



## **Curriculum Vita**

Michael Anthony de Miranda, Ph.D.  
Reta Haynes Dean's Chair, Professor and Dean  
School of Education and Human Development  
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### **Address**

Texas A&M University  
801 Harrington Tower  
College Station, Texas 77843-4242

### **Education**

University of California - 1996

Doctor of Philosophy: Education

Program Major - Educational Psychology

- Cognition and Instruction in Science and Technology
- Psychometrics – Quantitative Research Methods, Test and Measurement

Dissertation Title: *The Effects of Traditional and Cognitively-Based Approaches to High School Physics Instruction on Learning Outcomes*

Advisor: Dr. Kathleen Metz - <https://gse.berkeley.edu/kathleen-e-metz>

California State University, Long Beach - 1989

Master of Arts – Industrial Arts

Thesis Title: *The Design, Construction, and Testing of a Transportation Trainer for Middle Grade Technology Education.*

Advisor: Dr. Leonard Torres (ret.) – [marlent1@aol.com](mailto:marlent1@aol.com)

California State University, Long Beach - 1980

Bachelor of Arts – Industrial Arts and California State Designated Subject Teaching License

### **Leadership Profile**

July, 1, 2022 – Present.

Professor and Dean, School of Education and Human Development and holder of the Reta Haynes Dean's Chair, Texas A&M University

September, 2021 – June, 2022.

Professor and Interim Dean, College of Education and Human Development and holder of the Claude H. Everett, Jr. '47 Endowed Chair, Texas A&M University

- Provide innovative vision and leadership to the College which includes four academic departments, 10 centers and institutes, over 7,000 undergraduate and graduate students, 215 full-time and 100 part-time faculty, and over 150 staff members
- Develop and manage a budget of \$41 million a year, with an additional \$22-24 million in grant-funded expenditures, with \$42 million awarded.
- Develop and oversee the College's strategic planning and diversity, equity and inclusion goals and implement actionable initiatives to achieve those goals.
- Promote and represent the College to internal and external audiences and seek public and private funds to support the goals of the college; provide leadership in

the strategic planning of development plans in cooperation with Texas A&M University Foundation staff.

- Guide the external advisory of the Dean's Development Council and donor relations.
- Work with University central administration and other deans' office to maximize collaborative relationships, implement *The Path Forward* university-wide restructuring plan and encourage, support, and lead interdisciplinary academic collaborations with seven colleges across campus and two branch campuses (Galveston and McAllen Higher Education Center) to advance teacher preparation.

- 2016-2021 Department Head, Department of Teaching, Learning and Culture  
Areas of responsibilities include: fiscal management, academic oversight, human resources.
- Leadership responsibilities for the Department of Teaching, Learning and Culture including approximately 42 tenure track and clinical faculty and 7 research scientists spread across the department and two research centers.
  - Primary responsibilities in consultation with the Dean include coordinating peer review of faculty members (annual review, promotion and tenure); administering \$8 million dollar budget for the department (base budgeting model); setting budgets for four academic program areas through consultation and transparency; coordinating 4 program chairs and 2 associate department heads; hiring 12 new tenure track faculty members (over 3 years).
  - Representing the department at college and University-wide academic meetings (deans council, campus curriculum meetings, Dean of Faculties department head meetings); ex-officio roles on multiple faculty committees (faculty development, policy council, learning and teaching with technology); interacting with donors.
  - Direct oversight of Director of Online Programs, Graduate Advising Service Center, Budget Manager, Director of Recruitment and Retention for Underrepresented Students, Marketing and Communications, Teacher Education Placement Office and Office Staff.
- 2017-2018 Academic Leadership Program Fellow, sponsored by the Southeast Athletic Conference (SEC Athletic Conference Academic side)
- The Academic Leadership Program (ALP) is a year-long intensive experience designed to develop the leadership and management skills of select faculty at SEC campuses. SEC Fellows participate in a series of cross-SEC trainings on budgeting, academic leadership, and leadership styles. At the same time, SEC Fellows from each campus engage in an on-campus project as well. Campuses nominate faculty members who have demonstrated strong leadership potential. I was one of 4 SEC Fellows from Texas A&M University.
- 2004-2010 Research Methods Faculty Program Chair
- Development of 3-year course cycles; program curriculum development and strategic planning; coordination and supervision of faculty teaching and course assignments; student recruitment; supervision of associate instructors teaching graduate courses.

**License/Credentials**

California State Teaching License Designated Subject K-12 and Adult, Industrial and Technology Education.

California Community College – Life Credential Automotive and Related Technologies

Basic Leadership Mediation Training Certification - 2017

Fluent in Spanish

**Academic Positions**

**Texas A&M University**

2022 – Present. Professor and Dean, Reta Haynes Dean’s Chair.

School of Education and Human Development

2016 – 2022. Professor, Claude H. Everett Jr. ’47 Endowed Chair.

Department of Teaching, Learning, and Culture

**Colorado State University**

2011 – 2016. Professor, Engineering Education. School of Education and Department of Electrical and Computer Engineering

Primary advisor – Engineering and Technology Education teacher licensure preparation.

2006 – 2011. Professor, Engineering Education School of Education

2004 – 2010. Program Chair – Ph.D. Specialization, Research Methodology and Design

2004 – 2009. Co-Director – Research and Development Center for the Advancement of Student Learning

2003 - 2006. Associate Professor, School of Education

1998 – 2003. Associate Professor, Technology Education and Training

Department of Manufacturing Technology and Construction Management

Colorado State University

**California State University, Los Angeles**

1998 - Associate Professor, Manufacturing and Industrial Technology

California State University, Los Angeles

College of Engineering, Computer Science, and Technology

1993 - 1997. Assistant Professor, Manufacturing and Industrial Technology

California State University, Los Angeles

College of Engineering, Computer Science, and Technology

1993 – 1998 Coordinator of Technology Teacher Education Program

**Public School K-12**

1991- 1993. Secondary Education - Teacher

Technology Core and Pre-Engineering, Department Chairman

Technology Education

Temescal Canyon High School

Lake Elsinore Unified School District, Lake Elsinore, CA

1986 – 1991. Secondary Education – Teacher

Manufacturing Technology and Department Chair

Elsinore High School

Lake Elsinore Unified School District, Lake Elsinore, CA

1983 – 1985. Secondary Education - Teacher

Department of Technology

La Serna High School

Whittier Union High School District, Whittier, CA

1980 – 1983. Associate Professor, Vocational Education

Department of Occupational Education

Compton Community College

Compton, CA

### **University Level Teaching Areas of Specialization (Courses Taught)**

1. Research Methodology and Design Courses
  - Introductory statistics (descriptive and inferential)
  - Measurement concepts – (Correlation, regression, principles of measurement)
  - Analysis of variance (ANOVA and MANOVA)
  - Undergraduate honors research
2. Engineering and Technology Teaching Methods Courses
  - Secondary Teaching Methods - Engineering and Technology Education
  - Curriculum design and evaluation
  - Introduction to engineering design
3. Engineering and Industrial and Technology Education Technical Courses Taught
  - Introduction to manufacturing materials and processes
  - Team problemsolving and communication in industry
  - Design drafting, CAD
  - Technology applications in technology education
  - Advanced materials and processes, CNC and precision machining
  - Welding and advanced material joining processes

### **Scholarship**

#### **Refereed Journal Articles**

\* Publication with graduate students or post doctoral fellows supervised.

\*Norouzian, R., de Miranda, M. A., & Plonsky, L. (2019). A Bayesian approach to measuring evidence in L2 research: An empirical investigation. *Modern Language Journal*, 103(1), 248-261. Available on line at <https://onlinelibrary.wiley.com/doi/abs/10.1111/modl.12543>

\*Norouzian, R., de Miranda, M. A., & Plonsky, L. (2018). The Bayesian revolution in second language research: An applied approach. *Language Learning*, 64(4), 1032-1075. doi:10.1111/lang.12310 Available on line at <https://onlinelibrary.wiley.com/doi/10.1111/lang.12310>

Maciejewski, A. A., Chen, T. W., Byrne, Z. S., de Miranda, M. A., Mcmeeking, L. B. S., Notaros, B. M., & Rosales, A. H. (2017). A holistic approach to transforming undergraduate electrical engineering education. *IEEE Access*, 5, 8148-8161. Available at <http://ieeexplore.ieee.org/abstract/document/7891011/>

\*Al Salami, M. K., Makela, C. J., & de Miranda, M. A. (2017). Assessing changes in teachers' attitudes toward interdisciplinary STEM teaching. *International Journal of Technology and Design Education*, 27(1), 63-88.

\*Hernandez, P. R., \*Bodin, R., \*Elliott, J. W., \*Ibrahim, B., Rambo-Hernandez, K. E., Chen, T. W., & de Miranda, M. A. (2014). Connecting the STEM dots: measuring the effect of an integrated engineering design intervention. *International Journal of Technology and Design Education*, 24(1), 107-120.

de Miranda, M. A. and Miyakawa, H. (2013). Taxonomic Analysis: A Foundation for the Design and Development of Safety and Health Curriculum in Engineering and Technology Education. *Journal of the Japanese Society for Technology Education*.

\*Cumming, J. M. and de Miranda, M. A. (2012). Reducing Retroactive Interference Through the Use of Different Encoding Techniques: An exploration of pre-test/post-test analysis. *International Journal of*

*Higher Education. 1 (1) 22-27.* doi: 10.5430/ijhe.v1n1p22 Available at <http://dx.doi.org/10.5430/ijhe.v1n1p22>

\*Fantz, T. D., Siller, T. J. & de Miranda, M. A. (2011). Knowing Pre-Collegiate Factors Influencing the Self-Efficacy of Engineering Students. *Journal of Engineering Education. 100 (3) 604-623.* Available at <https://ratings.asee.org/2011/July/09.pdf>

\*Fantz, T. D., de Miranda, M. A., and Siller, T. J. (2010). Knowing What Engineering and Technology Teachers Need to Know: An analysis of pre-service teachers engineering design problems. *International Journal of Technology and Design Education* DOI: 10.1007/s10798-010-9121-9

Tobet, S. A, Henry, C. S., de Miranda, M. A., and Chen, T. (2009). A Multi-disciplinary Research and Teaching Program in Biomedical Engineering for Discovery and Understanding of Cell Communication. *Slovenian Veterinary Research, 47(4)*

\*Phillips, K. R., de Miranda, M. A., & Shin, J. (2009). Pedagogical Content Knowledge and Industrial Design Education *Journal of Technology Studies 35 (2) 47-55.*

de Miranda, M. A. (2008). Pedagogical Content Knowledge and Engineering and Technology Teacher Education: Issues for thought. *Journal of the Japanese Society of Technology Education 50 (1) 17-26.*

\*Clapp, D., Shuler, S., Nobe, M., de Miranda, M. & Nobe, M. E. (2007). Capital Equipment Acquisition in Heavy Construction. *International Journal of Construction Education and Research. 3 (3) 159-178.*

Siller, T.J., de Miranda, M.A., Whaley, D.C. (2007). Engineering and Education Partnership: Combining a BS degree in engineering science with a technology education teaching license. *The International Journal of Engineering Education. 23 (1) 58-64.*

de Miranda, M. A., Miyakawa, H. (2005). Technology Education: 25 years of progress. *Bulletin of Aichi University of Education .27 (3) 127-142.*

de Miranda, M. A. (2004). The Grounding of a Discipline: Cognition and instruction in engineering and technology education. *International Journal of Technology and Design Education. 14 (1) 61-77.* Available at <http://www.kluweronline.com/issn/0957-7572>

Folkestad, J. E., Senior, B. A. & de Miranda, M. A. (2002). Service Learning: Implications for Technology Studies. *Journal of Technology Studies. 28 (1) 52-58.*

Folkestad, J. E., de Miranda, M. A. (January, 2002). Impact of Screen Capture-Based Technology on Student Comprehension of CAD Software principles. *Journal of Industrial Technology. 18 (1) 2-7.*

\*Griffith, S. and de Miranda (2001). Computer upgrade tips for the technology teacher. *Journal of the International Technology Education Association. 60 (5) 27-31.*

de Miranda, M. A., Folkestad, J. E. (2000). Linking cognitive science theory and technology education practice: A powerful connection not fully realized. *Journal of Industrial Teacher Education. 37 (4) 1-12.*

\*Smith, F. G. and de Miranda, M. A. (2000). Build, draw, build: A lesson in contextual learning. *Ties, 6, 4-7.*

Folkestad, J. E. and de Miranda, M. A. (2000). Industrial advisory committee...or action committee. *Journal of Industrial Technology. 16 (3) 2-8.* [On-line]. Available: <http://www.nait.org>

de Miranda, M. A., and Folkestad, J. E. (2000). Current perspectives on technology education in the United States. *Connect.* [On-line]. Available: <http://www.unesco.org>  
United Nation Educational, Scientific, and Cultural Organization. NY, NY.

\*Clatterbaugh, Z. and de Miranda, M. A. (2000). Building a future for technology studies programs. *Tech Directions.* 60 (1) 22-23.

\*Sommerfeld, R. C., \*Kissel, K., \*Hageman, R. and de Miranda, M. A. (2000). Silk screening across the curriculum: Making connections among disciplines through contextual learning and simple process. *Tech Directions.* 59 (10) 30-32.

de Miranda, M. A., Lipton, E. B. (1998). A primer on mentoring. *Journal of Technology Studies.* 24 (1) 42-44.

de Miranda, M. A., Miyakawa, H., (1997). Technology education in the United States: A brief overview. *Journal of the Japanese Society of Technology Education.*

de Miranda, M. A., Miyakawa, H., (1996). Technology Education in California: An educational continuum. Special Edition *Frontiers in Technology Education*, 2 (1), 53-56. *Journal of the Japanese Society of Technology Education:* Tokyo, Japan.

de Miranda, M. A., (1996). A cross-curricular credit system for technology education. *Technology Bank.* Reston, VA: International Technology Education Association.

de Miranda, M. A., (1995, April). A cross-curricular model for technology education: A minds on approach for teachers and students. *California Industrial and Technology Education Association*, 49(4), 21-22.

### **Edited Books**

de Miranda, M. A., Williams, P. J., Miyakawa, H. and Lee, L. S. (Eds.) (2004). *Beyond Tomorrow: International cooperation in technology education.* Kariya-City, Japan: Aichi University of Education Press.

### **Refereed Chapters in Books:**

de Miranda M.A. (2022, in Press) New Perspectives on Interdisciplinary Teaching and Learning: Shifting Pedagogies of the Profession and the Muddy Puddle of STEM Teacher Associational Fluency. In: McLain, M. (ed.) *Bloomsbury Handbook of Technology Education.* Bloomsbury International Handbooks of Education. Bloomsbury Publishing, plc. Camden, UK.

de Miranda M.A. (2018) Pedagogical Content Knowledge for Technology Education. In: de Vries M. (eds) *Handbook of Technology Education.* Springer International Handbooks of Education. Springer, Cham, Switzerland. ISBN 978-3-319-44686-8

de Miranda, M. A., Troxell, W., Siller, T. J., Iversen, E. (2008). In. R.L. Custer & T.L. Erekson (Eds.), *Engineering and Technology Education* (pp. 133-157). Woodland Hills, CA: Glencoe McGraw/Hill

de Miranda, M. A. (2007). Social Aspects of Learning. In M. de Vries, R. L. Custer, J. Dakers & G. Martin (Eds.), *Analyzing Best Practices in Technology Education* (pp. 221-234). Rotterdam, The Netherlands: Sense Publishers.

de Miranda, M. A. (2005). Best Practice. In G.E. Martin and C. Martin (eds.) *Best Practices for Technology Education: A compilation of 21<sup>st</sup> century best practices in technology education*. Technical Foundation of America; San Marcos, TX.

de Miranda, M. A. (2004). International Cooperation in Technology Education: Case Study Egypt, Chile, and the West Indies (Belize). de Miranda, M. A., Williams, P. J., Miyakawa, H. and Lee, L. S. (Eds.). *Beyond Tomorrow: International Cooperation in Technology Education*. Kariya-City, Japan: Aichi University of Education Press.

de Miranda, M. A., (2004). Biotechnology Ethics. In R. B. Hill (ed.), *Ethics in Technology Education*. Council on Technology Teacher Education 54<sup>th</sup> Annual Yearbook 2003. Glencoe; Peoria, IL.

de Miranda, M. A., (2004). Medical Technology Ethics. In R. B. Hill (ed.), *Ethics in Technology Education*. Council on Technology Teacher Education 54<sup>th</sup> Annual Yearbook 2003. Glencoe; Peoria, IL.

de Miranda, M. A. (2003). Implementing Change in Technology Education: New perspectives, new questions, new model. In G. Martin and H. Middleton (Eds.), *Perspectives on International Cooperation in Technology Education*. Brisbane, Australia: Technical Foundation of America and the Center for Technology Education Research Griffith University.

de Miranda, M. A. (2002). Technology Education in the United States. In E. Lipton (ed.), *Models and Variables for Articulated Programs in the United States*. Los Angeles: Center for Technology Education, California State University, Los Angeles.

de Miranda, M. A., (2000). Technology Education is Powerful Teaching. In E.G. Martin (ed.), *Technology Education for the 21<sup>st</sup> Century*. Council on Technology Teacher Education 50<sup>th</sup> Annual Yearbook 2000. Glencoe; Peoria, IL.

de Miranda, M. A., (1999). Technology Education and the Cognitive Sciences: A powerful connection between theory and practice. In W. E. Theuerkauf and M. J. Dyrenfurth (eds.), *International Perspectives on Technological Education: Outcomes and Futures*. Braunschweig/Ames; Germany.

#### **Non-Refereed Journal Articles and Monographs**

de Miranda, M. A. (1998). Powerful teaching. In de Miranda, M. A. (Ed.) *Instructionally Speaking*, 8(5), 2-3.

de Miranda, M. A., (1995, Fall). Focus on technology. *Instructionally Speaking*, 6(2), 5.

de Miranda, M. A., (1994). *Manufacturing Technology: Where the future may lead us*. California Industrial and Technology Education Association. Sacramento: CA

Burns, R. B., Mason, D., & de Miranda, M. A., (1993). How teachers and students are assigned to combination grade classrooms *Journal of the California Educational Research Cooperative*, University of California Press; Riverside, CA.

Dahl, R., de Miranda, M. A., Gray, B., Lipton, E. B., Phillips, K., et al. (Eds.). (1993). *Meeting the Educational Challenges of the 21<sup>st</sup> Century*, California Industrial and Technology Education Association; Sacramento, CA.

#### **Refereed Proceedings Published**



\*Deuermeyer, E. & de Miranda, M. A. (2019, June) *Scale Development for Measuring iDesign Content Connections in Pre-Service STEM Teachers*. Paper published and presented at the 37<sup>th</sup> Pupils Attitudes Towards Technology (PATT) Conference, University of Malta; Msida, Malta. ISBN: 9 789995 714796; p.133-144. Available at <https://www.iteea.org/File.aspx?id=157700&v=e94e5d51>

\*Norouzian, R., de Miranda, M. A. (2019, March). How many participants do I need: An alternative method of sample size planning in L2 research. Paper presented at the annual meeting of the *American Association for Applied Linguistics (AAAL 2019)*, International Conference, Atlanta, Georgia, USA.

de Miranda, M. A., \*Norouzian, R., & Plonsky, L. (2019, March). Why Bayesian methods in L2 Research: A practical guide. Paper presented at the annual meeting of the *American Association for Applied Linguistics (AAAL 2019)*, International Conference, Atlanta, Georgia, USA.

\*Norouzian, R., de Miranda, M. A. (2019, April). Data size planning for multifactor ANOVA designs via adequately narrow confidence intervals for partial eta-squared. Paper presented at the annual meeting of the *American Educational Research Association (AERA 2019)*, International Conference, Toronto, Canada.

\*Deuermeyer, E. & de Miranda, M. A. (2018, June). *STEM Associational Fluency: The cross-training of elementary and middle grade math, science, and engineering pre-service teachers*. Paper published and presented at the 36<sup>th</sup> Pupils Attitudes Towards Technology (PATT) Conference, Technology Education Research Group, Athlone Institute of Technology; Athlone, Ireland. ISBN 978-1-5272-2507-7, eISBN 978-1-5272-2508-4; p.103-115. Available at <https://www.iteea.org/File.aspx?id=157698&v=611c2ad1>

\*Ibrahim, B., de Miranda, M. A., Lashari, T. A., & Siller, T. J. (2017, November). Teamwork and Engineering Design Outcomes: Examining the Relationship Among Engineering Undergraduate Students. *2017 7th World Engineering Education Forum (WEEF)* p. 628-635. IEEE. DOI: 10.1109/WEEF.2017.8467056 Available at <https://ieeexplore.ieee.org/abstract/document/8467056>

\*Ibrahim, B., de Miranda, M. A., & Siller, T. J. (2017). The correlation between creativity and engineering knowledge among engineering undergraduate students. *2016 IEEE 8th International Conference on Engineering Education (ICEED)*. doi:10.1109/iceed.2016.7856090/p. 38-42.

de Miranda, M. A. (2017, June). *Impact of Long-Term Design Problems in a Team Based Context on Student iSTEM Associational Fluency*. Paper published and presented at the 34<sup>th</sup> Pupils Attitudes Towards Technology (PATT) Conference, Philadelphia, Pennsylvania. Available at <https://www.iteea.org/File.aspx?id=115739&v=21dfd7a>

Capraro, M. M., Capraro, R. M., & de Miranda, M. (2017). *The hidden supports of high school engineering and technology science fair winners*. Paper presented at the seventy-ninth conference of the International Technology and Engineering Educators Association, Dallas, TX. Retrieved from <https://www.iteea.org/39488.aspx>.

de Miranda, M. A., & Rambo-Hernandez, K. E., & \*Hernandez, P. R. (2016, June), *Measuring Student Content Knowledge, iSTEM, Self Efficacy, and Engagement through a Long-Term Engineering Design Intervention* Paper presented at 2016 ASEE Annual Conference & Exposition, New Orleans, Louisiana. 10.18260/p.25694

Rosales, A. H., & Leland, A. M., & Notaros, O., & Toftness, R. F., & Siller, T. J., & De Miranda, M. A., & Cook, A., & Reese, M. D., & Byrne, Z., & Weston, J. W., & Maciejewski, A. A. (2016, June), *Preliminary Work on Weaving Professionalism Throughout the Engineering Curriculum* Paper presented at 2016 ASEE Annual Conference & Exposition, New Orleans, Louisiana. 10.18260/p.25946



Maciejewski, A. A., Chen, T. W., de Miranda, M. A., and Byrne, Z. (2016, April). *Revolutionizing Engineering Departments at Colorado State University and Beyond*. AAAS/NSF Envisioning the Future of Undergraduate STEM Education: Research and Practice Symposium.

<http://www.cvent.com/d/grqgy2>

Maciejewski, A. A., Chen, T. W., de Miranda, M. A., and Byrne, Z. (2016, April). *Throwing Away Courses to Reinvent the Undergraduate Engineering Experience*. AAAS/NSF Envisioning the Future of Undergraduate STEM Education: Research and Practice Symposium. <http://www.cvent.com/d/grqgy2>

de Miranda, M. A., \*Hernandez, P., and Rambo-Hernandez, K. (2014). *How Interdisciplinary Engineering and Technology Design and Making Projects Impact Students and Classrooms for Sustainable STEM Education*. UNESCO World Conference on Education for Sustainable Development. Proceeding, Nagoya, Japan.

de Miranda, M. A. and Miyakawa, H. (2012, December). Taxonomic Analysis: A Foundation for the Design and Development of Safety and Health Curriculum in Engineering and Technology Education. *55<sup>th</sup> Annual Conference of the Japanese Society for Technology Education*, Kyoto, Japan.

\*Fantz, T. D., de Miranda, M. A. (2010, October). Where the Engineering Pipeline Begins: Effects of pre-collegiate avocations on engineering student self-efficacy *9<sup>th</sup> Annual ASEE Global Colloquium on Engineering Education*, American Society for Engineering Education, Singapore

de Miranda, M.A. (2008, November). Engineering Education and the Teacher in the Classroom: Report on progress of the engineering education teacher preparation program at Colorado State University. *2008 Global Workshop on Nano Science in Engineering Education*. National Science Foundation Center for Teaching and Learning in Nano-Science in Engineering Education, Northwestern University.

de Miranda, M.A. (2007, November). Pedagogical Content Knowledge and Engineering and Technology Teacher Education: Issues for thought. *9<sup>th</sup> Annual Meeting of the Mississippi Valley Technology Teacher Education Conference*. Chicago, IL

de Miranda, M. A. (2003, July). International Cooperation in Technology education: Case Study Egypt, Chile, and the West Indies (Belize). In H. Miyakawa (Ed.), *International Symposium on Educational Cooperation for Industrial technology Education* (pp.115-128). Kariya-City, Japan: Aichi University of Education Press.

de Miranda, M. A. (2002, October). Toward an Epistemology of Learning, Cognition, and Instruction in Technology Education: A framework of shared characteristics for an immature field. In T. Erickson (Chair), *Creativity in technology education*. 89th annual Mississippi Valley Technology Teacher Education Conference, St. Louis, MO, USA.

de Miranda, M. A. (2000, July). Team Problem Solving and Leadership in Technology Education: A study of group dynamics in technology classrooms. *Japanese Society for Technology Education, 43<sup>rd</sup> Annual Conference*, Fukui, Japan.

Lipton, E. B. and de Miranda, M. A. (2000, April). Using Technology Standards. *62<sup>th</sup> Annual Conference of the International Technology Education Association*, Salt Lake City, UT.

de Miranda, M. A. (2000, April). Teaching Innovation in Technology Education. *62<sup>nd</sup> Annual Conference of the International Technology Education Association*, Salt Lake City, UT.

Lipton, E. B. and de Miranda, M. A. (2000, March). Strategies for Developing Effective Teaming in Technology. *71<sup>st</sup> Annual Conference of the California Industrial Technology Education Association*, Pasadena, CA.

de Miranda, M. A. and Lipton, E. B. (1999, March). Teaching Teaming in Technology Education. *61<sup>st</sup> Annual Conference of the International Technology Education Association*, Indianapolis, IN.

de Miranda, M. (1998, September). Technology education and the cognitive sciences: A powerful connection between theory and practice. *International Working Seminar for Scholars in Technology Education*, George Washington University; Washington, DC.

de Miranda, M. A., Jones, M. E., Motherhead, T., Tsosie, T. (1998, March). Design and Technology: A report on the study tour of the United Kingdom, 1997. *60<sup>th</sup> Annual Conference of the International Technology Education Association*, Dallas, TX.

de Miranda, M. A. (1997, October). Quality Processes: ISO Standards and Active Knowledge Modeling for Small and Medium Sized Suppliers to the Aircraft Industry. *World Aviation Congress and Exposition*, Anaheim, CA.

de Miranda, M. A. (1997, March). What Really Happens in Technology Classrooms: A report on research? *59th Annual Conference of the International Technology Education Association*, Tampa, FL.

de Miranda, M. A., Maurizio, D. (1997, March). Technology Core in California: A five-year report. *59th Annual Conference of the International Technology Education Association*, Tampa: FL.

Merrill, C., de Miranda, M. A. (1997, March). Deliberation in the Classroom: A key to powerful teaching. *59th Annual Conference of the International Technology Education Association*. Tampa: FL.

de Miranda, M. A., Smith, D., (1997, February). ISO9000 / Metis: Linking education and business through consortia cooperatives. *El Cloegio de la Frontera Norte, Symposia de el Departamento de Estudios en Salud Publica*. Rosarito/Tijuana, Baja California, Mexico. (Written in Spanish and English)

de Miranda, M. A., (1996, December). Integrated technology learning activities. *California Industrial and Technology Education Association*, Palm Springs: CA.

de Miranda, M. A., Smith, D., (1996, December). ISO9000 / Metis: Executive overview. *El Cloegio de la Frontera Norte, Symposia de el Departamento de Estudios en Salud Publica*. Rosarito/Tijuana, Baja California, Mexico. (Written in Spanish and English)

de Miranda, M. A., Miyakawa, H., (1996). Technology education in the United States. *Proceedings of the Mie Branch of the Japanese Society of Technology Education*, 9, 1-2. Mie, Japan.

Lipton, E. B., de Miranda, M. A. (1996). Mentoring to develop a highly qualified and diverse industrial technology faculty. *Proceedings of the 29th Annual Conference of the National Association of Industrial Technology*, 29, 49.

de Miranda, M. A., (1995). Cross-curricular credit system for technology education. [Published Proceedings]. *Proceedings of the 57th Annual Conference of the International Technology Education Association*, 57, 74-78.

de Miranda, M. A., Lipton, E. B., & Cain, R. E. (1995). Mentoring for diversity in technology education. *Proceedings of the 57th Annual Conference of the International Technology Education Association*, 57, 88-92.

Lipton, E. B., de Miranda, M. A. (1995). Models and variables for successful articulation of industrial and technology education programs in the United States [Published Proceedings]. *Proceedings of the 28th Annual Conference of the National Association of Industrial Technology*, 28, 36.

#### **Peer Reviewed Journal Abstracts Accepted**

de Miranda, M. A., Hernandez, P. R., Rambo-Hernandez, K. E. (2015, October). Measuring Student Content Knowledge, iSTEM, Self Efficacy, and Engagement Through a Long Term Engineering Design Intervention. American Society for Engineering Education.

Rosales, A., Siller, T. J., de Miranda, M. A. (2015, October). Preliminary Work on Weaving Professionalism throughout the Engineering Curriculum. American Society for Engineering Education.

Maciejewski, A. A., Chen, T. W., de Miranda, M. A., and Byrne, Z. (2015, October). Revolutionizing Engineering Departments at Colorado State University and Beyond. AAAS/NSF Envisioning the Future of Undergraduate STEM Education: Research and Practice Symposium.

<http://www.cvent.com/d/grqgy2>

Maciejewski, A. A., Chen, T. W., de Miranda, M. A., and Byrne, Z. (2015, October). Throwing Away Courses to Reinvent the Undergraduate Engineering Experience. AAAS/NSF Envisioning the Future of Undergraduate STEM Education: Research and Practice Symposium. <http://www.cvent.com/d/grqgy2>

de Miranda, M. A. and Miyakawa, H. (2012, August). Taxonomic Analysis: A Foundation for the Design and Development of Safety and Health Curriculum in Engineering and Technology Education. *Journal of the Japanese Society for Technology Education*.

#### **Peer Reviewed and Invited Presentations**

Capraro, M. M., Capraro, R. M., & DeMiranda, M. (2017, March). The hidden supports of high school engineering and technology science fair winners. Accepted for presentation at the 2017 International Technology and Engineering Educators Association, Dallas, TX.

de Miranda, M. A. and Miyakawa, H. (2012, December). Taxonomic Analysis: A Foundation for the Design and Development of Safety and Health Curriculum in Engineering and Technology Education. *55<sup>th</sup> Annual Conference of the Japanese Society for Technology Education*, Kyoto, Japan.

de Miranda, M. A. (2012, December, Invited). Connecting the STEM Dots: An analysis of a long-term engineering design intervention on student expectancy, utility, and perseverance value. *Invited Distinguished Lecture*. Aichi University of Education, Cariya-City, Aichi Japan.

de Miranda, M. A. (2012, October). Multidisciplinary STEM Content Connections in Students Engaged in a Long-Term Integrated Engineering Design Problem. *Annual Conference of the National Network for Educational Renewal*. Denver, Colorado

de Miranda, M. A., Wagner, D., McDonnell, K. (2012, March). Engineering Design Across STEM Disciplines: Interdisciplinary Student Teams at Multiple High Schools Collaborate to Solve a Significant Engineering Design Problem. *National Science Foundation Annual Graduate STEM Fellows in K-12 Education Conference*. Washington, DC.

Plugge, P. W., de Miranda, M. A., Hauck, A. J. (2003). Comparison of Risk Communication and Management Factors Associated With Large Design-Build Infrastructure Projects. *Journal of the Associated Schools of Construction*.

de Miranda, M. A. (2000, June). Future schools. *Symposium for the Future Direction of Egyptian Education: Egyptian Ministry of Education*. Cairo, Egypt.

de Miranda, M. A. (2000, March). Digital kids...Analog schools...What's gone wrong? *Technology Education Seminar: Egyptian Ministry of Education*. Cairo, Egypt.

de Miranda, M. A., Sheafor, B. and Grosse, L. (2000, November). Rationale and structure for the study of technology. *Symposia on the Formation of Teachers for the 21<sup>st</sup> Century*. Copiapo, Chile.

de Miranda, M. A., and Schmidt, F. (1999, November). Design briefs for power, energy and transportation technology. *Rocky Mountain States Conference*. Fort Collins, Colorado.

de Miranda, M. A., Livingston, C. (1999, October). Colorado School to Career Briefs: Connecting communities' classrooms and careers. *Colorado School to Career Conference*. Keystone, Colorado.

de Miranda, M. A., and Jaouen, S. (1998, November). Team building activities for technology teachers. *Rocky Mountain States Conference*. Fort Collins, Colorado.

de Miranda, M. A., and Jaouen, S. (1998, October). Team building activities for technology teacher educators. *Mountain States Conference*. Alta, Utah.

de Miranda, M. A. (1998, November). Technology education: An educational continuum. *Rocky Mountain States Conference*. Fort Collins, Colorado.

### **Other**

de Miranda, M. A. and Livingston, C. (2001). Framework for the Study of Technology in Colorado. *Colorado Community College and Occupational Education System*. Denver, CO.

de Miranda, M. A. and Livingston, C. (2000). Colorado School to Career Briefs. *Colorado Community College and Occupational Education System*. Denver, CO.

de Miranda, M. A. et al. (1999). Colorado Technology Education Standards. *Colorado Community College and Occupational Education System*. Denver, CO.

de Miranda, M. A. et al. (1995). *California State Model Curriculum and Career Path Standards, Technology Core*. California State Printing Office: Sacramento, CA

de Miranda, M. A. et al. (1995). *California State Model Curriculum and Career Path Standards, Manufacturing Technology*. California State Printing Office: Sacramento, CA.

**Contracts and Grants**

**Funded Projects as Principal Investigator**

FY 2017 2018. Account# M1703555 - *K12 Teacher Credentialing in Engineering in the 50 States – National Academy of Engineering*. \$5000.00

FY 2015 2016. Account#53-88017—*Engineering is Elementary – Cherry Creek School District*. \$18,725  
Collaboration: School of Education and Department of Electrical and Computer Engineer

FY 2015 2016. Account#53-92006--*STEM Capacity Building and Teacher Professional Development Workshop: STEM Integration Level III – Cherry Creek School District*. \$15,480  
Collaboration: School of Education and Department of Electrical and Computer Engineering

FY 2014 2015. Account#53-78037--*STEM Capacity Building and Teacher Professional Development Workshop: STEM Integration Level II – Cherry Creek School District*. \$15,353  
Collaboration: School of Education and Department of Electrical and Computer Engineering

FY 2014 2015. Account#53-88017—*Engineering is Elementary Teacher Professional Development Program– Cherry Creek School District*. \$18,700.25  
School of Education and Department of Electrical and Computer Engineering

FY 2014 2015. Account#1313200DEMIR – Sponsorship – *Test of Engineering Aptitude Math and Science (TEAMS) – Intel, Corp Community Grant*. \$2500.00  
Collaboration: School of Education and College of Engineering to Sponsor Colorado TEAMS Competition

FY 2014 2015. Account#1313200DEMIR – *STEM Cyber Security Camp. – Northrop Grumman Corp. Intelligence Systems Division*. \$18,400.00  
Collaboration: School of Education and College of Engineering

FY 2013 2014. Account#1313200DEMIR – *RISE2: Rich Integration of STEM Education through Electrical Engineering, K-12 STEM Teacher Professional Development Program. – Intel, Corp Community Grant*. \$5000.00  
Collaboration: School of Education and College of Engineering

FY 2012 2014. Account#1313200DEMIR – *STEM Camp: Clean Energy, Wind, Solar, and Fuel Cell Technology. – Northrop Grumman Corp. Intelligence Systems Division*. \$8400.00  
Collaboration: School of Education and College of Engineering

*FY 2012 2013. Account#53-5378980--STEM Capacity Building and Teacher Professional Development Workshop: STEM Integration Level I – Cherry Creek School District*. \$14,602.00  
Collaboration: School of Education and Department of Electrical and Computer Engineering

FY 2009 --Primary PI:de Miranda,Michael Anthony (1588)-*Colorado Department of Education*-(5-305060)—*EQ Initiative Evaluation development*--\$7,713.00

FY 2008 2009 #53-2781 - Primary Evaluation PI: de Miranda, Michael Anthony (1588)—*NASA/Jet Propulsion Laboratory*—*Evaluation of the Scientific Education and Public Outreach Component of the CloudSat 2 Project*--\$37,989.00

FY 2008 2012 #53-1407-Primary Evaluation PI: de Miranda, Michael Anthony (1588)—**United States Department of Agriculture**—*Evaluation of Enhancing Education and Research in Plant Breeding*--\$12,674.00

FY 2007 2008 Account #53-0221-Primary PI: de Miranda, Michael Anthony (1588)--**Colorado Department of Revenue**--*Psychometric Validation of Mastery Examination for Motor Vehicle and Powersports Vehicle Personnel*--\$5,000.00

FY 2007 2008 Account #53-0438-Primary PI: de Miranda, Michael Anthony (1588)--**Colorado Department of Revenue**--*Psychometric Validation of Mastery Examination for Motor Vehicle and Powersports Vehicle Personnel*--\$4,976.00

FY 2007 Account #53-6162—Primary PI de Miranda, Michael Anthony (1588)—**Paxton/Patterson, LLC**--*High School Introduction to Engineering Curriculum Content Validation Project*--\$27,709.00

FY 2006 (Fiscal Year 2006)--Primary PI: de Miranda, Michael Anthony (1588)--**Colorado Department of Education**--(5-30574)--*Quality Indicator Evaluation of State-Wide Services for Children with Hearing Loss*--\$48,377.00

FY 2005. Account #53-0303. **Colorado Department of Education**. *Enhanced Assessment Data Analysis Project*. \$25,000.

FY 2003 – 2004. Account # 53-3440. Technology Teacher Education Enhancement Project. Teacher Primers for Medical Science and Technology. **National Science Foundation** No. ESI-0138671. Michael A. de Miranda, Ph.D. PI. 112,000.00

FY 1999 - 2000. Account # 53-5510. *Colorado Technical Education Program Briefs*. **Colorado Community College & Occupational Education System** (CCCOES). Bolivar Senior, Ph.D., Co-PI. \$5000.00

FY 1999 - 2000. Account # 53-6004. **EduSystems, Inc.** *Curriculum Model Development for Technical Education*. Steven L. Schaeffer, Ph.D., Co-PI. \$5500.00

FY 2000 - 2001. Account # 53-6004. **EduSystems, Inc.** *Curriculum Model Development for Technical Education*. Steven L. Schaeffer, Ph.D., Co-PI. Continued with an additional \$3000.00

FY 1999 - 2000. Account # 53-0410. **Colorado Community College & Occupational Education System** (CCCOES). *Colorado School to Careers Enhancement Project*. James E. Folkestad, Ph.D., Co-PI. \$6000.00

FY 1999 - 2000. Account # 53-5336. **Colorado Technology Education Association**. *Technology Education in Colorado: An in-service series for teachers*. \$2,500

FY 1999 2000. **Colorado State University Office of the Provost**. Account. # 16-7670. *Freshman Seminar for the University wide Core Curriculum: Mini Grant MCCC 110*. \$2,000

1995 - 1998. **California Manufacturing Technology Center (CMTC/NIST)**. *Technology transfer and service to small and medium manufacturers: Increasing global competitiveness through leading edge technologies*. \$90,000

1997 - 1998. **Lockheed/Martin**. *Methods of cutting structural honeycomb*. \$14,000

1997 - 1998. **Jeld-Wen Inc.** Technology Education Curriculum and Evaluation Review Project.  
\$12,000

**Funded Projects as Co-Principal Investigator**

FY 2021 2022. Account# M2103352 - SRS RN: Track 2: Reimagining the Chemical Heartland: Closing the loop on the oil-plastics-recycling nexus to forge a resilient circular economy –**National Science Foundation**. \$150,000.00 Karen Wooley, PI., Michael A. de Miranda, Co-PI.

FY 2015 – 2017. Account # 53-00752. *Low-Cost, Versatile Sampler for Personal Particulate Matter Exposure by Microenvironment*. **HHS- NIH National Institute of Environmental Health Service**. John Volckens, PI, Charles Henry, Sheryl Magzamen, and Michael A. de Miranda, Co-PI's. \$181,241.00

FY 2015 – 2018. Account # 53-00082. *Engineering and Education Partnership: Preparing the Next Generation of Cross Disciplinary Trained STEM Teachers*. **National Science Foundation**. Thomas J. Siller and Michael A. de Miranda, PI's. \$692,364.00

FY 2015 – 2020. Account # 53-00926, 53-00927. *Revolutionizing Roles to Reimagine Integrated Systems of Engineering Formation*. **National Science Foundation**. Anthonny A. Maciejewski, PI, Thomas Chen, Michael A. de Miranda, and Zinta Byrne, Co-PI. \$1,938,663.00

FY 2009 – 2014. Account #53-3244. *GK-12: A Multi-Disciplinary Research and Teaching Program in Biomedical Engineering for Discovery and Understanding of Cellular Communication Using Sensor Arrays and Microfluidic Devices*. **National Science Foundation**. Thomas Chen, PI, Michael A. de Miranda, and Stuart Tobet, Co-PI. \$2,798,251.00

*FY 2012 2015. Account #5342370 -- Research Experience for Undergraduates Site Program (REU) National Science Foundation. Funding \$383,000.00*  
*Collaboration: Department of Electrical and Computer Engineering*

*FY 2013 2017. Account #53-5386850 & 53-5386910 -- EUV ERC Research Experiences for Teachers in Engineering & Computer Science Site Program (RET) – National Science Foundation. Funding \$318,681.00*  
*Collaboration: Department of Electrical and Computer Engineering*

FY 2009 . Account #53-71900. *Governors NGA STEM Coordination Project “Wired Initiative”*. **COMSEC**. Ellyn Dickmann, PI, Michael A. de Miranda, Co-PI. \$19,275.00

FY 2008-2009 . Account #53-71610. *Governors NGA STEM Coordination Project “Wired Initiative”*. **COMSEC**. Ellyn Dickmann, PI, Michael A. de Miranda, Co-PI. \$10,000.00

FY 2007 – 2009. Account #53-3421. *Rocky Mountain Middle School Math Science, Engineering Partnership*. **National Science Foundation**. Thomas J. Siller, PI, Michael A. de Miranda, Co-PI. \$703,647

FY 2000 – 2004. Account #53-3806. *Integration of RSP Tooling with Rapid Prototyping for Die-Casting Applications*. **United States Department of Energy, Idaho Operations Office**. James Folkestad, Ph.D., PI. Michael A. de Miranda, Co-PI. \$1,221,000

FY 2001 – 2004. Account#53-3423. **National Science Foundation**, NSF Award #0086443. *GK-12 Graduate Teaching Fellows*. Dave Swift, PI. Michael A. de Miranda, Co-PI. Award to support graduate Ph.D. student Sandy Tracy in the SOE. \$18,000 per year plus tuition.



FY 2000 – 2003. Account #53-5700 (PASS # 11065). *Technology and Education, Program Development*. **Universidad de Atacama, Republic of Chile**. Michael A. de Miranda, Ph.D., and Brad Sheafor, Ph.D. Co- PI's. \$4,970

FY 2000 – 2001. Account # 22-2240. *Kiosk Design Project*. A cooperative research project with researchers from the Department of Food Science and Human Nutrition. **United States Department of Agriculture**. Dr. Jennifer Anderson, PI. Michael A. de Miranda, Co-PI. \$36000.00

FY 2000 and 2003 July. The Government of Japan, Japan International Cooperation Agency (JICA). International Consultant, Industrial technology education. **Aichi University of Education, JICA** Project # J-00-03436. 6,500 USD. Michael A. de Miranda, Co-PI.

1996 - 1997. **Toyota Educational Foundation**. *A Study of Instructional Materials Development for Technology Education*. In cooperation with the Department of Technology Education, Aichi University of Education, Aichi Prefecture, Japan and the Japanese Ministry of Education. Michael A. de Miranda, Co-PI. \$65,000

1995. **Technical Foundation of America**. The Development, Procedures and Contributions of 2+2+2 Articulation Agreements. Ethan B. Lipton, PI. Michael A. de Miranda, Co-PI. Assistant Project Coordinator. \$125,000

#### **Projects Submitted as Co-Principal Investigator Currently Under Review**

#### **Projects Submitted as Principal Investigator or Co-PI and not Funded**

09/28/11 (Fiscal Year 2011)--Primary PI:Tom Siller--NSF - National Science Foundation REESE Program—*Engineering the Design Team: Effects of diverse engineering design team outcomes* -- \$299,550.00

11/21/08 (Fiscal Year 2009)--Primary PI:Tom Siller--NSF - National Science Foundation REESE Program—*Engineering the Design Team: Effects of diverse engineering design team outcomes* -- \$299,550.00

7/3/2008 (Fiscal Year 2008)--Primary PI:Chen,Thomas Wei (1373)--NSF - National Science Foundation--*GK-12: Biomedical Sciences and Engineering: From Microchip Devices and Circuits to Visualization and System Modeling*--\$2,999,550.00

12/6/2007 (Fiscal Year 2008)--Primary PI:Woods,Sandra L (1301)--NSF - National Science Foundation--*ADVANCE-IT: Colorado State University Alliance for Institutional Transformation*--\$4,228,698.00

11/13/2007 (Fiscal Year 2008)--Primary PI:Draper,Bruce (1873)--NSF - National Science Foundation--*Creating Computer Scientists and Engineers by Training Teachers*--\$522,483.00

10/1/2007 (Fiscal Year 2008)--Primary PI:de Miranda,Michael Anthony (1588)--IFSA Foundation--*CSU Study Abroad Evaluation* --\$50,096.00

7/2/2007 (Fiscal Year 2008)--Primary PI:Chen,Thomas Wei (1373)--NSF - National Science Foundation--*GK-12: Biomedical Sciences and Engineering: From Microchip Devices and Circuits to Visualization and System Modeling*--\$2,999,550.00

2005 (May). Colorado State University Office of the Provost. *Advanced Educational Program (AEP). Educational Bridges: Interdisciplinary Experiences for Undergraduates*. \$299,700.00

2005 (May). National Science Foundation. *Teacher Professional Continuum Program. Study of Pre-Service Engineering Science STEM Teachers Knowledge Construction and Approaches to Cognitively-Based Instruction.* --\$170,734.00 Proposal #0523440. Status – Declined

2005 (March). National Science Foundation. *Integrated Graduate Education and Research Training Program. (IGERT)* \$2,000,000. Proposal #0523440. Status – Declined

2005 (February). National Science Foundation. *Science Technology Expansion Program (STEP)* \$885,523.00. Proposal # 0525553. Status – Declined

2004 (December). Institute of Educational Sciences. *Evidenced-Based Doctoral Training Program.* Brian Cobb - PI \$3,776,384. Status - Declined

2004 (August). National Science Foundation. Science Technology Expansion Project: *The CIT-FOOTSTEP (Colorado Institute of Technology FOOTSTEP – Fast Occupation On Track to STEM Talent Expansion Project).* \$1,969,947. Status – Declined and Resubmit.

2003 (October). National Science Foundation. Information Technology Experiences for Students and Teachers Comprehensive Projects for Students and Teachers: *The Information Technology In Engineering, Science and Technology Project at Colorado State University (ITEST@CSU).* \$1,104,947. Status – Declined and Resubmit

2003 (October). Colorado Institute for Technology. *Information Technology Experiences for Students and Teachers in K-12 within Colorado (ITESTK-12).* Meeting the NASA/NSF Standards for Technology Literacy. \$252,950

2000 (April). Colorado Institute for Technology. *Colorado K-12 Teacher, Technology Enhancement Institute: Content for the study of technology. Meeting the NASA/NSF Standards for Technology Literacy.* \$18,400

1999 (September). EduSystems, Inc. *Thailand Intensive technical Training Academy.* International Training. \$150,996

1998 (August) Toyota Educational Foundation, *Technology Education in the United States, Japan and the United Kingdom: A comparative study.* In cooperation with the Department of Technology Education, Aichi University of Education, Aichi Prefecture, Japan and The Center for Design and Technology, University of Wolverhampton, Birmingham, U.K. \$45,000

1998 (September). Social Science Research Council, *Education Within a Technological World: A comparative study of three industrial societies and their approach to technology education.* \$114,984

### **Professional Affiliations**

American Society for Engineering Education (ASEE) - Current

2009 Elected K-12 Engineering Conference Program Chair

International Technology Education Association (ITEA) - Current

2007-2001 Member, Board of Directors

American Educational Research Association - Current

Epsilon Pi Tau

National Council for Accreditation of Teacher Education (NCATE) – Member, Board of Examiners and Board of Examiminars site visit team chairperson.

Office in International and National Professional Societies

- 2008-2009. Elected Program Chair, American Society for Engineering Education K-12 Division.
- 2004- 2007. Elected President, ITEA Council on Technology Teacher Education (CTTE)
- 2003- 2004. Council on Technology Teacher Education, NCATE Accreditation Committee Chairman.
- 2007-2010. Board of Directors. International Technology Education Association.
- 2003-2006. Director, Technology Education Collegiate Association.
- 2001–2003 Secretary, National Association of Industrial and Technology Teacher Education
- 2001-2003. ITEA Advisor, Technology Education Collegiate Association. International Technology Education Association
- 2000-2001. Elected President, Colorado Technology Education Association
- 1996-1998. Elected President, Technology Core Teachers Association

Review/editorial boards

- 2010- present. Fulbright Specialist Program Reviewer in the discipline of Engineering Education
- 2008-2009 and 2015 – 2018 . Chair and reviewer. American Association for Engineering Education, K-12 Division publication and conference program review board.
- 2006- Current. Review board. International Journal of Technology and Design Education.
- 2007-2010. Chair, Management Board of the Journal of Technology Education.
- 2004 – 2006. Doctoral Dissertation Examiner. Griffith University, Queensland Australia.
- 1999 - 2006. National Council on Accreditation of Teacher Education (NCATE) Board of Examiners.
- 2001 – 2006. ITEA/NCATE Specialty Association Program Review Board.
- 1999 - 2000. International Technology Education Association Election Board.
- 1998 - 2001. ITEA Teach Technology Monograph Series. (Editor)
- 1999 - 2004. Council of Technology Teacher Education Publications Committee.
- 1996 - 2000. National Science Foundation/NASA/International Technology Education Association, *Technology for All Americans*, National Standards Field Reviewer. (National Content Standards Review Panel)
- 1995. National Science Foundation. Teacher Enhancement Program, Advanced Technological Education (ATE) grant review cycle panel member. Arlington, VA.

**Professional Honors and Awards**

2011, March. National Science Foundation GK-12 Project. Best Project Website Award. Presented at the 9<sup>th</sup> Annual GK-12 Conferences, Washington, DC

2011, March. National Science Foundation GK-12 Project. Best Annual Report Award. Presented at the 9<sup>th</sup> Annual GK-12 Conferences, Washington, DC

2005, April. Laureate Citation. The Professional Honor Society of Epsilon Pi Tau. Presented at the Annual Conference of the International Technology Education Association, Kansas City, MO

2001, Outstanding Conceptual Manuscript of the Year Award, *Journal of Industrial and Technology Teacher Education*, Marie Hoepfl, Ed.D. (Ed.).

2000, March. *Leaders to watch in Technology Education*. Honored by the International Technology Education Association as America's top young professional in technology education. Journal of the International Technology Education Association, 59 (6) 24-25.

2000, March. *University Leader: Foundation for Technology Education*. Conference Breakfast Host Representing Colorado State University. 62<sup>nd</sup> Annual Conference of the International Technology Education Association, Salt Lake City, UT.

1994. California State Department of Education Citation of Excellence, Technology Core.

1992. California State Department of Education Citation of Excellence, Technology Core.

1992. California State Department of Education, Mentor Teacher. Bill Honig, Superintendent of Public Instruction. Nominated and selected by peers.

1992. Temescal Canyon High School, Teacher of the Year.

1990. California Technology Education Teacher of the Year.

1990. California State Department of Education, Mentor teacher. Bill Honig, Superintendent of Public Instruction. Nominated and selected by peers.

1980. California Industrial Education Association - Long Beach Chapter, Student of the Year.

### **Committee Service**

2018 – Member, Texas A&M University Vision 2030 committee

2017 – 2018 Member, Texas A&M University Transformational Teaching and Learning annual conference planning committee.

2017 – 2018 Chair Academic Program Review Department of Teaching, Learning and Culture

2015 – 2016 School of Education University Program Review – Chairman.

2013 – 2016 State of Colorado Chair - Test of Engineering Aptitude Math and Science Competition for K-12 students (Technology Student Association).

2003 – 2013 Founding Chair – Present - Information Science and Technology Center (ISTeC) Annual High School Day, Chair.

2012 – 2013 College of Applied Human Sciences – School of Education Task Force

2012 – Present - Department of Electrical and Computer Engineering Curriculum Committee

2012 – 2013 -School of Education Program Chair – Teaching and Learning

2012 – 2013 -School of Education Specialization Chair – Education Science

2012 – 2013 - Faculty Search Chair – Organizational Leadership, Performance, and Change program

2007 – 2008 - School of Education Faculty Search Committee Chair.

2004 – 2007. - Colorado State University Strategic and Financial Planning Committee. (Standing Faculty Council Committee)

2003 – 2007. Information Science and Technology Center (ISTeC). Executive Committee

2003 – Present. Information Science and Technology Center (ISTeC). Education Advisory Committee Chairman.

2007 - Information Science and Technology Center (ISTeC). Research Advisory Committee.

2004 – 2012 CSU School of Education, Program Chair – Research Methodology and Design Faculty

2004 – present School of Education Graduate Committee.

1999 – present School of Education Teacher Licensure Committee

1999 – present. Teacher Education Council. School of Education.

1999 - present. Colorado State University Multi-Ethnic Faculty and Staff Caucus. Office of the Provost.

- 2004 – 2005 School of Education Faculty Search Committee
- 2004 – 2005 Department of Psychology Faculty Search Committee
- 2002 – 2003. Chair, Manufacturing Technology and Construction Management Department Outcome Assessment Committee.
- 2002 – 2003. Chair, Manufacturing Technology and Construction Management Department Six-Year Review Committee.
- 2002 – 2003. Virtual College Information Science and Technology. Colorado State University
- 2001 – 2003. Dean of Applied Human Sciences Faculty Advisory Committee.
- 2000 – 2001. Chair, Faculty Search Committee. Department of Manufacturing Technology and Construction Management.
- 2000 – 2001. Graduate Programs Committee. School of Education. (Completed term vacated by John Murphy, Ph.D.)
- 2000 – 2001. College of Applied Human Sciences Research Committee. (Completed term vacated by John Murphy, Ph.D.)
- 1999 - 2001. Vice-Chair, Colorado State University Strategic and Financial Planning Committee. (Standing Faculty Council Committee)
- 1998 - 2003. Tenure and Promotion Committee. Department of Manufacturing Technology and Construction Management.

### **Current Student Graduate Supervision**

Current Graduate Advisees: Committee Chairperson/Completed

- Neil Kauffman (MS, Completed, 2003)
- Mark Doggett (Ph.D., Completed, 2004)
- Jeri Wolf (MS, Completed, 2004)
- Jessie Hickam (MS, Completed, 2004)
- Thomas Smith (MS)
- Warren Plugge (MS, Completed, 2003 & Ph.D in progress)
- Matthew Brown (MS), Completed 2004
- Michael Beck (MS), Completed 2004
- Abbi Montgomery (MS), Completed 2004
- Chris Livingston (MS, Completed, 2003)
- Gordon Smith (MS, Completed, 2005)
- Maria Trujillo-McCracken (MS)
- Robert Sommerfeld (MS, Completed, 2005)
- Tania Grant (MS)
- Jeffrey Moore (Ph.D.)
- Kocabas, Burcin (Ph.D.)
- Mauricio Castillo (Ph.D.)
- Troy Miller (Ph.D.)
- Todd Fantz (Ph.D.)
- Badaruddin Ibrahim (Ph.D.)
- Shaun Hutchins (Ph.D.)
- John Cummings (Ph.D.)
- Reza Nourzorian (Ph.D.)

Graduate Committee Memberships (excluding those chaired):

Mark Perkins, Ph.D. (Advising role- Methodologist) School of Education – (Completed, 2014)

Marsha O'Keefe (Ph.D.)

Les Lindauer (Ph.D.)

Jason Lee Davis (Ph.D., completed, 2003))

Graduate Committee Memberships Outside the School of Education

Andrew Thompson, (MS) Mechanical Engineering – (Completed, 2014)  
Sylvia Acosta (Ph.D.) Department of Psychology  
Serenity Chambers (Ph.D.) Department of Psychology  
Malinda Trujillo (Ph.D.) Department of Psychology  
Evan Rutberg (MS) Department of English  
William (Jon) Barnes (MS) Department of Mechanical Engineering (Completed, 2005)  
Katherine Frerichs (MS) Department of Food Science and Human Nutrition  
Brian Coe (MS.) Department of Environmental and Radiological Health Sciences  
Mark Schreiber (MS) Department of Construction Management (Completed, 2005)  
Scott Griffith (MS) Department of Construction Management  
Michael Lory (MS) Department of Construction Management  
Douglas Clapp (MS) Department of Construction Management (Completed, 2005)  
Natalie Shere (MS) Department of Construction Management (Completed, 2005)

**Funded Doctoral and Postdoctoral Students/Research Associates:**

Postdoctoral

Doggett, Mark, Anthony (2003-2004) – Funded postdoctoral research associate (NSF Award #ESI-0138671) #53-3440

Doctoral Research Fellow

Tracy-Nesbit, Sandy (2001-2003) – Funded NSF GK-12 research fellow (NSF Award #0086443)

Todd D. Fantz, (2006 – 2009) – Funded NSF *Rocky Mountain Middle School Math Science, Engineering Partnership* #5-33421.

**Activities/Accomplishments**

University Development/Donation

- 2001. Successfully negotiated for the continuous and rotating support of a complete Technology Education Teacher Training and Research Laboratory located on the Colorado State University campus in Industrial Science 109. The complete laboratory, fully equipped with networked computers, laboratory test equipment, interactive CD ROM curriculum development materials and supplies covering 78 technological curricular topics, and furnished is valued at \$165,000.
  - Donor: Paxton/Patterson, Inc. a subsidiary of the Jeld-Wen, Inc. family of companies. <http://www.jeldwen.com/> & <http://www.paxtonpatterson.com>

Academic Program Development in Graduate Education

- 2014 - EDUC 591A 658 Mentor Teacher Professional Development Course: STEM Integration II
- 2012 – 2013 – Founding Program Chair – School of Education Teaching and Learning area of study.
- 2012 – 2013 – Founding Program Chair - School of Education Ph.D. specialization in Education Science
- 2007 – Founding Program Chair. Successfully lead a cooperative effort within the School of Education to establish a Research Methodology specialization within the Ph.D. program in education and human resource studies.
- 2003 - 2005, Spring. Successfully lead a cooperative effort with the College of Engineering and School of Education to implement the nation's first engineering education program utilizing the BS degree in engineering science and teacher licensure in the School of Engineering. Approved by the Colorado Department of Education and The Colorado Commission on Higher Education, June, 2005.

- 2003 – 2005. Successfully lead with Dr. David Whaley, a cooperative effort with the Department of Computer Science and School of Education to implement a teacher licensure program in computing education using the BS degree in applied computing technology and teacher licensure in educational technology in the School of Engineering. Approval in process with the Colorado Department of Education, Fall, 2005.
- 2000, Fall. Successfully lead, with department faculty, the implementation and design of new Masters of Science Degree program in Manufacturing Technology and Construction Management.

#### Visiting Scholar

- 1996. Aichi University of Education. Department of Technology Education. Sponsored and funded by the Japanese Ministry of Education.
- 1997. Visited University of Wolverhampton. Department of Design and Technology. Design & Technology training workshop. Funded by the Technical Foundation of America.

#### Accreditation Reviews at National Universities

- 2005, November 5-9, 2005. National Council for Accreditation of Teacher Education – Chairman. Bloomsburg University of Pennsylvania, College of Education, Dr. Ann Lee, Dean.
- 2005, February 1-5, 2005. National Council for Accreditation of Teacher Education – Chairman. Fort Hays State University, College of Education and Technology, Dr. Ed Mays, Dean.
- 2004, April 3-6, 2004. National Council for Accreditation of Teacher Education – Chairman. University of Western Kentucky, School of Education, Dr. Ric Keaster, Dean.
- 2003, November 1-5. National Council for Accreditation of Teacher Education – Chairman. University of Wisconsin – La Crosse, School of Education, Dr. Sandy Price, Dean.
- 2002, November 16-20. National Council for Accreditation of Teacher Education – Chairman. Arkansas State University, College of Education, Dr. John Beineke, Dean.
- 2001, April. National Council for Accreditation of Teacher Education. Brigham Young University, College of Education.
- 2000, November 11-15. National Council for Accreditation of Teacher Education. Clemson University, College of Health, Education, and Human Development, Dr. Harold E. Cheatham, Dean.

#### Special Services to the State/Community Related to Professional Expertise

- 2014 - Conference proceeding reviewer - 8<sup>th</sup> Biennial International Conference on Technology Education Research, Australia  
<http://www.techedconferenceaustralia.com/terc-2014-call-for-papers/>
- 2013-2014 STEM Integration Mentor Teacher Training Workshops – Cherry Creek School District
- 2004 – 2007 (Summers). Technology education teacher professional development trainer. Trained 180 teachers during summer in-service workshops in cooperation with School of Education Continuing Education Office.
- 2001-2002. President, Colorado Technology Education Association.
- 2001-2003. International Technology Education Collegiate Association Advisor.
- 2001-2004. National Science Foundation, NASA, and International Technology Education Association, Technology for All Americans Standards Board Member.
- 2000, July. Facilitated completion of Memorandum of Understanding between the University de Atacama, Chile and Colorado State University. Vice-Provost, Dr. Robert Gains, presiding.



- 1999 - 2003. Technology Education Collegiate Association (TECA), Western Regional Competition Chairman.
- 1999 - 2002. Poudre School District, Technology and Curriculum Standards Committee - Holly Sample, Chairperson.
- 1999. Colorado Technology Education Association and Colorado Community College & Occupational Education System (CCCOES), Technology Education Standards Committee.
- 1998 - Present. Colorado State University Technology Education Collegiate Association. Advisor

Consultations and International Work Related to Professional Expertise (See table 1)

- 2005-2006 NCATE Consultant, Metropolitan State College, Denver
- 2005 Consultant, University of Arkansas School of Education
- 2004 - 2005 Consultant, University of Arkansas School of Education
- 2003 Test Item Review Analysis. National Evaluation Systems, Inc.
- 2005. Netherlands (Dutch) Ministry of Education. International Training on Standards-Based Curriculum in Technology Education.
- 2004. Japanese International Cooperation Agency – International Trainer for Development of Design and Technology in Education. Project # J-00-03436.
- 2003. Australian Symposium on International Perspectives in Technology Education. Selected invited participant. Funded by the Technical Foundation of America.
- 2002. Barbados Ministry of Education. World Bank Secondary Education Enhancement Project. Technology Education program consultant in cooperation with Colorado State University and EduSystems, Inc.
- 2001. Swedish Ministry of Education. Technology Education Enhancement Project: Marketing technology education. Funded by the Technical Foundation of America.
- 2000, March & July. Egyptian Ministry of Education. World Bank Secondary Education Enhancement Project. Technology Education program consultant in cooperation with Colorado State University office of International Research. Alicia Cook, Vice-Provost and The Consortium for International Development (CID), Ms. Jean Kearns, Director.
- 2000, and 2001 July. The Government of Japan, Japan International Cooperation Agency (JICA). International Consultant, Technology Education. Project # J-00-03436.
- 1999 - 2002. The Government of the Republic of the Philippines. Asian Development Bank. Technical Education Skills Development Authority (TESDA). Technology Education program consultant in cooperation with Colorado State University office of International Research. Merl Niehaus, Interim Vice-Provost and the Consortium for International Development and Ms. Jean Kearns, Director Consortium for International Development.
- 1999 - 2003. The Government of Chile. Ministry of Education in Cooperation with Universidad de Atacama. Technology Education program consultant in cooperation with Colorado State University office of International Research. Merl Niehaus, Interim Vice-Provost.
- 1989 - 1998. California Technology Assessment Project. Consultant, Author. Far West Laboratories for Educational Research and Development.
- 1989 - 1998. Authentic Assessment Item Developer, Far West Laboratories for Educational Research and Development.
- 1998 -1999. Manufacturing Technology, interactive CD-ROM curriculum developer. Paxton/Patterson, Inc.
- 1998 - 1999. Material Science, interactive CD-ROM curriculum developer. Paxton/Patterson, Inc.
- 1998 - 1999. Construction Technology, interactive CD-ROM curriculum developer. Paxton/Patterson, Inc.

Table 1. *Summary of international scholarly activity.*

2003 - present; scholarly publications and presentations have been completed in the following countries.

<i>Country</i>	Dates	Scholarly Activity
Ireland	June 14-21, 2018	Pupils Attitudes Towards Technology (PATT) Conference. Athlone Technical Institute. Research paper presentation.
Singapore	October 15-23, 2010	American Society for Engineering Education, Global Colloquium on Engineering Education. Research paper and poster presentation.
China	October 15-30, 2009	Invited Lecture Nanjing Normal University (Engineering and technology education), Conference Presentation. Building international relations between Nanjing Normal University and CSU.
Turkey	September 27 – October 5, 2007	Lead US delegation of university faculty to the American Society of Engineering Education 6 <sup>th</sup> Annual International Colloquium on Engineering Education. Funded by the Technical Foundation of America.
Australia	December, 2002, January, 2003	Presentation & Publication
Barbados	November, 2002	Presentation, Publication, Consulting
Chile	1998, 1999, 2002, 2001	Presentation, Publication, Consulting, Funded Research Project
Egypt	2000, 2001	Presentation, & Consulting
Great Britain	1997	Study Abroad – Oxford University and University of Wolverhampton
Japan	1999, 2000, 2001, 2003, 2004, 2012, 2014	Conference Presentation, Publication, Consulting
Philippines	1999, 2000	Presentation, Publication, Consulting
Sweden	2001	Presentation & Publication