

# JAMES R. MORGAN

Zachry Department of Civil Engineering  
Texas A&M University  
College Station, TX 77843-3136  
Phone: (979) 845-4394 – Fax: (979) 845-6554

**PROFESSIONAL ENGINEER, TEXAS, #52092**

## EDUCATION

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- 1979      **Ph.D. • Civil Engineering**  
University of Illinois at Urbana-Champaign  
Structural and Earthquake Engineering  
– Ph.D. Advisors: William J. Hall and Nathan M. Newmark
- 1977      **M.S. • Civil Engineering**  
University of Illinois at Urbana-Champaign
- 1975      **B.S. • Civil Engineering**  
University of Illinois at Urbana-Champaign

## PROFESSIONAL APPOINTMENTS

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- 2015 - present      **Professor of Engineering**  
Faculty of Business, Charles Sturt University, Bathurst, NSW, Australia
- 1987 - 2015      **Associate Professor**  
Zachry Department of Civil Engineering, Texas A&M University
- 1981 - 1987      **Assistant Professor**  
Department of Civil Engineering, Texas A&M University
- 1979 - 1981      **Assistant Professor**  
Department of Civil Engineering, University of Houston

## OTHER SIGNIFICANT EXPERIENCE

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- 2007 - 2015      **Co-Director**, Aggie STEM (formerly known as the North Texas STEM Center), College of Education and Engineering, Texas A&M University
- 1997 - 2000      **Co-Director**, Eisenhower Leadership Development Program, George Bush School of Government and Public Service, Texas A&M University
- 1993 - 1997      **Coordinator of Engineering 109 (Freshman Engineering)**  
College of Engineering, Texas A&M University

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**H O N O R S & A W A R D S**


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- 2012            **Teaching Impact Award**  
Zachry Department of Civil Engineering, Texas A&M University
- 2012            **Best Paper Award**  
International Conference on Engineering Education (ICEE-2012)  
Turku, Finland
- 2011            **Best Paper Award (2nd Place)**  
2011 ASEE Gulf-Southwest Conference - Houston, TX

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**R E S E A R C H P U B L I C A T I O N S**


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**Journal Papers**

Capraro, R. M., Capraro, M. M., Barroso, L. R., & Morgan, J. R. (2016). Through biodiversity and multiplicative principles Turkish students transform the culture of STEM education. *International Journal of STEM*.

Capraro, R. M., Capraro, M. M., Scheurich, J., Jones, M., Morgan, J., Huggins, K., Corlu, S. M., Younes, R., & Han, S. Y. (2016) The impact of sustained professional development in STEM in a diverse urban district. *Journal of Educational Research*.

Desjarlais, M. and J. Morgan (2013) "What is Special about Process Education?" *International Journal of Process Education*, v. 5(1), June 2013

Sahin, A., Erdogan, N., Morgan, J., Capraro, M. M., and R. M. Capraro (2012) "The Effects of High School Course Taking and SAT Scores on College Major Selection." *Sakarya University Journal of Education*, v. 2(3), December 2012

McCormack, J., Williams, B., Noren, K., Beyerlein, S., Cordon, D. and J. Morgan (2012) "Development and Usability of a Generic Quantitative Problem-Solving Rubric for Student Learning." *International Journal of Process Education*, v. 4(1), June 2012.  
<http://www.processeducation.org/ijpe/2012/psrubrich.pdf>

Barroso, L.R. and Morgan, J.R. (2012) "Developing a Dynamics and Vibrations Course for Civil Engineering Students Based on Fundamental-Principles." *Advances in Engineering Education*. v 3, n 1, p 1-35a.  
<http://advances.asee.org/vol03/issue01/papers/aee-vol03-issue01-p09.pdf>

Stearns, L. M., J. Morgan, M.M. Capraro, and R.M. Capraro (2012) "A teacher observation instrument for PBL classroom instruction," *Journal of STEM Education: Innovations and Research*, v. 13(3), May-June 2012

Barroso, L.R. and J.R. Morgan (2011) "Incorporating an Engineering Review Process into Student Projects." *Journal of Applications and Practices in Engineering Education*. v2, n2, p.77-86.

El-Sayed, M., J. El-Sayed, J. Morgan, and T. Cameron (2011) "Lean Program and Course Assessments for Quality Improvement," *International Journal of Process Education*, v. 3(1), June 2011. <http://www.processeducation.org/ijpe/2011/leanh.pdf>

Huggins, K. S., Scheurich, J. J. and J. Morgan (2011) "Professional Learning Communities as a Leadership Strategy to Drive Math Success in an Urban High School Serving Diverse, Low-Income Students: A Case Study." *Journal of Education for Students Placed at Risk (JESPAR)*, v. 16(2), 67 – 88 (Online publication date: 09 May 2011)

Morgan, J.R., and L.R. Barroso (2010). "Enhancing Learning Through Integrated Model Development Activities." *Journal of Application Practices in Engineering Education*. Vol. 1(1), pp. 1-10.

Morgan, J., and B. Williams (2010). "Process Education Best Practices for Teaching Open-Ended Problem Solving in a Project Context," *International Journal of Process Education*, v. 2(1), June 2010. <http://www.processeducation.org/ijpe/2010/psh.pdf>

Morgan, J., L.R. Barroso and N. Simpson (2009). "Embedding Laboratory Experience in Lectures," *ASEE Advances in Engineering Education*, Vol. 1(4), 31pps. <http://advances.asee.org/vol03/issue01/papers/aee-vol03-issue01-p09.pdf>

Barroso, L.R. and J. Morgan (2009). "Project Enhanced Learning: Addressing ABET Outcomes and Linking the Curriculum," *ASCE Journal of Professional Issues and Education*, Vol. 135(1), pp. 11-20.

Parlos, A. G., Abraham, M. A., & Morgan, J. R. (2001). "Gain-Scheduled Adaptive Control for Seismically Excited Hybrid Structures." *Journal of Structural Engineering*, 127(11), 1286-1294.

### Books

Apple, D., J. Morgan and D. Hintze, (2013) **Learning to Learn: Becoming a Self-Grower**, 454 pps. Pacific Crest, Hampton, New Hampshire, 2013 – supports success in college courses, including one to be offered at American Public University System. APUS serving more than 100,000 distance learners in 50 states and over 100 countries. This book also available in an on-line edition <http://www.pcrest.com/L2L/>

Capraro, R.M., Capraro, M.M. & J. Morgan (Editors), (2013) **Project-Based learning: An Integrated Science, Technology, Engineering, and Mathematics (STEM) Approach, 2nd Edition**, 210 pps. Sense Publishers, Rotterdam, The Netherlands, 2013.

Capraro, R.M., Capraro, M.M., Morgan, J. & J. Scheurich, (Editors) **A Companion To Interdisciplinary Stem Project-Based Learning, For Teachers By Teachers**, 248 pps., Sense Publishers, Rotterdam, The Netherlands, February 2010.

### Book Chapters

In R.M. Capraro, M.M. Capraro, & J. Morgan (Eds.), (2013) **Project-Based learning: An Integrated Science, Technology, Engineering, and Mathematics (STEM) Approach**, 2nd Edition. Rotterdam, The Netherlands: Sense Publishers:

- ◇ Morgan, J.R., Moon, A. M. and L. R. Barroso. (2013). "Chapter 4: Engineering Better Projects." (pp. 27-37).
- ◇ Morgan, J.R. and S.W. Slough (2013). "Classroom Management Considerations: Implementing STEM Project-Based Learning." (pp. 99- 107).

In Robert M. Capraro and Scott W. Slough (Ed.), (2008) **Project-Based learning: An Integrated Science, Technology, Engineering, and Mathematics (STEM) Approach**, Rotterdam, The Netherlands: Sense Publishers:

- ◇ Morgan, J.R., Moon, A. M. and L. R. Barroso (2008). "Chapter 4: Designing Engineering Project-Based Learning." (pp. 39-54).
- ◇ Woods, M.N., and J.R. Morgan, Chapter 5 "Etiology of STEM Project-Based Learning", pp. 55-66, **Project-Based learning: An Integrated Science, Technology, Engineering, and Mathematics (STEM) Approach**, Edited by Robert M. Capraro and Scott W. Slough, Sense Publishers, Rotterdam, The Netherlands, 2008.
- ◇ Morgan, J. R., and Scott W. Slough, Chapter 12 "Classroom management Considerations: Implementing Project-Based Learning", pp 159-170, **Project-Based learning: An Integrated Science, Technology, Engineering, and Mathematics (STEM) Approach**, Edited by Robert M. Capraro and Scott W. Slough, Sense Publishers, Rotterdam, The Netherlands, 2008.

### Other:

Chapter 4 "Working in a Team Environment", Visualization, Modeling and Graphics for Engineering Design by Lieu, D.K., and Sorby, S.A., **Visualization, Modeling, and Graphics for Engineering Design**, Thomson/Delmar Publishers, 2008.

Morgan, J. and B. Williams, "Overview of Problem Solving," Thinking about Thinking section, **Faculty Guidebook**, 4th edition, Pacific Crest, 2007 – 2012.

Morgan, J. and D. Apple, "The Accelerator Model," Self-Growth section, **Faculty Guidebook**, 1st-4th edition, Pacific Crest, 2004 – 2012.

### **Conference Proceedings Papers**

#### ***Australasian Association for Engineering Education (AAEE)***

Morgan, J. and Lindsay, E. D. (2015, December). The CSU Engineering Model. Australasian Association for Engineering Education Conference 2015. Geelong, Australia.

Lindsay, E. D. and Morgan, J. (2015, December). Lessons Learned from Tangible Curriculum Week. Australasian Association for Engineering Education Conference 2015. Geelong, Australia.

Nite, S. B., Morgan, J., Allen, G. D., Capraro, R. M., & Capraro, M. M. (2015, December). Effective technology for a calculus bridge program: Bringing education home. Australasian Association for Engineering Education Conference 2015. Geelong, Australia.

#### ***American Society for Engineering Education (ASEE)***

Lindsay, E. & Morgan, J. (2016, June). The Charles Sturt University Model - Reflections on Fast-track implementation. American Society for Engineering Education, New Orleans, Louisiana, USA.

Nite, S. Allen, G. D., Morgan, J., Bicer, A., & Capraro, R. M. (2016, June). Engineering Calculus Bridge Program Success: Comparing Variation Results. American Society for Engineering Education, New Orleans, Louisiana, USA.

Brumbelow, K., Fowler, D., Morgan, J., Anthony, W. (June 2015). Transformation of a Large Civil Engineering Department Curriculum using the ASCE BOK2. American Society for Engineering Education. Seattle, Washington, USA.

Sahin, A., J.R. Morgan, and N. Erdogan, "Curricular pathways in high school settings that lead to STEM majors," 119th American Society for Engineering Association Annual Conference and Exposition (ASEE), San Antonio, TX, June 2012

Barroso, L.R., and J.R. Morgan (2011), "Incorporating Technical Peer Review of Civil Engineering Student Projects;" ASEE National Conference, Vancouver, B.C., Canada, June 2011.

Morgan, J.R. and L.R. Barroso, (2011) "Incorporating Technical Peer Review of Student Capstone Projects," ASEE Gulf-Southwest Conference, Houston, Texas, March 2011

Morgan, J. and L.R. Barroso (2010). "An Integrated Graduate Level Course Sequence in Structural Engineering," Proceedings of the 2010 ASEE National Conference, Louisville, KY, June 20-23, 2010.

Morgan, J. and L.R. Barroso (2010). "Implementing New Program Criteria for Engineering Programs," Proceedings of the 2010 ASEE Gulf-Southwest Conference, Lake Charles, LA, March 24-26, 2010.

Morgan, J., L.R. Barroso, and K. Huggins (2009). "Helping Teachers use Professional Learning Communities to infuse Project Based Learning into the K-12 Curriculum," Proceedings of the 2009 ASEE Gulf-Southwest Conference, Waco, TX, March 18-20, 2009.

Morgan, J. and L.R. Barroso (2008). "North Texas-STEM Center: An Engineer's Perspective," Proceedings of the 2008 ASEE National Conference, Pittsburgh, PA, June 22-25, 2008.

Barroso, L.R. and J. Morgan (2008). "Developing a Dynamics Simulation Tool for Student Exploration of Concepts," Proceedings of the 2008 ASEE Gulf-Southwest Conference, Albuquerque, NM, March 26-28, 2008.

### ***Frontiers in Education (FIE)***

Nite, S. B., Morgan, J., Allen, G. D., Capraro, R. M., Capraro, M. M., & Pilant, M. (2015, October). A bridge to engineering: A personalized precalculus (bridge) program. 2015 IEEE Frontiers in Education Conference Proceedings, Paper presented at the 45<sup>th</sup> Annual Frontiers in Education Conference: Launching a New Vision in Engineering Education. El Paso, TX (2053-2058).

Boedeker, P., Bicer, A., Capraro, R. M., Capraro, M. M., Morgan, J., & Barroso, L. (2015, October). STEM summer camp follow up study: Effects on students' SAT scores and postsecondary matriculation. In Proceedings of the Frontiers in Education 2015: Launching a New Vision in Engineering Education (pp. 1875-1882). El Paso, TX: IEEE.

Nite, S., Capraro, M. M., Morgan, J. R., Peterson, C. A., & Capraro, R. M. (2014, October). Pathways to Engineering: Mathematics as a Mediator of Engineering Success. 2014 IEEE Frontiers in Education Conference Proceedings, Paper presented at the 44th Annual Frontiers in Education Conference: Opening Doors to Innovation and Internationalization in Engineering Education. Madrid, Spain (2160-2164).

Capraro, M. M., Capraro, R. M., Morgan, J. R., Nite, S., & Peterson, C. A. (2014, October). Science, Technology, Engineering and Mathematics (STEM) Education: A Longitudinal Examination of Secondary School Intervention. 2014 IEEE Frontiers in Education Conference Proceedings, Paper presented at the 44th Annual Frontiers in Education Conference: Opening Doors to Innovation and Internationalization in Engineering Education. Madrid, Spain (1382-1388).

Fowler, D., Anthony, W., Poling, N., Morgan, J. & Brumbelow, K. (October, 2014). Data-Driven Curriculum Redesign in Civil Engineering. Frontiers in Education 2014, Madrid, Spain.

Barroso, L. and Jim Morgan (2012). Utilizing Reflection in Projects for Increased Metacognition and Enhanced Learning" Proceedings of the 2012 Frontiers in Education Conference, Seattle, WA, October 4, 2012, session T3G.

Barroso, L.R. and J. R. Morgan (2010). "Incorporating Peer Review of Course Term Project in Structural Analysis Course," Proceedings of the 2010 Frontiers in Education Conference, Washington, D.C, October 27-30, 2010, session S2G-2.

Barroso, L.R., J. Morgan, and N. Simpson (2008). "Classroom Demonstrations with Multiple Modes: Virtual + Reality = Enhanced Learning," Proceedings of the 2008 Frontiers in Education Conference, Saratoga Springs, NY, October 22-25, 2008.

### ***Other conferences/Proceedings***

Nite, S. B., Bicer, A., Capraro, R. M., & Morgan, J. R. (2017, April). Development of an online professional learning community through and with technology. Paper submitted to *2017 AERA Annual Meeting, Knowledge to Action: Achieving the Promise of Equal Education Opportunity*. San Antonio, Texas.

Barroso, L. R., Nite, S. B., Morgan, J. R., Bicer, A., Capraro, R. M., & Capraro, M. M. (2016). Using the Engineering Design Process as the Structure for Project-Based Learning: An Informal STEM Activity on Bridge-Building. 6th IEEE Integrated STEM Education Conference (ISEC '16). Princeton University.

Jalli, Y., Ford, D., Morgan, J. (2016, January). The Impacts of Design Errors and Omissions Change Orders on Highway Projects. 2016 meeting of the Transportation Research Board. Washington, D.C.

Capraro, M.M., Nite, S., Kopparla, M., Capraro, R., Morgan, J. & Barrosa, L. (2015, October). Appropriate technology in STEM education: Using a rubric to assess iPad apps. In *Proceedings of E-Learn: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2015* (pp. 1502-1508). Chesapeake, VA: Association for the Advancement of Computing in Education (AACE).

Morgan, J, Capraro, R.M., Capraro, M.M., Nite, S.B. (2015) Increasing the STEM pipeline: Impact of a multi-faceted STEM organization, *QScience Proceedings (World Congress on Engineering Education 2014)* 2015:23 <http://dx.doi.org/10.5339/qproc.2015.wcee2014.23>

Morgan, J., Nite, S. B., Allen, G. D., Capraro, M. M., Capraro, R. M., & Pilant, M. (2015, April). Improving engineering calculus success through a summer program. Paper presented at Ireland International Conference on Education (IICE-2015 Proceedings). Dublin, Ireland

Capraro, M. M., Capraro, R. M., Nite, S., Morgan, J. R., & Peterson, C. A. (2014, November). Does inclusion of the arts in STEM project-based learning increase motivation for learning for urban students in informal settings? *Proceedings of the International Conference on Urban Education*. Paper presented at International Conference on Urban Education: Building and Sustaining Global Partnerships for Learning and Development, Montego Bay, Jamaica (204-208). Charlotte, NC: The Urban Education Collaborative.

Morgan, J. R., Capraro, R. M., & Capraro, M. M. (2012, July). Science, technology, engineering and mathematics (STEM) education: Methods to improve PSAT scores using a STEM focus. In J. Björkqvist, M. Laakso, J. Roslöf, R. Tuohi, & Seppo Virtanen (Eds.). *Proceedings of the International Conference on Engineering Education (ICEE-2012)*. Turku, Finland: Finland University of Turku.

Barroso, L.R., and J.R. Morgan, (2011) "Developing Student's Technical Engineering Review Skills: Peer Review of Engineering Content and Process." International Conference on Engineering Education (ICEE 2011), Belfast, Northern Ireland, U.K., August 2011

Capraro, M. M., Capraro, R. M., Stearns, L., & Morgan, J. (2011, January). Development of an observation instrument: Looking at PBL classroom instruction. Proceedings of the 9th annual Hawaii International Conference on Education (pp. 3315-3330). Honolulu, HI.

Scheurich, J., Morgan, J., Huggins, K., Capraro, M. M., Avery, R., & Capraro, R. M. , "Facilitating urban high school improvement in mathematics and science through a university STEM center-district-business collaboration," American Educational Research Association, New Orleans, April 2011

Capraro, R.M., R. Avery, J. Scheurich, J. Morgan, R. Younes, SY Han, and K. Huggins, "Building STEM Centers for Excellence in Educational Innovation," American Educational Research Association, New Orleans, April 2011

Capraro, R. M., Capraro, M. M., Corlu, S. M., Younes, R., Han, S. Y., & Morgan, J. , "The impact of sustained professional development in STEM project based learning on district outcome measures," Paper presented at the annual meeting of the School Science and Mathematics Association, Fort Meyers, FL, November 2010.

Scheurich, J., Capraro, M. M., Capraro, R. M., Morgan, J. R., Avery, R., & Huggins, K., "Conversation: A university STEM center facilitates urban high school academic improvement in math and science," Paper presented at the annual meeting of the University Council of Educational Administration, New Orleans, October 2010

### **Other**

Capraro, R. M., Capraro, M. M., Nite, S. B., & Morgan, J. (2014). STEM project based learning: A workforce enhancing model. *Tex's CEO Magazine, May/June, 16 -17.*

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### **R E S E A R C H P R O J E C T S**

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*State Farm Empowering Underrepresented Students to Enter STEM Fields.* State Farm, Bloomington, IL. Co-PI with Robert M. Capraro (PI), Mary Margaret Capraro, Sandra B. Nite, Ali Bicer, & Luciana Barroso. \$40,000. August 2015-August 2016

*Investigations in Secondary Mathematics and Science,* Texas Higher Education Coordinating Board, \$589,000, PI and Director Sandra B. Nite, with Year 2 Co-PIs Allen, G. D., Capraro, R. M., Morgan, J., Capraro, M. M., & Burlbaw, L. Year 1 Co-PIs Allen, G. D., Capraro, R. M., Peterson, C. A., Burlbaw, L., Walters, L., & Green, M. Funding period: 2/1/2014-4/30/2016



*"Math and Science Partnership. Aggie- Science, Technology, Engineering and Mathematics Center"*. Texas Education Agency, PI with co-PI's M.M. Capraro, R. M. Capraro and S. G. Nite, Awarded \$576,985. 9/1/2014 – 8/31/2015

*"Improving Contracted Services"* Texas Department of Transportation. Co-PI with David N. Ford, P.I. \$180,000 total value. January, 2014 – August, 2015.

*"STEM Collaborative for Teacher Professional Learning"*, Texas Higher Education Coordinating Board, Awarded \$769,422, Co-PI with R. M. Capraro, (PI) & co-PIs M. M. Capraro Timothy Scott, Jacqueline Stillisano & Hersolt Waxman, Awarded June 1, 2013 – December 15, 2015

*"Math and Science Partnership. Aggie- Science, Technology, Engineering and Mathematics Center"*. Texas Education Agency, PI with co-PI's M.M. Capraro and R. M. Capraro, Awarded \$652,191. 9/1/2013 – 8/31/2014

*"Aggie STEM Summer Camp"*. Co-PI with R. M. Capraro, & M. M. Capraro. Energized for STEM Academy, Inc. Awarded \$110,000. Awarded June 2012.

*"Math and Science Partnership. Aggie- Science, Technology, Engineering and Mathematics Center"*. PI with co-PI's M.M. Capraro and R. M. Capraro, Awarded \$800,000. 8/1/11-7/31/13 (TEA)

*"Consultant Errors and Omissions Correction and Collection Procedures II"* Consultant Contracting Office. Design Division. Texas Department of Transportation. Co-PI with David N. Ford, P.I. \$323, 596 total value. January, 2011 – August, 2012. (no cost extension to 12/31/2013).

*"Professional Development Services to Akins STEM Academy,"* Austin Independent School District, \$20,000, 2010-2014

*"STEM Summer Camp for Energized for STEM Academy Students,"* Jim Scheurich, P.I., Robert Capraro, Mary Margaret Capraro, and Jim Morgan, Co-PI's, Houston Independent School District, June 2010, Total Value: \$103,004

*"Professional Development Services to Waco High School, University High School, and A.J. Moore Academy"*, Waco Independent School District, Jim Scheurich, P.I., Robert Capraro, Mary Margaret Capraro, and Jim Morgan, Co-PI's,, October 1, 2010 – July 31, 2011, Total value: \$47,000

*"Professional Development Services to Waco High School, University High School, and A.J. Moore Academy"*, Waco Independent School District, Jim Scheurich, P.I., Robert Capraro, Mary Margaret Capraro, and Jim Morgan, Co-PI's,, August 1, 2009 – July 31, 2010, Total value: \$93, 999.75

*“Professional Development Services to A.J. Moore Academy”*, Waco Independent School District, Jim Scheurich, P.I., Robert Capraro, Mary Margaret Capraro, and Jim Morgan, Co-PI’s,, August 1, 2009 – July 31, 2010, Total value: \$3000

*“Professional Development Services to Hearne High School and Hearne Junior High School”*, Hearne Independent School District, Jim Scheurich, P.I., Robert Capraro, Mary Margaret Capraro, and Jim Morgan, Co-PI’s,, August 1, 2009 – July 31, 2010, Total value: \$21,000

*“Aggie STEM Center”*, Texas Education Agency, TEES project # = 32525, Jim Morgan, P.I., Robert Capraro, Mary Margaret Capraro, and Jim Scheurich, Co-PI’s,, September 2010 -- August 2011, Total Value \$500,000

*“North Texas STEM Center”*, Texas Education Agency, Jim Scheurich, P.I., Robert Capraro, Mary Margaret Capraro, and Jim Morgan, Co-PI’s, September 2009 – August 2010, Total Value: \$400,000;

*“North Texas STEM Center”*, Texas Education Agency, Jim Scheurich, P.I., Robert Capraro, Mary Margaret Capraro, and Jim Morgan, Co-PI’s, September 2008 -- August 2009, Total Value \$438,657,

*“Consultant Errors and Omissions Correction and Collection Procedures I”* Consultant Contracting Office. Design Division. Texas Department of Transportation. 2007-2010. Co-PI with David N. Ford, P.I. Total original value: \$326,555. Revised total value: \$385,752.

*“North Texas Science, Technology, Engineering, and Mathematics (T-STEM) Center”* Sponsor: Texas Education Agency and the Texas High School Project PI: Jim Scheurich Co-PIs: Robert Capraro, Scott Slough (until 2007) and Jim Morgan (since 2007); competitive proposal, August 2006 – July 2008. Total Amount: \$1,200,000.

*“Multiple Models for Civil Engineering Dynamics,”* National Science Foundation (NSF), PI: Jim Morgan, Co-PIs: Luciana R. Barroso, Giovanna Biscontin, Donald House (Dept. Architecture), Vinod Srinivasan (Dept. Architecture)); competitive proposal, January 2006 – March 2009. Total Amount: \$125,000.

## **Research Initiatives**

2012 - present *“Collaboratively Developing Research-Based Curricular Materials to Improve Conceptual Understanding in Engineering Education.”* External collaborators: S. Brown, D. Montfort, D. G. Pollock, and C. Poor. TAMU collaborators: L. R. Barroso and J. R. Morgan. Basis for 1 NSF proposal – funded.

2011 - present *“Utilizing Reflection in Projects for Increased Metacognition.”* L. R. Barroso and J. R. Morgan. Basis for 1 journal paper in preparation, 1 conference papers.



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**S E R V I C E**


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- 2012 - 2013 Graduate Teaching Academy Mentor – Yasaman Jalili Khiabani
- 2011 - present Chair, Curriculum Committee, Zachry Department of Civil Engineering
- 2008 - present Mentor/Faculty Advisor, Engineers Without Borders, Texas A&M student chapter; mentor Library Construction & Storage Facility projects for Acuña, Mexico; mentored & traveled with San Juan de San Isidro de Peñas Blancas, Costa Rica (January 2010 to excavate & install the foundation for a computer center at the San Juan school + August 2010 to complete the building and installation of a septic system for the computer center)
- 2005 - present Mediated faculty dispute for Dean of Faculties (& others in TAMU community)
- 2005 - present Member of Departmental Promotion and Tenure Committee
- 2012 Member, Engineering Education Strategic Plan Subcommittee, College of Engineering,
- 2011 - 2012 Member, Institute of Engineering Education and Innovation Committee, Dwight Look College of Engineering
- 2009 Member, Civil Engineering Peer Review of Teaching Policy Review task Force
- 2005 - 2008 Member, Faculty Advisory Board, Center for Teaching Excellence, TAMU
- 2004 - 2011 Academic Volunteer (Advisor), B-Battery, Fightin' Texas Aggie Band
- 2004 - 2008 Chair, Civil Engineering academic performance panel  
Peer review of teaching, Aggieland Saturday, etc.

**Editorial Boards**

- 2008 - present *Journal of Process Education*, Founding Member Editorial Board, International
- 2009 - present *Journal of Application and Practices in Engineering Education*, Member Editorial Board, International

**Paper Reviewer**

- Academy of Process Educators  
International Journal Of Process Education
- American Society for Engineering Education (ASEE)  
Journal of Engineering Education  
Advances in Engineering Education  
Frontiers in Education (FIE)  
GSW (Gulf-SouthWest) Region
- International Network for Engineering Education and Research  
International Journal of Applications and Practices in Engineering Education

### **Proposal Reviewer**

National Science Foundation, CCLI program (then TUES)  
Qatar National Research Foundation

### **Society Memberships**

Chi Epsilon Civil Engineering Honor Society

American Society of Civil Engineers

ASCE Technical Council on Lifeline Earthquake Engineering

Member, Committee on Transportation Lifelines, October 1983-present

American Society for Engineering Education;

Educational Research Methods Division:

Executive Board Member – June 2007 – June 2009

ERM representative on the Dasher Award Committee 2008-2010

(Dasher Award is for best paper award at Frontiers in Education Conference)

Program co-Chair, 2011 Frontiers in Education conference, 2010 - 2011

Member, FIE Steering Committee 2011 - 2017

Freshman Programs Division:

Executive Board Member – June 2002 – June 2008

Academy of Process Educators

Board Member, 2010-2012

Program co-chair, 2012

President-Elect, 2012-2013

Program chair, 2013

President 2013-2014

Past-President 2014-2015

Phi Kappa Phi

Secretary-Treasurer, 2009-2010

President Elect, 2010-2011

President, 2011-2012

Past-President, 2012-2013

### **Other Service Activities:**

Judge, I-SWEEEP (International Sustainable World (Energy, Engineering & Environment) Project Olympiad, Cosmos Foundation, Houston, Texas, 2009 - 2015

Member, Advisory Board, METSA (Math, Engineering, Technology, & Science Academy, 2008 - 2015

Member, Advisory Board, National Academy Foundation Academy of Engineering at H. Grady Spruce High School, Dallas Independent School District, 2007 - 2010

## O U T R E A C H

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Co-organizer & Invited speaker: "Connections" by Robert Capraro and Jim Morgan, at Teacher Summit 2008, sponsored by NTSTEM center and the colleges of Education, Engineering, and Science, Annenberg Presidential Conference Center, Texas A&M University, Friday, February 1, 2008

Texas High School Project, Project-Based Learning Design Team & Classroom Management lead 2009 – present: 2009 Summer PBL Institute in San Antonio; 2010 Summer PBL Institute in Dallas; and **Three 2011** Summer PBL Institute {schedule for 3 weeks in July: Austin, Dallas & one in the Rio Grande valley} –these all focus on reaching teachers at T-STEM academies.

"Management of a PBL Classroom," Best Practices Conferences, hosted by the collaborative of Texas T-STEM Centers, Lubbock in 2010, and Austin in 2011 – these focus on reaching math and science teachers in public middle & high schools in Texas

Invited Presentations: Capraro, R. M., Capraro, M. M., & Morgan, J., Texas A & M center for mathematics & science education: Opportunities and resources, at the College and Career Readiness Initiative Faculty Collaborative, San Antonio, TX, September 2010

### **Work at Middle & High-Schools in Texas (2006 – present)**

I have conducted, and facilitated a series of professional development workshops for focus on bringing active collaborative and cooperative learning into the high schools of schools all over Texas in the context of Project Based Learning (using Engineering as the real world link).

Conducted, Facilitated, and Taught Programs in Project-Based Learning in STEM Education (through Aggie STEM Center) in:

- Austin Independent School District
  - STEM Academy at Akins High School
- Brooks Academy of Science and Engineering
  - San Antonio, Texas
- Caldwell Independent School District
  - Caldwell Middle & High Schools
- Dallas Independent School District
  - Conrad High School
  - Kimball High School
  - Spruce High School
- Hearne Independent School District
  - Hearne Junior High & High School
- Huntsville Independent School District
  - Huntsville High School Science, Technology, Engineering and Mathematics (STEM) Academy

- Waco Independent School District
  - A.J. Moore Academy High School
  - University High School
  - Waco High School
- Harmony Charter Schools
  - Dallas
  - Forth Worth
  - Grand Prairie
  - Houston
  - Waco
- Rapoport Academy, Waco, Texas

In addition, I have worked with (primarily secondary) teachers from all over Texas through activities and conferences sponsored by the Texas STEM Coalition (Aggie STEM is one of seven founding members of the coalition)