Elsa Yvonne Quiroz Villa

 Department of Teacher Education

The University of Texas at El Paso

EDUC 100E

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**EDUCATION**

**New Mexico State University,** Las Cruces, NM

Ph.D., Curriculum & Instruction, 2010

Dissertation Title: *Interrupting the Formation of Teacher Identities: Using Inquiry to Shift From Teacher-Centered to Learner-Centered*

**The University of Texas at El Paso,** El Paso, TX

 M.A., Teacher Education, 2006

 M.S., Computer Science, 1991

 B. S., Mathematics, 1967

**PROFESSIONAL EXPERIENCE**

* **Assistant Professor of Practice**, Department of Teacher Education, The University of Texas at El Paso, El Paso, TX
	+ August 2014 – Present
	+ Responsibilities: Teach elementary, middle, and secondary preservice teachers in mathematics and science methods and student teaching courses.
* **Research Assistant Professor**, Office of Research & Sponsored Projects The University of Texas at El Paso, El Paso, TX
	+ August 2014 – Present
	+ Responsibilities: As a member of the proposal development team, support faculty and staff in developing and submitting successful grant proposals.
* **Research Assistant Professor and co-Director**, Center for Research in Engineering & Technology Education, The University of Texas at El Paso, El Paso, TX
	+ June 2011 – August 2014
	+ Responsibilities: Co-lead development of graduate programs in engineering education; co-develop leadership engineering undergraduate program; co-build comprehensive research agenda with cross-disciplinary research associates; co-develop research proposals to increase engineering education knowledge base.
	+ Accomplishments: PI, *Building Capacity for Preparing Teacher Engineers for 21st Century Engineering*, National Science Foundation, awarded August 2012; PI, *Hispanic Engineering Leadership Institute* (HELI), US Department of Education, awarded October 2011; PI *Latinas in Computer Science and Engineering: A Qualitative Study,* National Science Foundation, awarded August 2012; PI *Improving Elementary STEM Education through Inquiry-Based Curriculum*, The Boeing Company, awarded 2012, 2013; co-PI, *Developing Metacognitive Learners*, US Department of Education, awarded 2013; contributed to the designation of CREaTE as an official UTEP research center, 2013.
* **Research Associate**, New Mexico State University, Las Cruces, NM
	+ Department of Curriculum & Instruction
	+ Responsibilities: Designed and developed science/education curriculum; conducted research and co-wrote scholarly papers; taught multicultural education course to pre-service teachers
	+ January 2010 – May 2011
* **Lecturer**, The University of Texas at El Paso, El Paso, TX
	+ Department of Teacher Education
	+ Responsibilities: Taught elementary science and mathematics methods; contributed to securing funding from The Boeing Company to support pre-service teacher development
	+ August 2005 – August 2010
* **Director**, The University of Texas at El Paso, El Paso, TX
	+ Engineering Programs Office, College of Engineering
	+ Responsibilities: Design and implement recruitment and retention programs; secure funding to support engineering programs for recruitment and retention, such as summer camp and scholarship support; support college-wide activities, such as pre-graduation ceremonies and accreditation site visits.
	+ January 1994 – August 2005
* **Instructor**, The University of Texas at El Paso, El Paso, TX
	+ College of Science (mathematics)
		- 1995 - 1996
	+ College of Engineering (computer science, education, university studies seminar courses)
		- 1993 – 2005
* **Instructor**, El Paso Community College, El Paso, TX
* Division of Mathematics and Science (mathematics)
* 1991 - 1993
* **Teacher**, Ysleta Independent School District, El Paso, TX
	+ 7th grade mathematics, 8th grade science
	+ Fall 1974 – Spring 1976
	+ Fall 1967 – Summer 1970
* **Teacher**, New Deal Independent School District, New Deal, TX
	+ High school mathematics, including algebra, geometry, pre-calculus, trigonometry
	+ 1970 - 1973

CERTIFICATIONS & AWARDS

Best Paper, The 2014 International Sun Conference on Teaching and Learning, “Affinity Research Groups in Practice: Apprenticing Students in Research,” El Paso, Texas, March 2014.

Secondary Education in Mathematics and Science, The State of Texas.

Trainer, Cooperative Learning, Johnson & Johnson, University of Minnesota.

**REFEREED PUBLICATIONS**

**Villa, E. Q.**, & Baptiste, H.P. (Winter 2014*).* Creating an equitable classroom environment: A case study of a preservice teacher learning what it means to ‘do inquiry*.*’ *Multicultural Education*, 25-32*.*

Esquinca, A., Wandermurem, L., Nuñez-Mchiri, G., & **Villa, E. Q.** (2014). *Latina engineering students´ narratives of resilience.* Paper presented at the Annual Meeting of the American Educational Research Association, AERA, Philadelphia, PA.

Hsu, P.-L., & **Villa, E. Q.** (2014). *Cultural resources mediating identity development of females in engineering and computer science.* Paper presented at the Annual Meeting of the American Educational Research Association, AERA, Philadelphia, PA.

**Villa, E. Q.,** Nuñez-Mchiri, G., Esquinca, A., Hampton, E., & Wandermurem, L. (2014). *Accumulating aspirational capital for Latinas to pursue and persist in engineering.* Paper presented at the Annual Meeting of the American Educational Research Association, AERA, Philadelphia, PA.

Mein, E., Esquinca, A., Ortiz-Galarza, M., Gallardo, R., & **Villa, E. Q**. (2013). *Social and linguistic capital among transfronterizo engineering students on the US-Mexico border.* Paper presented at the 2013 Annual Meeting of the American Educational Research Association, AERA, San Francisco, CA.

**Villa, E.Q.**, Kephart, K., Gates, A.Q., Thiry, H., & Hug, S. (2013). Affinity Research Groups in practice: Apprenticing students in research. *Journal of Engineering Education 102*(3), 444-466*.*

Hug, S., Thiry, H., & **Villa, E. Q.** (2012). *Mastering new narratives in the computing fields: Latina counter narratives of research practice*. Paper presented at the 2012 American Education Research Association Annual Meeting.

Thiry, H., Hug, S., & **Villa, E. Q.** (2012). *Cultivating care: The Affinity Research Group model for mentoring Hispanic undergraduates.* Paper presented at the 2012 American Education Research Association Annual Meeting.

**Villa, E.Q.,** & Glazewski, K. (2011). *Expressions of emerging agency, identity, and participation among Latino children in an afterschool film program.* 2011 AERA Meeting.

**Villa, E. Q.** (2009). *Forging pathways to social justice: An emerging collective of educators democratizing traditional classrooms.* 2009 AERA Meeting.

Kephart, K., **Villa, E.,** Gates, A. Q., & Roach, S. (Summer 2008). The Affinity Research Group Model: Creating and maintaining dynamic, productive, and inclusive research groups. *CUR Quarterly (28)*4, 13-24.

**REFEREED BOOK CHAPTERS**

Gates, A. Q., **Villa, E. Y.,** & Salamah, S. (In press). Developing communities of practice to prepare software engineers with effective team skills. In L. Yu (Ed.), *Overcoming challenges in software engineering education: Delivering non-technical knowledge and skills* (pp. 52-70). Hershey, PA: IGI Global.

Baptiste, H. P., & **Villa, E. Q.** (2012). Affirmative action. In J. Banks (Ed.), *Encyclopedia of Diversity in Education* (Vol. 1), (pp. 35-40). Thousand Oaks, CA: Sage Publications Inc. doi: 10.4135/978452218533.n13

Baptiste, H. P., & **Villa, E. Q.** (2012). Title VII of the Civil Rights Act of 1964.

 In J. Banks (Ed.), *Encyclopedia of Diversity in Education* (Vol. 4), (pp. 2180-2182). Thousand Oaks, CA: Sage Publications Inc. doi: 10.4135/9781452218533.n90

Neakrase, J., Baptiste, H. P., Ryan, A. N., & **Villa, E. Y.** (2012). “Science for all” through reflective interactions: Analyzing online instructional models, learning activities, and virtual resources. In U. Demiray, G. Kurubacak, & T. V. Yuzer (Eds.), *Meta-communication for reflective online conversations: Models for distance education* (pp. 102-118)*.* Hershey, PA: IGI Global.

**Villa, E.Q.,** & Kephart, K. (2010). Using inquiry to teach inquiry: A preservice science education model with possibilities for developing Hispanic ELLs' academic discourse*.* In D. Sunal, C. S. Sunal, & E. L. Wright (Eds*.), Teaching science with Hispanic ELLs in K-16 classrooms* (pp*.* 201-231) Charlotte, NC: Information Age Publications, Inc.

**Villa, E. Q.,** Calderón, M., & Luna, R. (2009). Tomorrow’s math and science teachers: Using action research in teacher preparation. In Hulett, E.C. (ed.), *Action research in the classroom.* New Mexico University Printing Services: Portales, NM.

Gates, A., Roach, S., **Villa, E.,** Kephart, K., della Piana, C., & della Piana, G. (2009). *The Affinity Research Group Model: Creating and maintaining effective research teams.* John Wiley & Sons, Inc. and IEEE-CS Press.

Jones, V. R. J., & **Villa, E. Q.** (2006). Researching and writing the literature review. In E. Hampton & S. Peregrino (Eds.), *Research for mutual understanding in diverse communities* (pp. 41-55). Dubuque, IA: Kendall/Hunt Publishing Company.

Hampton, E., Peregrino, S., & **Villa, E. Q.** (2006). Requesting approval to conduct research: The institutional review board. In E. Hampton & S. Peregino (Eds*.), Research for mutual understanding in diverse communities* (pp. 163-171). Dubuque, IA: Kendall/Hunt Publishing Company.

**CONFERENCE PUBLICATIONS**

Hug, S., Thiry, H., Gates, A., **Villa, E**., & Kephart, K. (2009). Developing the identity of a scientist: Situated learning theory as a framework for apprenticing Hispanics into scientific research. In *Proceedings of the ASEE Understanding Interventions that Broaden Participation in Research Careers*, Washington, D.C.

Kephart, K., **Villa, E.,** Everett, L., & Pennathur, A. (2009). Cultivating authentic engineering discourse: Results of faculty development efforts. In *Proceedings of the American Association of Engineering Education Conference.*

Roach, S. & V**illa, E.** (2008). Enhancing peer-led team learning through cooperative learning. In *Proceedings of the American Association for Engineering Education Conference.* Pittsburgh, PA.

Kephart, K. & **Villa, E.Q.** (2008). Demonstrating sustainable success: Using ethnographic interviews to document the impact of the Affinity Research Group Model. In *Frontiers in Education Conference Proceedings*: Saratoga Springs, NY.

Everett, L., Pennathur, A., Jones, V., Kephart, K, & **Villa, E.** (2007). Cultivating authentic engineering discourse: Transitioning from an NSF CCLI to a Phase 2 Project. In *Proceedings of the 2007 American Society for Engineering Education Annual Conference*: Hawaii.

Roach, S., & **Villa, E.** (2007). Reaching out across disciplines: Learning from each other to produce more graduates in computer science. In *Second Annual Technology Workforce Development Workshop: Best Practices 2007*, 6-7.

Everett, L., & **Villa, E.** (2006). Assessment results of multi-intelligence methods used in Dynamics. In *Proceedings of the 2006 American Society for Engineering Education Annual Conference & Exposition.*

Everett, L., Pennathur, A., & **Villa, E.** (2006). The effect technology and a structured design problem have on student attitudes about theory in a dynamics class. In *Proceedings of the 2006 American Society for Engineering Education Annual Conference & Exposition*.

Everett, L., & **Villa, E. Q.** (2005). Increasing success in a dynamics course through multi-intelligence methods and peer facilitation. *In Proceedings of the 2005 American Society for Engineering Education Conference & Exposition*: Portland, Oregon.

Everett, L., Pennathur, A., & **Villa, E.Q.** (2006). The effect technology and a structured design problem have on student attitudes about theory in a dynamics class. In *Proceedings of the 2006 American Society for Engineering Education Annual Conference & Exposition.*

Everett, L., & **Villa, E.** (2005). Increasing success in a dynamics course through multi-intelligence methods and peer facilitation. In *Proceedings of the 2005 American Society for Engineering Education Annual Conference & Exposition.*

**Villa, E.,** Diaz-Rios, R.L., Stafford, S., & Gandara, G. (2001). K-16 partnerships: Casting a broad net for filling the critical gaps in engineering. In *Proceedings of the 2001 ASEE/IEEE Frontiers in Education Conference: Reno, Nevada.*

Morell, L., Toro, Z., **Villa, E. Q.,** Diaz-Rios, L., & Lloyd, S. (1999). Why are they still here? Findings from a preliminary study of Hispanic undergraduate women in engineering. In *Proceedings of the 1999 ASEE Conference*: Charlotte, NC.

Herrera, J.M., Stafford, S., **Villa, E.Q.,** & Piñon, S. (1997). Excellence in Technology, Engineering & Science (ExciTES): A collaborative model for pre-college outreach and recruitment. In *Proceedings for the Conference for Industry and Education Collaboration*, American Society for Engineering Education: Tampa, Florida.

Della-Piana, C., **Villa, E.Q.,** & Pinon, S.D. (1996). Using cooperative learning in a freshman summer engineering orientation program. In *Proceedings of the1996 American Society for Engineering Education (ASEE) Annual Conference*: Washington, D.C.

**TECHNICAL PUBLICATIONS**

Kreinovich, V., Bernat, A., Villa, E., & Mariscal. Y., Parallel computers estimate errors caused by imprecise data. In V.M. Nesterov and B.M. Hecrepob (Eds.), *Interval computations*, 1991, No. 2, pp. 31-46. St. Petersburg, Russia: Institute for New Technologies.

Villa, E., Bernat, A., and Kreinovich. V., Estimating errors of indirect measurement on realistic parallel machines: routings on 2-D and 3-D meshes that are nearly optimal. In V.M. Nesterov and B.M. Hecrepob (Eds*.), Interval computations*, 1993, No. 4 (pp. 154-175). St. Petersburg, Russia: Institute for New Technologies.

Kreinovich, V., Bernat, A., Borrett, W., Mariscal, Y., & Villa, E. (1994). Monte-Carlo methods make Dempster-Shafer formalism feasible. In R.R. Yager, J. Kacprzyk, & M. Pedrizzi (Eds.), *Advances in the Dempster-Shafer theory of evidence* (pp. 175-191). New York: John Wiley & Sons, Inc.

**EDUCATION CONFERENCE PRESENTATIONS**

**Villa, E.,** & Moreno, E., “An Inquiry Pedagogical Approach for Fostering Autonomy,” A Better Beginning Conference for Beginning Teachers, El Paso, UTEP, September 26, 2009.

**Villa, E**., Hill, C., Moreno, M., & Muñoz, M., “Preservice Teachers and Action Research: Connecting Theory with Practice in an Inquiry Classroom Environment,” Conference for International Research in Cross-Cultural Learning and Education (CIRCLE), El Paso, Texas, July 2009.

**Villa, E.** “Forging Pathways to Social Justice: An Emerging Collective of Educators Redressing Traditional Classrooms. American Education Research Conference, San Diego, April 2009.

**Villa, E.,** Baptiste, H.P., & Calderón, M., “Toward Social Justice for Tomorrow’s Classrooms: A Prospective Model for Transforming Pre-Service Teacher Identities,” National Conference, Association for Teacher Education, Multicultural Division. Dallas, Texas, February 2009.

**Villa, E.,** & Baptiste, H.P., “Pre-Service Teachers Participating in and Developing Learning Communities: Possibilities for Creating Equity and Social Justice in Diverse Classrooms,” National Association for Multicultural Education, New Orleans, Louisiana, November 2008.

**Villa, E.,** Calderon, M., & Luna, R., “Pre-Service Teachers Participating In and Developing Mathematics and Science Learning Communities: Possibilities for Impacting Teacher Preparation Programs,” 1st Summer International Conference on Education, The University of Texas at El Paso (UTEP), July 2008.

**Villa, E.,** Calderon, M., & Luna, R., “Tomorrow's Math and Science Teachers: Using Action Research in Teacher Preparation.” Sixteenth Annual Action Research Conference. Center for Teaching Excellence. Taos, New Mexico, June 5-7, 2008.

Everett, L., Licona, M., & **Villa, E.,** "Learn to Distinguish Problems from Exercises and Experience a Problem-Based Lesson," 2005 Sun Conference on Teaching and Learning, El Paso, Texas, March 2005.

Solis, B., & **Villa, E.,** "You Can't Do It Alone: Students Collaborating to Excel," 2005 Sun Conference on Teaching and Learning, El Paso, Texas, March 2005.

Moya, J., Munter, J., Gonzalez, V., & **Villa, E.,** "Engineering Course Redesign: From Gatekeeper to Gateway," 2003 Frontiers in Education Hewlett Packard Company Symposium, Boulder, Colorado, November 2003.

Gonzalez, V., Moya, J., Munter, J., & **Villa, E**., "Cooperative Learning and Mobile Classrooms: Collaboration and Course Redesign," Sun Conference on Teaching and Learning, El Paso, Texas, March 2003.

Moya, J., Munter, J., & **Villa, E.,** "Redesigning Engineering Programs: Impacts of the Critical Revisioning of Engineering/Computer Science Coursework at a Predominantly Hispanic-Serving Institution," National Conference On Race and Ethnicity, New Orleans, Louisiana, May 2002.

Mijarez, M., **Villa, E.Q**., & Diaz-Rios, L., “Looking Ahead to ABET 2000: Creating Innovation in a MAES Student Chapter through the Cooperative Approach,” MAES Symposium Proceedings, January 2000 and American Society for Engineering Education Conference Poster Session, St. Louis, Missouri, June 2000.

Diaz-Rios, L. & **Villa, E.Q**., “TAME El Paso’s Science Advisors Program: A New Paradigm for Industry Partnerships in Education,” Conference for Industry and Education Collaboration, American Society in Engineering Education, San Jose, California, January 1996.

**Villa, E.Q.,** "Cluster Study Groups in College Level Mathematics," Expanding Minority Opportunities Conference, Arizona State University, Tempe, Arizona, January 1995.

**TECHNICAL PRESENTATIONS**

**Villa, E.Q.** (1992). Estimating errors of indirect measurement on realistic parallel machines: routings on 2-D and 3-D meshes that are nearly optimal. International Conference on Interval Computation. Lafayette, Louisiana.

**PROFESSIONAL ACHIEVEMENTS**

Pending Grants

* Principal Investigator, “SYSTEMS: Studying Youth in Science, Technology, Engineering, & Mathematics (STEM) in K-5 Schools,” National Science Foundation, with Drs. Maria Teresa de la Piedra, Alberto Esquinca, Erika Mein, and Mr. Mariano Silva, September 2014 to August 2017, $449,736. DENIED
* Principal Investigator, “Preparing Teacher-Engineers for the 21st Century,” National Science Foundation, with Drs. David Carrejo and Peter Golding, September 2014 to August 2019, $1,199,947.
* Co-Principal Investigator, “The Problem-Based Learning in Engineering (PBL in ENG) Network: Scaffolding Design Problem Solving to Foster Active Engagement for Enduring Understanding,” National Science Foundation, with PI Krista Glazewski and Tom Brush, September 2013 to August 2017, $1,396,625.

Current Grants

* Co-Principal Investigator, “Developing Metacognitive Learners to Persist and Achieve Timely Completion of Engineering,” U.S. Department of Education, with Drs. Peter Golding (PI) and Erika Mein, October 2013 to September 2016, $491,611.
* Principal Investigator, “Improving Elementary STEM Education through Inquiry-Based Curriculum,” The Boeing Company, with Drs. Eric Hagedorn, William Medina-Jerez, and Ms. Debra Little, September 2013 to August 2014, $45,000.
* Principal Investigator, “Latinas in Computer Science and Engineering: A Qualitative Study Examining Identity and Agency for Resilience and Persistence,” National Science Foundation, with Drs. Martine Ceberio, Alberto Esquinca, Pei-Ling Hsu, Guillermina Nuñez-Mchiri, Patricia Nava, and Michael Zárate, September 2012 to August 2015, $524,960.
* Principal Investigator, “Building Capacity for Preparing Teacher Engineers for 21st Century Engineering,” National Science Foundation, with Drs. Eric Hagedorn, David Carrejo, and Patricia Nava, September 2012 to August 2014, $287,703.
* Co-Principal Investigator, “Hispanic Engineering Leadership Institute,” U.S. Department of Education, with Drs. Peter Golding, Alberto Esquinca, Erika Mein, and Patricia Nava, October 2011 to September 2014, $615,01

Principal Investigator/Project Director/Coordinator

 During my tenure as UTEP Director of Engineering Programs between 1994 and 2005, I wrote and/or administered numerous grants funded by state and federal agencies, corporations, and foundations including Hewlett Packard Company, Agilent Technologies, Environmental Protection Agency through the Southwest Center for Research & Policy, Southwestern Bell Corporation, NASA, Naval Research Laboratories, General Motors, The Boeing Company, IBM, Texas Instruments, Intel, NSF, and JPL relating to retention of minority engineering students, mathematics and science education reform, and pre-college outreach.

The following is a sampling of past grants:

* Co-Principal Investigator, “CCLI Phase 2: Building Support Structures for Full Adoption of the Affinity Research Group Model,” National Science Foundation, with Drs. Ann Q. Gates, Steve Roach, and Kerrie Kephart, September 2009 to August 2013, $399,457.
* Principal Investigator, “Improving Elementary STEM Education through Inquiry-Based Curriculum,” The Boeing Company, with Drs. Eric Hagedorn, William Medina-Jerez, and Ms. Debra Little, September 2013 to August 2014, $50,000.
* Co-Principal Investigator, "The Affinity Research Group Model," National Science Foundation, with Drs. Ann Q. Gates and Steve Roach, August 2005 to May 2010, $304,811.
* Senior Personnel, “Cultivating Authentic Discourse for the 2020 Engineer,” National Science Foundation, Dr. Louis Everett, PI, September 2006 to May 2010, $500,000.
* Principal Investigator, “HP Scholars Summer Internship Transition Program,” Hewlett Packard Company, $49,962.98**,** 2008; $35,900, 2007; $50,809, 2006.
* Co-Principal Investigator, “Improving Elementary Math and Science Through Inquiry Curriculum,” with Dr. Elaine Hampton, Boeing, $5,000; 2007, 2008, 2009.
* Senior Personnel, “Reaching Out Across Disciplines: Learning from Each Other to Produce More Graduates in Computer Science,” Texas Higher Education Coordinating Board, Dr. Steve Roach, PI, March 2006 – August 2008, $284,882.
* Co-Principal Investigator, "Creating Learning Communities at UTEP to Increase Throughput," Texas Engineering Technology Consortium, with Drs. Benjamin Flores and Judith Munter, 2003-2005, $139,767.
* Principal Investigator, The Xerox Foundation, Scholarships and Outreach at UTEP, 1998-Present; from $3,500 in 1998 to $11,500 in 2004.
* Principal Investigator, "Engineering Retention Initiative Symposium," Hewlett Packard Company, 2003-04, $225,000.
* Principal Investigator, "Minority Program for Excellence in Engineering," General Motors Foundation, 1995 to 2005, $50,000 annually.
* Co-Principal Investigator and Coordinator, NSF Computer Science, Engineering & Mathematics Scholarship Program, "Scholars for the Engineering Workforce of the Future," with Drs. Rafael Gutierrez, Roberto Osegueda, and Helmut Knaust, 2003 to 2005, $400,000.
* Co-Principal Investigator, "Redesign of Critical Gatekeeper Courses," with Drs. Louis Everett and John Moya, The Boeing Company, 2002, $40,000.
* Principal Investigator, "Diversity in Education Initiative," Hewlett Packard Company/Agilent Technologies, 1997-2002, with El Paso Independent School District, $250,000.
* Principal Investigator, "Peer Study Groups in Algebra at El Paso Community College," Coalition to Increase Minority Degrees, Arizona State University, 1993, $2,500.

Workshop Leader

 Affinity Research Group Model, University of Buffalo, February 2009; Auburn University, August 2008; Consortium for Advancing Hispanic Serving Institutions (CAHSI), Miami, October 2008;Texas A&M Corpus Christi, June 2007; SACNAS, Dallas, October 2010.

Peer-Led Team Learning, Texas A&M Corpus Christi Computer Science Faculty and Students, June 2007, Corpus Christi, Texas.

“Creating Learning Opportunities – Building Active Learning Problems to Create Conceptual Conflict for Enduring Understanding,” Frontiers in Education Conference, October 2007, Milwaukee, Wisconsin.

Teaching Enrichment Institute for UTEP Engineering Faculty, September 2004 to present Mathematics Cooperative Learning Institute, Instituto Tecnologico y de Estudios Superiores de Monterry (ITESM), Juárez, México, December 2004.

ABET Strategic Planning, UTEP College of Engineering, The University of Texas at El Paso, 2001.

Resource Team Member

 Texas Leadership Institute for K-8 Science Education, The American Physical Society/Teacher-Scientist Alliance Institutes, Austin, Texas, 1999.

Invited Presenter

 National Center for Women & Information Technology, “Fostering Gender Equity Using Affinity Research Groups,” Boulder, Colorado, May 2007.

Engineering Strategy Workshop, Kentucky Council on Postsecondary Education, Louisville, Kentucky, 2000.

Society for the Advancement of Chicanos and Native Americans (SACNAS) Conference, Keynote Speaker for K-12 Teachers, "Advancing K-16 Education: The Critical Crossroads," Albuquerque, New Mexico, October 2003.

**PROFESSIONAL ACTIVITIES**

National Science Foundation (NSF) Panel Review Member, 2014, 2013, 2012, 2011, 2004, 2003, 2001, 1994.

Participant, Institutes – American Physical Society Scientist-Teacher Alliance Institute, Washington, D.C. 1999; Foundation Cooperative Learning (1994), Advanced Cooperative Learning (1996), Cooperative Learning Leadership (1999), Creative Conflict (2000), Meaningful and Manageable Assessment (2000), Leading the Cooperative School (2001) - University of Minnesota Cooperative Learning Center.

Session/Panel Moderator - 2002 Frontiers in Education Conference, Reno, Nevada; 2004 Frontiers in Education Conference, Savannah, Georgia.

Scientist Member, El Paso Independent School District Team, National Science Resources Center, Washington, D.C., 1997.

Founding Member – Informal Science Education Association of El Paso with Region XIX Education Service Center.

Textbook Reviewer – John Wiley & Sons publishers, mathematics methods textbooks, 2007.

Peer Reviewer – ASEE Frontiers in Education Conference, 2009, 2001.

Invited Participant – Strategic Alliance, USA/Mexico, 2001.

Standing Committee Member – Committee on Transfer Issues, Texas Higher Education Coordinating Board, 1992-1993.

Grant Reviewer- Coalition to Increase Minority Degrees, Arizona State University, 1992 – 1999.

Committee Member – Tri-City Water Festival (2000-01), Recycle Day (2000), Earth Day (1998-99); Conference on Improving High School Achievement in Mathematics, Charles A. Dana Center Texas Statewide Systemic Initiative (1999); Latino Initiative through GEM Consortium (2004 to present); Marker Paper Selection for Master Science Teacher certification, Texas Education Agency – Division of Educator Standards, Austin, March-2006; Committee to set passing score for Texas Examinations of Master Teachers Master Science Teacher EC-4 certification test, Texas Education Agency – Division of Educator Standards, July 2006; Teachers for a New Era, UTEP, Professional Development Sites committee, 2007 - present.

Advisory Committee Member – Latinos in Engineering Radio Series, Radio Bilingüe, 2002.

**PROFESSIONAL ORGANIZATIONS**

American Society of Engineering Education (ASEE), 1997 to present

 American Education Research Association (AERA), 2008 to present

Golden Key International Honour Society, 2011 to present

 National Science Teachers Association (NSTA), 2008 to present

 National Council of Teachers of Mathematics (NCTM), 2008 to present

 National Association for Research in Science Teaching (NARST), 2010 to present