisbon, Portugal. July 2011.
 - Keynote: “4G and LTE: Peace Engineering”
- [72] Electrical and Computer Engineering Department Heads Association (ECEDHA), Orlando, FL USA. June 2013.
 - Invited: “Innovation-Plaza at UNM”
- [73] Internationalization Challenges for Academic Institutions ,UNICAMP, Campinas, Brazil. – October 2013
 - Keynote, “The ISTE and UNM Experience”
- [74] National Instruments WEEK, Austin, TX, USA. August 2013
 - Invited: “The Innovation Plaza Effort at UNM”
- [75] US-Brazil Innovation Summit, Rio de Janeiro, Brazil. September 2013.
 - Keynote: “GINET”
- [76] Student Platform for Engineering Education (SPEED), 9th Global Student Forum, Cartagena, Colombia. September 21-24, 2013.
 - Keynote: “Peace Engineering and the Innovation Plaza”
- [77] GINET Workshop, UNM, Albuquerque NM, USA. May 7-9, 2014.
 - “What is GINET?”
- [78] College of the Americas, Organización Universitaria Interamericana (OUI), Argentina. July 2014.
 - Invited: “Good Practices in International Accreditation” (video recorded and broadcast to academic organizations in Ibero-America)

- [79] Congresso Técnico-Científico de Engenharia e Agronomia (CONTECC 2014), Teresina, Brazil. August 2014.
- Keynote: “Practical Partnership Building and Enterprise-Oriented Examples”
- [80] UPADI 2014, Santa Cruz de la Sierra, Bolivia. August 11-16, 2014.
- Keynote: “Global Innovation Network for Entrepreneurship and Technology (GINET) From Technology Anywhere to Markets Everywhere”
- [81] Commercialization of Micro, Nano, and Emerging Technologies Conference (COMS 2014), Salt Lake, Utah. October 12-15, 2014.
- Panel: “Emerging Energy Tech and Global Energy”
- [82] IFEEES (2006 – Present)
- Panel, Invited presentations
- [83] Inter-American Development Bank – ICT Events (2000 – 2005)
- Panel, Invited talks
- [84] ISTECH General Assemblies (1990 – Present)
- Panel and Keynote Presentations
- [85] Organization of American States (1992 – 2006)
- Panel, Invited presentations
- [86] ISTECH ICT Challenges (2000 – 2005)
- Panel, Invited Presentations
- [87] Global Engineering Deans Council – Latin America (2011 -2013)
- Panel, Invited presentations

PUBLIC SERVICE

- Advisor to the Hispano Chamber of Commerce – STEM, R&D and Entrepreneurship, 2008, 2009, 2010, 2011
- Helped organized business trips for the Hispanic Chamber of Commerce to Argentina, Brazil, and Spain, 2000 – 2008
- Outreach programs with Albuquerque Public Schools – Career Enrichment Center (APS-CEC) to recruit students early on and give them a chance to take UNM courses for credit while in high school.
- Assisted City of Albuquerque – Economic Development efforts (US and international) with Mayor’s office; Planning Department with technical issues relating to the Electromagnetic Health and the siting of cellular phone service base station towers 1999.
- Consultant to the Bolivian Minister of Labor - Telephony Cooperative, La Paz, Bolivia, 1999.
- Consultant to the Bolivian Mission to the United Nations, New York, 1999.

- Promoted ISTEAC activities within UNM and the State of New Mexico and to the Latin American Scientific Community at large, 1999 to present.
- Working with New Mexico Tribal Communities in the implementation of technological access in remote areas; and searching for funding resources for it. 2002, 2004
- La Plazita Community Center, Albuquerque, 2005.
- NM State collaborations: Sec. of Education, Reed Dasembrock; Secretary of Economic Development, Fred Mondragon; Governor's S&T Advisor, Tom Bowles. 2007, 2008
- City of Albuquerque: Mayor Martin Chavez, 2008
- Advisor to Paul Shirley and WAVE volunteer efforts. Also donated ISTEAC equipment to WAVE.
- Helping Gary Oppedahl, Innovate ABQ project, City of Albuquerque with international soft landing of Tech Parks (2014)