Rocío C. Chavela Guerra

1715 15th St NW, APT 11 • Washington, DC • 20009
rocio.chavela@gmail.com • (765) 714 8708

Education

Ph.D., Engineering Education, Purdue University, 2011

M.S., Chemical Engineering, Universidad de las Américas, Puebla (Mexico), 2005

B.S., Chemical Engineering, Universidad de las Américas, Puebla (Mexico), 2002

Professional Experience

American Society for Engineering Education (ASEE)

Director, Education and Career Development **March 2015 – Present**
Oversee ASEE's education and career development portfolio, including activities to build awareness of, preparation for, and success in engineering careers with particular emphases on college students and faculty, diverse populations, and academic engineering administrators including chairs and deans.

Manager of Faculty Development **September 2013 – March 2015**

Senior Program Manager, External Affairs **January 2012 – September 2013**

National Academy of Engineering

Graduate Fellow, Center for the Advancement of Scholarship on Engineering Education **Spring 2010**
Analyzed of social networks of scientific collaborations in the field of engineering education as reflected by co-authorship patterns of scholarly publications. Designed training materials to enhance awareness of the potential utility of research for strengthening awareness of engineering as a career field, retention within engineering fields of study, and academic advancement in engineering programs.

Purdue University

Teaching Assistant, School of Engineering Education **Spring 2009, Fall 2010**
Courses taught (graduate level): Effective Teaching in Engineering: Linking Theory and Practice; Content, Assessment and Pedagogy.

Research Assistant, School of Engineering Education **June 2007 – December 2009**
Designed and managed a research plan to inform the development of a pedagogical course for engineering teaching assistants. Collaborated in the design, piloting, and validation of assessment instruments to identify the norms, skills, and attributes that engineering doctoral students must embrace as perceived by academic and industrialprofessionals.

Learning Specialist, Institute for P-12 Engineering Research and Learning **Summer 2006**
Developed a data management system for the elementary school teachers' academy evaluation, and performed preliminary quantitative analysis of the evaluation results.

Universidad de las Américas, Puebla (Mexico)

Full-time Instructor, Food and Chemical Engineering Department **August 2002 – June 2007**
Started a pilot program to integrate computer-based simulation throughout the chemical engineering curriculum. Supervised undergraduate thesis research projects.

Courses taught (undergraduate level):
- Mass Balance (Spring 2004 - 2006)
- Energy Balance (Spring 2003, Fall 2004 - 2007)
- Programming Introduction (Spring 2006 - 2007)

Laboratories taught (undergraduate level):
- Programming (Spring 2006 - 2007)
- Phase Equilibrium (Fall 2002 - 2006)
- Process Simulation (Spring - 2005)
- Thermo-physical Properties (Fall 2002 - 2006)

Funding

Principal Investigator (2015 – 2016). *2015 NSF Maker Summit***.** National Science Foundation, $99,650.

Co-Principal Investigator (2015 – 2017). *Learning from the Maker Community: Advancing the Maker Movement*. National Science Foundation, $99,964.

Co-Principal Investigator (2015 – 2017). *EAGER: Promoting LGBTQ Equality in Engineering through Virtual Communities of Practice*. National Science Foundation, $299,998. Website: http://diversity.asee.org/lgbtq/

Principal Investigator (2015 – 2016). *I-Corps for Learning: Fostering Evidence-based Innovation for STEM Education.* National Science Foundation, $ 1,074,816.00. Website: http://www.asee.org/i-corps-l/

Principal Investigator (2014 – 2016). *Transforming Undergraduate Education in Engineering (TUEE) - Phase IV: Enhancing Women Participation and Success in Engineering Programs.* National Science Foundation, $224,171.

Co-Principal Investigator (2014 – 2016). *Transforming Undergraduate Education in Engineering: Mobilizing the Community for Change.* National Science Foundation, $388,315.

Co-Principal Investigator (2014 – 2016). *I-Corps for Learning (I-Corps-L): Propagating and Scaling Educational Innovations.* National Science Foundation, $354,796.00.

Co-Principal Investigator (2014 – 2015). *I-Corps for Learning (I-Corps L): A Pilot Initiative to Propagate & Scale Educational Innovations TRAINING ACTIVITIES.* National Science Foundation, $271,465.

Co-Principal Investigator (2012 – 2015). *Transforming Undergraduate Education in Engineering—Phase I: Mobilizing the Community for Change.* National Science Foundation, $198,634. Report: http://www.asee.org/TUEE_PhaseI_WorkshopReport.pdf

Project Manager (2012 – 2015). *Advancing Engineering Education through Virtual Communities of Practice.* National Science Foundation, $592,605. Website http://vcp.asee.org/lgbtq/

Project Manager (2012 – 2015). *Identifying and Surmounting Impediments to Implementing Diversification Efforts in Engineering Education.* National Science Foundation, $299,096. Report: https://www.asee.org/Surmounting_the_Barriers.pdf

Project Manager (2014 – 2015). *Promoting Lessons Learned from I-Corps-L Instructional Pilot Project.* Intel Foundation, $49,451.

Distinctions

Fellowships and Scholarships

National Academy of Engineering, Center for the Advancement of Scholarship on Engineering Education, Graduate Fellow (January – April 2010)
Mexican National Council for Science and Technology, Doctoral Scholar (June 2007 – June 2010)
Purdue University Graduate School, Ross Fellow (June 2007 – May 2008)
Fundación Universidad de las Américas (Mexico), Jenkins Fellow (August 1997 – May 2002)

Honors and Awards

Emerging Leaders Global Summit Purdue University Representative, Womensphere (2011)
Tau Beta Pi Engineering Honor Society Inductee, Purdue University Chapter (2009)

Diffusion

Journal Articles

McKenna, A.F., Johnson, A.M., Yoder, B., Chavela Guerra, R.C.. & Pimmell, R. (in press). *Evaluating Virtual Communities of Practice for Faculty Development*. Journal of Faculty Development.

Cox, M. F., Zhu, J.E., Cekic, O. & Chavela, R.C. (2010). *Knowledge or feelings: First-year students' perceptions of graduate teaching assistants in engineering*. Journal of Faculty Development, 24(1), 27-34.

Select Conference Proceedings

Chavela Guerra, R.C., Smith, K.A. McKenna, A.F., Swan, C., Korte, R., Jordan, S., Lande, M. and MacNeal, R. (2014). *Innovation Corps for Learning: Evidence-based Entrepreneurship™ to Improve (STEM) Education.* Paper presented at the ASEE/IEEE Frontiers in Education Conference (October, 22-25, 2014).

Pimmel, R., McKenna, A. F., Fortenberry, N. L., Yoder, B. & Chavela Guerra, R. C. (2013). *Faculty development using virtual communities of practice*. American Society for Engineering Education Annual Conference Proceedings.

Cox, M. F., Zhu, J., Ahn, B., London, J. S., Frazier, S., Torres-Ayala, A. T. & Chavela Guerra, R. C. (2011). *Choices for PhDs in engineering : Analyses of career paths in academia and industry*. American Society for Engineering Education Annual Conference Proceedings.

Chavela, R.C., & Cox, M. F. (2010). *Developing a Spanish*-speaking *community of engineering education research scholars*. American Society for Engineering Education Annual Conference Proceedings.

Cox, M. F., Cekic, O., Chavela, R.C. & Cawthorne, J. (2010). *Ph.D.s in engineering: Getting them through the door and seeing them graduate - Faculty and Industry perspectives*. American Society for Engineering Education Annual Conference Proceedings.

Zhu, J.E., Cox, M. F., Cekic, O. & Chavela, R.C. (2010). *Experiences of graduate teaching assistants in engineering laboratories: Content analysis using the "How People Learn" framework*. American Society for Engineering Education Annual Conference Proceedings.

Chavela, R.C., Cox, M. F. & Diefes-Dux, H. (2008). *Development of a pedagogically-focused course for engineering graduate teaching assistants*. American Society for Engineering Education Annual Conference Proceedings.

Workshops Led

Smith, K.A. & Chavela Guerra, R.C. (September 25, 2015). *Creating/Promoting Collaborative Environments for Learning: Cooperative Problem Based Learning.* Interamerican University of Puerto Rico, Bayamon Campus.

Smith, K.A. & Chavela Guerra, R.C. (September 25, 2015). *Creating/Promoting Collaborative Environments for Learning: Cooperative Jigsaw.* Interamerican University of Puerto Rico, Bayamon Campus.

Smith, K.A. & Chavela Guerra, R.C. (March 20, 2015) Design and Implementation of Pedagogies of Engagement: Cooperative Learning and Problem-Based Learning. Interamerican University of Puerto Rico, Bayamon Campus.

Streveler, R., Smith, K.A., & Chavela Guerra, R.C. (June 30 – July 3, 2009). *Content, Assessment, and Pedagogy: An Integrative Approach*. Workshop for the Committee for the Formation of Engineers Puebla-Tlaxcala. Puebla, Mexico.

Cox, M.F. & Chavela Guerra, R.C. (June 19, 2009). *Building Capability and Communities in Engineering Education Research* XXXVI National Engineering Conference. Merida, Mexico.

Communities

Membership in academic, professional and scholarly societies

Academia Mexicana de Investigación y Docencia en Ingeniería Química (AMIDIQ) [Mexican Academy of Research and Teaching in Chemical Engineering]

American Institute of Chemical Engineers (AIChE)

American Society for Engineering Education (ASEE)

Society of Women Engineers (SWE)

Professional and Organizational Development Network in Higher Education (POD Network)

I-Corps™ National Innovation Network (NIN)