

Debra A. Fowler, Ph.D.

**Director, Center for Teaching Excellence
Texas A&M University
College Station, TX**

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EDUCATION

Ph.D. Texas A&M University, Interdisciplinary Engineering
B.S. South Dakota School of Mines and Technology, Chemistry

RESEARCH INTERESTS

Curriculum or Program (Re)Design
Interdisciplinary Teaching and Learning
Reflective ePortfolios
Graduate Student Education

PROFESSIONAL EXPERIENCE

Texas A&M University, 2005-present

- **Executive Director**, Center for Teaching Excellence, September 2022 – present

Faculty development—topical workshops, classroom observation and individual consultation, faculty learning community facilitation, faculty retreat facilitation, grant assessment consultation, teaching in active learning spaces

Graduate student development in teaching—mentor staff member in professional development of graduate students in teaching including teaching STEM course

Curriculum development—department program design and redesign at both undergraduate and graduate level (initiated new models for both), experience in discipline redesigns as follows: ecosystem science, forestry, soil and crop sciences, teacher preparation, civil engineering, landscape and urban development, veterinary medicine, technology management, geology and geophysics, special education, human resource development, and visualization.

Mentor graduate students pursuing a degree within the discipline or education program

Daily operations – supervise staff priorities, evaluations, multi-million dollar budget, professional development, goal setting

Faculty Teaching Awards – Fund, select, and administer faculty teaching awards

University committees—serve on university-level committees as requested, assist in university-level implementation of programs influencing teaching

Philanthropic Fund development—Interact with Development Officers of Foundation, develop marketing materials, organize events, meet with potential donors

Represent discipline—Participate at regional, national, and international conferences and publish in faculty and organizational development journals

Federal grant funding—Serve as co-investigator on funding proposals at the national level

- **Director**, Center for Teaching Excellence, September 2016 – 2022
- **Associate Director**, Center for Teaching Excellence, June 2005-2016
- **Graduate Faculty Member**, Department of Educational Psychology, December 2015 – present
Serve on masters and PhD committees, provide research opportunities
- **Interim Director**, Center for Teaching Excellence, June 2008-2009
Serve in leadership role in all aspects of managing the Center
- **Visiting Assistant Professor**, Department Education Administration & Human Resource Development, January 2011–2012
See Teaching section

Georgia Institute of Technology, 2003-2005

- **Academic Professional**
Faculty development--new faculty orientation, teaching retreat for current faculty/instructors, faculty seminars for teaching fellows, instructor development on learning strategies for first-year students

Program/project analysis--observing classes and recitations and conducting lab surveys for program analysis within a technology area

Course/instructor opinion survey—administration and analysis

Scholarship of teaching and learning in the classroom—faculty support and assistance in grant educational component of grant writing

Curriculum development--first-year curriculum with a focus on developing learner identity

Texas A&M University, 2000-2003

- **Graduate Research Assistant**, 2001-2003
- **Graduate Teaching Assistant**, Co-Director of Eisenhower Leadership Development Program, 2000-2001

The Dow Chemical Company, 1984-1999

- **Implementation Leader**, Workforce Planning, 1994-1999
Recruiting and university relations for 30 of Dow's strategic universities
All placements of technical hires in North America
Member of Global Staffing and Selection Team
- **Operations Manager**, Polyolefin's Research and Development, 1994-1995
Accountability and reporting of \$65 MM budget and capital spending
Member of Product Marketing Team
Supervisory responsibility of nine personnel (computing, product stewardship and intellectual asset management)
- **Human Resource Manager**, Research and Development, 1991-1994
HR Generalist role for 1,000+ member R&D Organization on Gulf Coast
Change management, EEO complaints/investigations, outplacements and needs assessments
- **Training, Diversity, Compensation and Recruiting Manager**, Engineering and Construction Division, 1989-1991
Hiring for the division, employee development program development and implementation
Affirmative action plan annual reporting and compliance and compensation benchmarking
- **Manufacturing Assignments Program Coordinator**, Texas Operations, 1988-1989
Selection of engineering candidates, assistance with goal setting, project management, training, and coaching and counseling
- **Research Chemist**, Research and Development, 1985-1988

Customer accounts technical support for product development, product data, trouble shooting and product stewardship

- **Chemist**, Research and Development, 1984-1985
Three to four-month research projects across 4 departments

REFEREED PUBLICATIONS AND PRESENTATIONS

(* denotes graduate student at time of publication)

Refereed Journal Article, Conference Proceedings, and Book Chapters

Patterson, C.A., Harlin, J., *Couri, D.C., Fowler, D.A., & Duffield, N. (2021). Mentoring in artificial intelligence and materials science: Applying a new doctoral model. *Coaching and Mentoring*.

Patterson, C.A., *Presley, S., *Couri, D.C., Fowler, D.A., & Harlin, J. (2021). The culture of mentoring model: Implementing an institution-wide mentorship initiative. *Coaching and Mentoring*.

Patterson, C.A., *Couri, D.C., *Presley, S., & Fowler, D.A. (2021). A case for mentorship in doctoral education: Interviews with potential employers. *Coaching and Mentoring*.

Zimmer, W.K., Chang, C.N., Semma, B.M., and Fowler, D., "Developing graduate writing habits and skills: establishing writing sessions with STEM graduate students," *College Teaching*, 2022 April 5, Vol. 70, No. 2, pp. 133-144. Available from: <https://www.tandfonline.com/doi/full/10.1080/87567555.2021.1909524>
DOI: 10.1080/87567555.2021.1909524

*Choi, D., Donaldson, J.P., & Fowler, D. (2021). The Innovation and Design for Exploration and Analysis in Teaching Excellence (IDEATE) Model. Paper presented at the American Educational Research Association Annual Meeting, April 9-14, 2021.

*Chang, C.N., Patterson, C.A., *Harmon, W.C., Fowler, D.A., and Arroyave, R. (2020). Intellectual community as a bridge of interdisciplinary graduate education in materials data science. *MRS Advances*. 5(7) pp. 355-362 doi: 10.1557/adv.2020.140

Winkelmann, K., Keeney-Kennicutt, W., Fowler, D., Lazo Macik, M., Perez Guarda, P., and Joan Ahlborn, C., "Learning gains and attitudes of students performing chemistry experiments in an immersive virtual world," *Interactive Learning Environments*, 2020 January 6, Vol. 28, No. 5, pp. 620-634. Available from: <https://www.tandfonline.com/doi/full/10.1080/10494820.2019.1696844> DOI: 10.1080/10494820.2019.1696844

Patterson, C.A., Chang, C.N., *Lavadia, C.N., *Pardo, M.L., Fowler, D.A., and Butler-Purry, K., "Transforming doctoral education: preparing multidimensional and adaptive scholars," *Studies in Graduate and Postdoctoral Education*, 2019 August 29, Vol. 11, No. 1, pp. 17-34. Available from:
<https://www.emerald.com/insight/content/doi/10.1108/SGPE-03-2019-0029> DOI: 10.1108/SGPE-03-2019-0029

*Chang, C. N, Patterson, C. A., *Lavadia, C., Fowler, D., & Arroyave, R. (2019). Showcasing Interdisciplinary Capabilities: Employers' Perceptions on Reflective ePortfolios. *2019 American Society for Engineering Education (ASEE) Annual Conference & Exposition*.

Arroyave, R., Shields, S., *Chang, C. N, Fowler, D., Malak, R., and Allaire, D., "Interdisciplinary Research on Designing Engineering Material Systems: Results from a National Science Foundation Workshop," *Journal of Mechanical Design*, 2018 September 10 , Vol. 140, No. 11, 110801. Available from:
<https://asmedigitalcollection.asme.org/mechanicaldesign/article/140/11/110801/472613> DOI: 10.1115/1.4041177

*Lavadia, C., *Chang, C. N, & Fowler, D. (2018). Student and Faculty Perspectives on the Effectiveness of an Interdisciplinary Graduate Engineering Program. 2018 IEEE Frontiers in Education Conference (FIE).

*Chang, C.N., *Lavadia, C., Fowler, D., Allaire, D., and Arroyave, R., "Assessing student interdisciplinarity: results from an interdisciplinary graduate program in science and engineering fields," In 2018 American Society for Engineering Education (ASEE) Annual Conference & Exposition, Salt Lake City, UT, 2018 June 23, pp. 1-13. Available from: <https://peer.asee.org/29823> DOI: 10.18260/1-2--29823

*Chang, C.N, *Semma, B., Fowler, D., and Arroyave, R., "An interdisciplinary graduate education model for the materials engineering field," In 2017 American Society for Engineering Education (ASEE) Annual Conference & Exposition, Columbus, OH, 2017 June 24, pp. 1-14. Available from: <https://peer.asee.org/27578> DOI: 10.18260/1-2--27578

Chaney, K., *Macik, M., Turner, J., Scallan, E., Korich, J., Keefe, L., Rogers, K., Green, E., & Fowler, D. (2017). Curriculum Redesign in Veterinary Medicine: Part I. *Journal of Veterinary Medical Education*, 44(3), 552-562. doi: 10.3138/jvme.0316-065R1

*Macik, M., Chaney, K., Korich, J., Turner, J., Keefe, L., Rogers, K., Green, E., Scallan, B., & Fowler, D. (2017). Curriculum Redesign in Veterinary Medicine: Part II. *Journal of Veterinary Medical Education*, 44(3), 563-569. doi: 10.3138/jvme.0316-066R1

- Atif, M. R., *Shields, S. M., Fowler, D. A. & Claridge, D. E. (2017). Industry-aligned interdisciplinary program design. Conference proceedings of the American Society for Engineering Education, Columbus, OH.
- Winkelmann, K., Keeney-Kennicutt, W., Fowler, D., & *Macik, M. (2017). Development, implementation, and assessment of general chemistry lab experiments performed in the virtual world of Second Life. *J. Chem. Educ.*, 94 (7), pp 849–858, doi: 10.1021/acs.jchemed.6b00733
- Fowler, D.A., Arroyave, R., Ross, J., Malak, R., and Banerjee, S., "Looking outwards from the “central science”": an interdisciplinary perspective on graduate education in materials chemistry," in Educational and Outreach Projects from the Cottrell Scholars Collaborative Undergraduate and Graduate Education, 2017 October 24, Vol. 1, pp. 65-89. American Chemical Society. Available from: <https://pubs.acs.org/doi/abs/10.1021/bk-2017-1248.ch004> DOI: 10.1021/bk-2017-1248.ch004
- *Chang, C.N., *Semma, B., *Pardo, M., Fowler, D., Shamberger, P.J., & Arroyave, R. (2017) Data-Enabled Discovery and Design of Energy Materials (D3EM): Structure of an Interdisciplinary Materials Design Graduate Program, *MRS Advances*, 1-6, 1404-1411 (2017). doi: 10.1557/adv.2017.228
- Fowler, D., & Cherrstrom, C.A. (2017) Graduate student perception of Teaching Development in a College Teaching Course. *North American Colleges & Teachers of Agriculture* (NACTA), 61(2), 150-156.
- Fowler, D., *Bakenhus, C., Kothmann, *M., Macik, M., Poling, N., & *MacWillie, S. (2016). Redesigning natural resources curricula: A redesign process model at Texas A&M University. *Natural Sciences Education*, 45, 1-10. doi:10.4195/nse2015.09.0019.
- Rogers, K., Green, E., Chaney, K., Macik, M., Turner, J., Keefe, L., Scallan, B., Korich, J., & Fowler, D. (2016). Beyond the AVMA-COE clinical competencies: Preparing future veterinarians. *Journal of the American Veterinary Medical Association*.
- Fowler, D. A., & *Macik, M. L., & Kaihatu, J., & *Bakenhus, C. A. H. (2016). *Impact of Curriculum Transformation Committee Experience on Faculty Perspectives of their Teaching and its Influence on Student Learning* Paper presented at 2016 ASEE Annual Conference & Exposition, New Orleans, Louisiana. Available from: <https://peer.asee.org/25538> DOI 10.18260/p.25538
- Fowler D., Macik M., Sandoval C., Bakenhus C, and MacWillie S., “Program (re) design model: a sustainable, system-level approach to faculty development,” *The Journal of Faculty Development*, 2016 May 15, Vol. 30, No. 2, pp. 17-25. Available from:

- <https://www.ingentaconnect.com/content/magna/jfd/2016/00000030/00000002/art00003>*Cherrstrom, C. A., Raisor, C., & Fowler, D. (2015). Chemical engineering student perceptions of learning from ePortfolio creation. *Chemical Engineering Education*, 49(3).
- Fowler, D., *Lazo, M., *Turner, J., *Hohenstein, J (2015). Facilitating Program, Faculty, And Student Transformation: A Framework For Curriculum Redesign. *Journal of Transformational Learning*. 3(1).
- Brumbelow, J., Fowler, D., Morgan, J., & Anthony, W. (2015) Transformation of a Large Civil Engineering Department Curriculum Using the ASCE BOK2. 122nd Annual Conference and Expedition, Seattle, WA.
- Fowler, D., Anthony, W., Poling, N., Morgan, J., and Brumbelow, J. (2014). Data-driven Curriculum Redesign in Civil Engineering. Paper accepted for 44th American Society for Engineering/Institute of Electrical and Electronics Engineers (ASEE/IEEE) Frontiers in Education Conference, Madrid, Spain.
- McWhorter, R., Dellelo, J., Raisor, C., Roberts, P., and Fowler, D. (2013). A Cross-Case Analysis of the Use of Web-Based ePortfolios in Higher Education. *Journal of Information Technology Education: Innovations in Practice*, v. 12. <http://www.jite.org/documents/Vol12/JITEv12IIPp253-286McWhorter1238.pdf>.
- *Jarvis, H. D., Collett, R., Wingenbach, G., Heilman, J. L., & Fowler, D. A. (2012). Developing a foundation for constructing new curricula in Soil, Crop and Turfgrass Sciences. *Journal of Natural Resources and Life Sciences Education*, 41, 7-14. doi: 10.4195/jnrlse.2011.0015u
- Fowler, D.A., Matthews, P.R., Schielack, J.F., Webb, R.C., & Wu, X.B. (2012). The power of inquiry as a way of learning in undergraduate education at a large research university (pp. 81-91.). In V. Lee (Ed.), *The power of inquiry as a way of learning in undergraduate education, New Directions for Teaching and Learning*. San Francisco, CA: Jossey-Bass.
- Fowler, D. A., Froyd, J. E., & Layne, J. (2010). *Curriculum redesign: Concurrently addressing content mastery and development of cognitive abilities*. Proceedings of the 40th American Society for Engineering/Institute of Electrical and Electronics Engineers (ASEE/IEEE) Frontiers of Education Conference, Washington, D.C.
- *Viall, K., Kim, J., & Fowler D. (2008). *The Graduate Teaching Academy: Implementing graduate learning communities*. Proceedings of the 38th American Society for Engineering/Institute of Electrical and Electronics Engineers (ASEE/IEEE) Frontiers in Education Conference, Saratoga Springs, NY.
- Froyd, J., Layne, J., Fowler, D., & Simpson, N. (2007). *Design patterns for faculty development*. Proceedings of the 38th American Society for Engineering/Institute

- of Electrical and Electronics Engineers (ASEE/IEEE) Frontiers in Education Conference, Milwaukee, WI.
- Froyd, J., Pchenitchnaia, L., Fowler, D., & Simpson, N. (2007). *Systems thinking and integrative learning outcomes*. Proceedings of the 114th American Society for Engineering Education (ASEE) Annual Conference & Exposition, Honolulu, HI.
- Froyd, J., Fowler, D., Layne, J., & Simpson, N. (2005). *Frameworks for faculty development*. Proceedings of the 36th American Society for Engineering/Institute of Electrical and Electronics Engineers (ASEE/IEEE) Frontiers in Education Conference, Indianapolis, IN.
- Fowler, D., Maxwell, D., & Froyd, J. (2003). *Learning strategy growth not what expected after two years through engineering curriculum*. Proceedings of the 110th American Society for Engineering Education (ASEE) Annual Conference & Exposition, Nashville, TN. Retrieved from http://www.foundationcoalition.org/publications/journalpapers/asee2003/learning_strategy.pdf
- Maxwell, D. A., Morgan, J., and Fowler, D. A. (2003). *Developing a multi-author web site to support large ACL engineering classes*. Proceedings of the 110th American Society for Engineering Education (ASEE) Annual Conference & Exposition, Nashville, TN.

Refereed Conference Presentations and Posters

- Patterson, C.A., *Lavadia, C., *Chang, C.N., Fowler, D.A., Butler-Purry, K. (February 14-16, 2019). *A case study: Answering the call to provide transformative doctoral education*. Selected an oral presentation at the Conference of Southern Graduate Schools annual meeting, Atlanta, GA.
- Patterson, C.A., *Lavadia, C., *Chang, C.N., Fowler, D.A., Butler-Purry, K. (January 10-12, 2019). *Transformative Learning Theory: The foundation to innovative doctoral education*. Selected as poster presentation at the Lilly Conference on Evidence-Based Teaching & Learning annual meeting, Austin, TX.
- Fowler, D.A., *Pardo, M.,* Lavadia, C., *Chang, C.N., and Patterson, C.A. (October 26, 2018). Learning to navigate a new *Transformative Doctoral Education Model*. Selected as a workshop presentation at the International Society for the Scholarship of Teaching and Learning annual meeting, Bergen, Norway.
- Patterson, C.A., Fowler, D.A., and Butler-Purry, K. (September 19, 2018). *A new model for Transformative Doctoral Education*. Selected as a poster presentation at the Texas A&M Postdoctoral Research Symposium annual meeting, College Station, TX.

- *Chang, C. N., *Lavadia, C., Fowler, D., Allaire, D., & Arroyave, R. (2018). *Assessing Student Interdisciplinarity: Results from an Interdisciplinary Graduate Program in Science and Engineering Fields*. Proceedings of the 125th American Society for Engineering Education (ASEE) Annual Conference & Exposition, Salt Lake City, UT.
- Wickersham, T. A., *Early, N. E., Dunlap, K. A. & Fowler, D. (2018, Jan). *Data-driven, Student-centered Curriculum Redesign in Animal Science*. Accepted presentation at the Lilly Conference on Evidence-Based Teaching & Learning, Austin, TX.
- *Chang, C. N., *Semma, B., Fowler, D., Arroyave, R. (2017). *An Interdisciplinary Graduate Education Model for the Materials Engineering Field*. Proceedings of the 124th American Society for Engineering Education (ASEE) Annual Conference & Exposition, Columbus, OH.
- *Chang, C.N., *Pardo, M., * Semma, B., Fowler, D., Arroyave, R. & Shamberger, P.J. (2016) *Data-Enabled Discovery and Design of Energy Materials (D3EM): Structure of An Interdisciplinary Materials Design Graduate Program* (oral), 2016 MRS Annual Fall Meeting, Boston, MA.
- Lynch, P. S., Fowler, D., & Fournier, C. (2016). *Aligning with CEC standards and university outcomes: A teacher training program curriculum redesign process*. 2016 Teacher Education Division Annual Conference, Council for Exceptional Children. Lexington, KY.
- Fowler, D. A. & *Shields, S. M. (2016, November). *Transform Departmental STEM Programs Utilizing a Program (Re)Design Model*. Poster presentation at the 2016 Association of American Colleges & Universities' (AAC&U) Transforming Undergraduate STEM Education, Boston, MA.
- Sparks, D., Newman, J., & Fowler, D. (2016). *Backward (Re)Design of Curricula in Geology and Geophysics*. Poster presentation at the 2016 Earth Educators' Rendezvous, Madison, WI.
- Fowler, D., *Macik, M., & Sandoval, C. (2016). *Program (Re)Design Model for a Learner-Centered Curriculum*. Concurrent session at the 2016 Teaching Professor Conference, Washington, D.C.
- Sparks, D., Newman, J., Ewing, R., Fowler, D., *Macik, M., Marcantonio, F., Miller, B., Olszewski, T., Reece, B., Rosser, S., & Sandoval, C. (2015). *Redesigning curricula in geology and geophysics*. Poster presentation at the 2015 Meeting of the American Geophysical Union, San Francisco, CA.
- Sparks, D., Newman, J., Ewing, R., Fowler, D., *Macik, M., Marcantonio, F., Miller, B.,

- Olszewski, T., Reece, B., Rosser, S., & Sandoval, C. (2015). *Designing geology and geophysics curricula from the ground up*. Poster presentation at the 2015 Meeting of the Geological Society of America, Baltimore, MD.
- Cherrstrom, C. A., & Fowler, D. (2014). *Leveraging a college teaching course to prepare future faculty*. Concurrent session accepted for the 39th Annual Conference of the Professional and Organizational Development (POD) Network in Higher Education, Dallas, TX.
- Raisor, C., Cherrstrom, C. A., & Fowler, D. (2014). *Integrative learning portfolios: Leveraging students' knowledge, experience, and heart*. Concurrent session accepted for the 39th Annual Conference of the Professional and Organizational Development (POD) Network in Higher Education, Dallas, TX.
- Winkelmann, K., Keeney-Kennicutt, W., and Fowler, D., (2014) *Students' learning and attitudes in a Second Life virtual chemistry laboratory*, International Conference on Chemical Education, Toronto, ON, Canada; July 13-18, 2014.
- *Lazo, M., Shehane, M., Fowler, D., & Harper, K. (2014). *Bringing credibility to service-learning experiences*. Presentation at the 14th Annual Texas A&M Assessment Conference, College Station, TX.
- Raisor, C. & Fowler, D. (2013) *Mapping reflection through integrative learning portfolios*. Concurrent session conducted at the 13th Annual Texas A&M Assessment Conference, College Station, TX.
- Booth, G., Fowler, D., Raisor, C., Saginor, J., & Anderson, K. (2013). "*CROSSING THE RUBICON*"—*How the first comprehensive curriculum reform of a masters level program at Texas A&M University can give heart and inspiration to other faculty facing this challenge*. Concurrent session conducted at the 13th annual Texas A&M Assessment Conference, College Station, TX.
- Raisor, C. & Fowler, D. (2013). *Flipping with folios: Equipping instructors to empower student learning*. Concurrent session conducted at the annual meeting and symposium of the Association of American Colleges and Universities (AAC&U) conference, Atlanta, GA.
- Fowler, D., Raisor, C. & Booth, G. (2012). *Using e-portfolio to integrate comprehensive master's-level student learning outcomes*. Concurrent session conducted at the 37th Professional and Organizational Development Network in Higher Education (POD) conference, Seattle, WA.
- *Cherrstrom, C., Fowler, D., & Richardson, R. (2012) *Graduate student professional development in teaching interdisciplinary and blended learning*. Concurrent session conducted at the 37th Professional and Organizational Development Network in Higher Education (POD) conference, Seattle, WA.

- *Cherrstrom, C. A., Richardson, R., & Fowler, D. (2012). *Future faculty: Strategies for professional development in teaching*. Concurrent session conducted at the 6th Annual Texas Faculty Development Network (TFDN) Conference, Kingwood, TX.
- Raisor, C. & Fowler, D. (2012). *Using student reflective portfolios to assess course and program-level outcomes*. Concurrent session conducted at the 12th Annual Texas A&M Assessment Conference, College Station, TX.
- Fowler, D., Jarvis, H., & *Blair, H. (2011). *Curriculum redesign: The art and science of pedagogic change*. Concurrent session conducted at the 11th Annual Texas A&M Assessment Conference, College Station, TX.
- Fowler, D., Froyd, J., & Layne, J. (2010). *New Directions through Curriculum Redesign*. Concurrent session conducted at the 35th Professional and Organizational Development Network in Higher Education (POD), St. Louis, MO.
- *Chien, C. F., Fowler, D. A., & Layne, J. (2009). *Contextual, sustained faculty development: Engineering faculty learning communities*. Concurrent session conducted at the 34th Professional and Organizational Development Network in Higher Education (POD) conference, Houston, TX.
- Froyd, J. & Fowler, D. A. (2007). *Program assessment for professional accreditation & Internal Program Review*. Concurrent session conducted at the 7th Annual Texas A&M Assessment Conference, College Station, TX.
- Rajagopal, C. & Fowler, D. A. (2007). *Establishing a development component for teaching & learning centers*. Concurrent session conducted at the 32nd Professional and Organizational Development Network in Higher Education (POD) conference, Pittsburgh, PA.
- Tapp, S., Fowler D. A., Jones Eaton, L., & Pchenitchnaia, L. (2007). *Sharing resources and strategies to build better statewide faculty development*. Concurrent session conducted at the 32nd Professional and Organizational Development Network in Higher Education (POD) conference, Pittsburgh, PA.
- Fowler, D. A., Simpson, N. & Froyd, J. (2006). *Working with administrators to affect the teaching and learning climate*. Concurrent session conducted at the 31st Professional and Organizational Development Network in Higher Education (POD) conference, Portland, OR.
- Froyd, J., Fowler, D. A., & Layne, J. (2006). *Seeing faculty as learners: Three theoretical frameworks for faculty development*. Concurrent session conducted at the 31st Professional and Organizational Development Network in Higher Education (POD) conference, Portland, OR.

Fowler, D. A., & Stein, J. (2005). *Operationalizing learning outcomes in freshman seminar*. Concurrent session conducted at the National Association of Student Personnel Administrators (NASPA) Assessment and Retention Conference, Atlanta, Georgia.

Invited Presentations

Fowler, D (2016) *Graduate Education: Transferable skills for a dynamic global society*. Texas A&M University, Veterinary Medicine and Biomedical Sciences, Department of Physiology and Pharmacology, College Station, TX.

Fowler, D. (2016) *Program (Re)Design for a Learner-Centered Curriculum*. University of Texas, Austin, TX.

Fowler, D. (2015) *Kick Start Your Teaching: Effectiveness and Efficiency*. Hispanic Faculty Congress – NSF Award 1548322, SHPE Conference, Baltimore, Maryland.

Fowler, D. (2015) *Qualtrics Survey Data Collection for Research Purposes*. Texas A&M Institutional Review Board Annual Workshops, College Station, TX.

Fowler, D. (2015) *Teaching Critical Thinking*. 2015 Texas A&M AgriLife Conference, College Station, TX.

Fowler, D. (2014) *Teaching 21st Century Learners*. 2014-2015 Texas A&M AgriLife New Faculty Orientation, College Station, TX.

Raisor, C. & Fowler, D. (2014) *Reflection and the Integrative Learning Portfolio: Do You Have a Plan?* Pre-conference session conducted at the 14th Annual Texas A&M Assessment Conference, College Station, TX.

Fowler, D. (2011). *Curricular redesign: The art and science of pedagogic change*. Pre-conference presentation at the 11th Annual Texas A&M Assessment Conference, College Station, TX.

Fowler, D. (2010). *Is your personal instructional strategy grounded by how students learn?*. Presentation at the New Faculty Investment Program, Kingsville, TX.

Fowler, D. (2009). *Is your personal instructional strategy grounded by how students learn?*. Presentation at the New Faculty Investment Program, Kingsville, TX.

Fowler, D. (2008). *Is your personal instructional strategy grounded by how students learn?*. Presentation at the New Faculty Investment Program, Kingsville, TX.

Fowler, D. (2007). *Building an awareness of how students learn*. Presentation at the New Faculty Investment Program, Kingsville, TX.

Fowler, D. (2007). *Writing effective learning outcomes*. Presentation at the Center for Teaching Effectiveness, Kingsville, TX.

Fowler, D. (2007). *Lifelong learning: How does your teaching contribute?*. Presentation at the Faculty Convocation, Laredo, TX.

Unpublished Manuscripts

Fowler, D., Sandoval, C., Layne, J., & *Macik, M. (2011). *Course redesign cycle*. Unpublished manuscript, Center for Teaching Excellence, Texas A&M University, College Station, TX.

Fowler, D., & Sandoval, C. (2011). *Program development cycle*. Unpublished manuscript, Center for Teaching Excellence, Texas A&M University, College Station, TX.

FUNDED PROPOSALS

PI for Institution sub-award (\$47,000): *IUSE-HER: Institutional Transformation Using Project-Based Learning – A Collaborative Research Agenda*, \$299,576, NSF-IUSE, Worcester Polytechnic University – lead institution, TEES-Texas A&M University, 2020-2022

Lead Site Facilitator (\$80,000): *National Association of System Heads: Scaling Instructional Excellence for Student Success*, \$590,000, Texas A&M University System, 2020-2021

Co-PI: *NSF: Texas A&M System AGEP Model for URM Success at the Dissertation and Early Career Stages of the Pathways to the Professoriate*, \$1,387,326, NSF-AGEP, TEES-Texas A&M University, 2017-2022

Co-PI: *NSF Workshop: Interdisciplinary Frontiers of Designing Engineering Material Systems*, \$49,999, NSF-DEMS/CMMI, TEES-Texas A&M University, 2016-2017

Co-PI: *NRT-DESE: Data-Enabled Discovery and Design of Energy Materials (D³EM)*, \$3,000,000, NSF-NRT, TEES-Texas A&M University, 2015-2020

Co-PI: *Inquiry-Guided Learning of Advanced Gas Processing: Computer-Aided Modules and Virtual Classrooms for Chemical Engineering Education*. \$750,000, Qatar University, 2007-2009

Evaluator: *TUES: Evaluating Students' Learning and Attitudes in a Virtual Chemistry Laboratory*, \$199,000, NSF-DUE/TUES, Florida Institute of Technology, 10/01/2013 - 10/01/2015

REVIEW PANELS

National Science Foundation (NSF): Reviewed research proposals related to engineering education. 2005, 2006, 2008

PHILANTHROPIC FUNDING

\$2.4 Million dollar endowment, 2018
Additional annual donations ranging from 25K to 200K, 2015 - 2020

TEACHING

Texas A&M University

- **EDAD 601 College Teaching:** This course is designed as initial preparation for instruction at the college level and focuses on the basic skills, strategies, and issues common to university teaching. Open to graduate students committed to teaching in any area at the college level. Spring 2011, Spring 2012
- **ENGR 689/SCEN 689 Special Topics in STEM Teaching Professional Development:** Consultation and faculty mentoring in STEM teaching; professional development in teaching; course topic and syllabus design; learning outcomes and assessment; teaching methodology; reflection on teaching philosophy; reflection on teaching as research. Spring 2013
- **RENr 410--Ecosystems Management:** Visiting lecturer for classroom (one day) and two labs (four days) designed and taught session on Critical Thinking. 2006-2011
- **Mentored** a doctoral student to teach Critical Thinking in the RENr 410 course and labs. 2012-2014
- **Century Scholars First Year Learning Community:** Co-instructor with Director of student programs for course required to all incoming first year students. Taught students to learn how to learn, create working relationship with faculty and work in teams. Fall 2005, Spring 2006, Fall 2006

- **Eisenhower Leadership Development Program:** Co-Director for multi-disciplinary undergraduate service learning course. Student teams consulted on community projects with a community partner. 2000- 2001

Georgia Institute of Technology

- **GT-1000 First Year Seminar:** Co-Instructor with members of honors program for course of first-generation students. Required learning journals, taught learning strategies, and advised the students during a study abroad experience. Spring 2005

ADVISING

Graduate Students working on new or updated Degree Program Designs

Whitney Anthony (MS), Chi-Ning Chang (PhD), Nessie Early (PhD), Chelsea Harris (PhD), Jacqueline Hohenstein (MS), Prashant Iyer (MS), Maria Lazo (PhD), Marta Pardo (PhD), Samantha Shields (PhD), Jacqueline Turner (PhD), Raul Carrillo Covarrubias (PhD), Sean Kao (PhD), Sara Kent (PhD)

Special Appointment on Graduate Committee: Holly Jarvis (PhD), Gurlovleen Rathmore (MS)

Graduate Committee Co-Chair: Maria Macik (PhD – 2019), Chi-Ning Chang (PhD - 2020), Samantha Shields (PhD -)

Graduate Committee Member: Rachal Thomassie (MS - 2018), Nessie Early (PhD - 2019), Alexander Snell (PhD -), Randy Brooks (PhD -)

Graduate Student Teaching Academy Advisor: Graduate student-run academy on preparing for a career in college teaching. 2008-2012

ADVISORY BOARDS

Association of College and University Educators (ACUE): Board of Advisors, 2022-present

Advisory Board Member, Advance-Grant: Successfully Navigating Your Career-Advancing Women Faculty in Engineering and Technology at Historically Black Colleges and Universities, Prairie View A&M University and Texas A&M University. Assisted in creating a faculty development plan. 2010-2011

PROFESSIONAL AND SCIENTITIFIC SOCIETY MEMBERSHIPS

- American Association of Colleges and Universities (AAC&U), member
- American Society for Engineering Education (ASEE), member
- Educational Research and Methods Division (ASEE), member

- Professional and Organizational Development Network in Higher Education (POD), member
 - Conference Co-Chair, 2009, Houston, TX
 - Conference Program Co-Chair, 2008, Reno, NV
- Society of Teaching and Learning in Higher Education (STHLE), member

HONORS AND AWARDS

- Finalist for POD Network Innovation Award for Program (Re)Design process, 2017
- President's Meritorious Service Award, Texas A&M University, 2009
- Elected Chair of the Texas Faculty Development Network, 2006-2008
- General Electric Faculty of the Future, Fellowship, Texas A&M, 2000-2003
- Nominated for Genesis People Development Award, The Dow Chemical Company, 1999