

EDUCATION

Ph.D. Civil Engineering Specialized in Environmental Engineering, New Mexico State University, 1995. Dissertation Title: Removal of Hexavalent Chromium Using Natural Zeolite

M.E. Environmental Systems Engineering, Clemson University, 1988

Thesis Title: Transient Response of Toxic Shock Loads in Activated Sludge Systems

B.S. Civil Engineering, University of Puerto Rico, 1986.

LANGUAGES

Proficient in written and spoken English and Spanish

PROFESSIONAL LICENSES

Professional Environmental Engineer: Puerto Rico (#18193), New Mexico (#19484), and Texas (#112295)

WORK EXPERIENCE (chronological)

Clinical Professor, University of Texas at El Paso, College of Engineering, Department of Civil Engineering, September 2013-Present. **Lecturer**, August 2009 to August 2013.

Responsibilities include: Academic and professional advising of undergraduate students; teaching various undergraduate engineering courses; Serving as accreditation coordinator for ABET and SACS; Coordinating the senior design and thermofluids courses; Seeking external research funding; Coordinating implementation of Graduate Professional Program in Water Resources Engineering Management.

Special Faculty Associate, Center for Excellence in Teaching and Learning, University of Texas at El Paso, January 2012 to May 2013

Responsibilities included assisting the Director in assessment, planning, training, and campus-wide activities related to pedagogical innovations in teaching and learning.

Instructor, El Paso Community College, Engineering Program, August 2006 to July 2007.

Responsibilities included teaching various undergraduate courses and serving as the district-wide coordinator for the pre-engineering program.

Professor, University of Puerto Rico, Department of Civil Engineering and Surveying, July 2004 to August 2006. **Associate Professor**, July 1999 to July 2004. **Assistant Professor**, July 1995 to July 1999

Responsibilities included teaching various undergraduate and graduate courses in Environmental Engineering, Water Resources, Water Chemistry, Water and Wastewater treatment, Water Quality, Biological Treatment of Wastewater, Physico-Chemical Treatment of Wastewater, Industrial Wastewater Treatment, Solid waste treatment and disposal, Groundwater hydrology, and groundwater remediation.

Associate Director, University of Puerto Rico, Department of Civil Engineering and Surveying, September 2002 to November 2003.

Responsible for all academic affairs including, but not limited to, supervising student advising, curriculum, and scheduling.

Director, Water Quality Area, Puerto Rico Environmental Quality Board, August 2001 to September 2002.

In charge of Compliance, Permit, and Planning Bureau, that included Industrial and Non-Industrial permits, Leaking Underground Storage Tanks (LUSTs), and watershed restoration activities in Puerto Rico. Responsible for establishing TMDL and Beach Monitoring Program. Managed a

budget over \$7 million, in addition to over \$30 Million of the State Revolving Fund for Wastewater Treatment Systems in Puerto Rico.

PROFESSIONAL ASSOCIATIONS

American Water Works Association, American Society of Civil Engineers, Society of Women Engineers, American Society of Engineering Education, National Speleological Society, Society of STEM Women of Color

HONORS AND ACHIEVEMENTS

2014 The University of Texas System Regents' Outstanding Teaching Award for Contingent Faculty

2014 Giraffe Award presented by the Center for Excellence in Teaching and Learning (CETaL) to a faculty member who shows significant courage and commitment to teaching and learning by daring to stick out his/her neck to make radical changes and innovations to his/her teaching practices not knowing what the outcomes might be.

2014 College of Engineering Instruction Award for excellence in teaching

2012 NCEES Award for connecting Education and Engineering Practice with design of Fire Station,

PROFESSIONAL AND SERVICE ACTIVITIES

Member, The Good Neighbor Environmental Board (GNEB). The GNEB advises the President and Congress of the United States on good neighbor practices along the U.S. border with Mexico (March 2013-Present, appointment ends in 2015)

Member, Environmental Protection Agency National Advisory Committee (NAC). The NAC advises the Administrator of the EPA on environmental policy issues related to the implementation of the North American Agreement on Environmental Cooperation. (2012-Present, appointment ends in 2014)

Fellow, UTEP's Leadership Development Institute, August 2013-May 2014

NSF Proposal Review Panel, Arlington Virginia, 2013.

NSF Proposal Review Panel, Arlington, Virginia, 2014

Workshop facilitator, Women's Advisory Council for the President of UTEP, Negotiating Life Demands with Academia, 2013

Collaborator and external evaluator, Program Assessment for UTEP's First Year Composition Program 2013

2012 Scholar, ABET IDEAL (Institute for the Development of Excellence in Assessment Leadership)

Member, UTEP Storm Water Management Committee for UTEP's MS4 Storm Water Permit

Reviewer, Journal of Hazardous Wastes, 2009-2010

Workshop Facilitator for all Assessment and Accreditation activities in CE.

Team Chair, Program Accreditation for the Council of Higher Education of Puerto Rico, 2002-2003

Alternate Member, Governing Board of the Puerto Rico Environmental Quality Board. March 2001 to October 2002.

Director, Environmental Engineering Laboratory, Department of Civil Engineering, University of Puerto Rico, Mayagüez. January 1998 to December 2000

CONSULTING AND RESEARCH GRANTS SUMMARY

- **Primary Consultant to Government of Puerto Rico, Office of the Comptroller**
 - Technical Audits of the Ten Largest Water/Waste Water Treatment Plants in Puerto Rico, PI (2004-2005)
- **Funding Agency: Environmental Protection Agency (\$1,022,000)**
 - "Point of Use (POU) water treatment systems for improving sustainability and environmental justice in Colonias of the Paso del Norte region", Co-PI (Current)
 - Installation and Evaluation of Remote Telemetry Systems for Monitoring of a Small Community Water Drinking Plant, PI (2004-2006)
 - Monitoring of Water Quality of Beaches for Public Safety, PI (2003)

- TMDL Development for the Rio Plata and Rio Cibuco In Puerto Rico, PI (2003)
- **Funding Agency: NSF-EPSCOR (\$100,000)**
 - Removal of Cadmium from Water using Zeolites, PI
 - Removal of Copper from Low ph Water using Natural Zeolites, PI
 - Removal of Arsenic and Lead from Water using Tailored Zeolites, PI
 - Removal of Phosphates from Water using Tailored Zeolites, PI
 - Removal of Benzene, Toluene and p-Xylene from Air using Tetramethylammonium and Hexadecyltrimethylammonium Zeolites, PI
 - Optimization and Modeling of the Tailored Process of Zeolites for Removal of Contaminants from Air, PI
 - Removal of Heavy Metals from Army Facilities Soil Extractions, PI
- **Funding Agency: Department of Defense**, as part of a DOD-MURI Center for Development of Chemical Sensors for Explosives (\$100,000)
 - Physical Modeling of Diffusion of Explosive Related Chemicals in Sub-Surface Environments, Co-PI
- **Funding Agency: US Corps of Engineers (\$30,000)**
 - Evaluation of Combined Sewer Overflow into McCook Reservoir Limestone Walls, PI

SELECTED PUBLICATIONS/PRESENTATIONS

- Santiago, I.**, “A case study of transformation of a capstone design course to embed measurable assessment instruments”. 2013 ABET Symposium, April 12-13, 201, Portland, Oregon
- Fourzan, J. and **I. Santiago**, “Learning Outcomes and Rubrics: Performance Indicators and What they Teach us to Teach”, 2013 International Sun Conference, February 28-March 1, 2013, El Paso, Texas.
- I. Campos-Flores, W.S. Walker, **I. Santiago**, J. Walton, J. Tomaka, R. Palacios. (2013 Feb 28) Selection and Evaluation of Point of Use Drinking Water Filtration for Colonias in the Paso del Norte Region, presented at the AMTA-AWWA Membrane Technology Conference, Session TH-2D, San Antonio, TX, Proceedings
- Hernández, M.D., **I. Santiago**, and I. Padilla, “Macro-Sorption of 2,4-Dinitrotoluene onto Sandy and Clayey Soils,” Paper Number:6217-132, Proc. of SPIE on Detection and Remediation Technologies for Mines and Minelike Targets XI, SPIE Defense and Security Symposium, April 17-21 2006 in Orlando, FL, Vol. 6217, 621736, 1-8, 2006.
- Padilla, A., I. Padilla, and **I. Santiago**, “Multiphase Extraction Sampling of Explosives in Unsaturated Soils,” Paper Number: 6217-139, Proc. of SPIE on Detection and Remediation Technologies for Mines and Minelike Targets XI, SPIE Defense and Security Symposium, April 17-21 2006 in Orlando, FL, Vol. 6217, 62173C 1-11, 2006.
- Rodríguez, S., I. Padilla, and **I. Santiago**, “Development of a Multi-Scale Packing Methodology for Evaluating Fate and Transport Processes of Explosive-Related Chemicals in Soil Physical Models, Paper Number: 6217-77, Proc. of SPIE on Detection and Remediation Technologies for Mines and Minelike Targets XI, SPIE Defense and Security Symposium, April 17-21 2006 in Orlando, FL, Vol. 6217, 62171U 1-10, 2006.
- Laboy, M.M. and **I. Santiago**, and G. López, “Computing Adsorption Isotherms for Benzene, Toluene, and p-Xylene in Heulandite Zeolite”, Industrial and Engineering Chemistry Research, Vol 38, No.12, 4938-4945, 1999.