

Dr. Jim E. Silliman

Texas A&M University-Corpus Christi

Science & Engineering, Physical & Environmental Sciences

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Education

PhD, University of Michigan, 1998.

MS, John Carroll University, 1989.

BS, Muskingum College, 1980.

Professional Employment

Associate Professor of Chemistry, Texas A&M University-Corpus Christi. (September 2007 - Present).

Teaching, research and service.

Assistant Professor of Chemistry, Texas A&M University-Corpus Christi. (September 2001 - August 2007).

Teaching, research and service.

Postdoctoral Fellow, Geological Survey of Canada. (April 1999 - July 2001).

Organic geochemical research of crude oil.

Postdoctoral Researcher, University of Florida. (August 1998 - April 1999).

Organic geochemical research of fresh water lakes.

Graduate Student Associate, University of Michigan. (September 1997 - May 1998).

Tutored teaching assistants and collected teaching data through the Center for Research on Learning and Teaching.

Interdisciplinary Associate, University of Michigan. (September 1995 - May 1996).

Tutored teaching assistants and collected teaching data through the Center for Research on Learning and Teaching.

Research/Materials Chemist, The Sherwin-Williams Company. (October 1987 - July 1993).

Formulated and tested latex paint formulas.

TEACHING

Teaching Experience

CHEM 1111, GENERAL CHEMISTRY LAB I
CHEM 1305, INTRODUCTORY CHEMISTRY
CHEM 1311, GENERAL CHEMISTRY I
CHEM 1312, GENERAL CHEMISTRY II
CHEM 1411, GENERAL CHEMISTRY I
CHEM 1412, GENERAL CHEMISTRY II
CHEM 3411, ORGANIC CHEMISTRY I
CHEM 3412, ORGANIC CHEMISTRY II
CHEM 4344, CHEMICAL OCEANOGRAPHY
CHEM 4443, ENVIRONMENTAL CHEMISTRY

CHEM 5417, ADV ENVIRONMENTAL CHEMISTRY
ESCI 4496, DIS: Carbon Nitrogen Levels and the Sea Grass Beds
ESCI 4498, INTERNSHIP IN ENVIRO SCIECE
ESCI 5292, THESIS I: THESIS PROPOSAL
ESCI 5293, THESIS II: THESIS RESEARCH
ESCI 5294, THESIS III: THESIS SUBMISSION
ESCI 5392, THESIS I: THESIS PROPOSAL
ESCI 5393, THESIS II: THESIS RESEARCH
ESCI 5596, Microlayer Sampling Methodology
GEOL 1403, PHYSICAL GEOLOGY
GEOL 4496, DIRECTED INDEPENDENT STUDY

Teaching Awards and Honors

Teaching Excellence Award, Texas A&M University System. (2011).
Teaching Excellence Award, Texas A&M University System. (2010).

SCHOLARLY AND CREATIVE ACTIVITIES

Publications

Refereed

Journal Articles

Sabourin, D. T., Silliman, J. E., Strychar, K. B. (2013). Polycyclic Aromatic Hydrocarbon Contents of Coral and Surface Sediments off the South Texas Coast of the Gulf of Mexico. *International Journal of Biology*, 5(1), 1-12.
www.ccsenet.org/journal/index.php/ijb/article/view/20820

Silliman, J. E., Hansen, A., McDonald, J., Price-Blount, K., Martinez, M., Hill, D. (2007). Geoscience Education in Public Schools: Enhancing Attitudes and Knowledge. *Eos*, 88(5), 56-57.

P., L., Naehr, T. H., Silliman, J. E., Houel, S. (2006). Elemental, Stable Isotopic ($\delta^{13}C$), and Molecular Signatures of Organic Matter in Late Pleistocene-Holocene Sediments from the Peruvian Margin (ODP Site 1229). *Proceedings, O'cean Drilling Program, Scientific Results*, 88(5), 1-21.

Silliman, J. E., Schelske, C. L. (2003). Saturated hydrocarbons in the sediments of Lake Apopka, Florida. *Organic Geochemistry*, 34, 253-260.

Obermajer, M., Osadetz, K. G., Fowler, M. G., Silliman, J. E., Hansen, W. B., Clark, M. (2002). Delineating compositional variabilities among crude oils from Central Montana, USA, using light hydrocarbon and biomarker characteristics. *Organic Geochemistry*, 33, 1343-1359.

Silliman, J. E., Li, M., Yao, H., Hwang, R. (2002). Molecular distributions and geochemical implications of pyrrolic nitrogen compounds in the Permian Phosphoria-derived oils of Wyoming. *Organic Geochemistry*, 33, 527-544.

Silliman, J. E. (2001). An Hypothesis for the Origin of Perylene Based on Its Low Abundance in Sediments of Green Bay, Wisconsin. *Chemical Geology*, 177, 309-322.

Silliman, J. E., Meyers, P. A., Peggy, O., Nathaniel, O. (2000). Insights into the origin of perylene from isotopic analyses of sediments from Saanich Inlet, British Columbia. *Organic Geochemistry*, 31, 1133-1142.

Silliman, J. E., Meyers, P. A., Eadie, B. J. (1998). Perylene: an indication of alteration processes or precursor materials? *Organic Geochemistry*, 29, 1737-1744.

Meyers, P. A., Silliman, J. E., Shaw, T. J. (1996). Effects of turbidity flows on organic matter accumulation, sulfate reduction, and methane generation in deep-sea sediments on the Iberia Abyssal Plain. *Organic Geochemistry*, 25, 69-78.

Meyers, P. A., Silliman, J. E. (1996). Organic Matter in Pleistocene to Pliocene Turbidites from Sites 897, 898, 899, and 900, Iberia Abussal Plain. *Proceedings, Ocean Drilling Program, Scientific Results*, 149, 305-313.

Silliman, J. E., Meyers, P. A., Bourbonniere, R. A. (1996). Record of postglacial organic matter delivery and burial in sediments of Lake Ontario. *Organic Geochemistry*, 24, 463-472.

Non-Refereed

Journal Articles

Hill, M. D., Silliman, J. E., McDonald, J. M., Martinez, M. (2007). Enhancing geoscience education in public schools. *EOS, Transactions American Geophysical Union*, 88(5), 56-57.

Obermajer, M., Silliman, J. E., Osadetz, K. G., Hansen, W. B. (2000). Organic geochemistry and biomarker compositions of crude oils from eastern and central Montana, USA. *Montana Geological Society's 50th Anniversary Guidebook*, 1, 47-63.

Presentations

Jeffery, T. D. (Author & Presenter), McCollough, C. (Author & Presenter), Silliman, J. E. (Author & Presenter), "Increasing STEM Teacher Quality by Connecting College Courses to Field Experiences: A Mixed-Method Research Study," 2014 Consortium of State of Texas Teacher Education organizations (CSOTTE) Conference, Consortium of State of Texas Teacher Education organizations (CSOTTE) Conference, Austin, TX. (October 2014).

McCollough, C. (Author & Presenter), Dillard, R. J. (Author & Presenter), Silliman, J. E. (Author & Presenter), "Increasing STEM Teacher Quality by Connecting College Courses to Field Experience: A mixed methods research study," Consortium of State Organizations for Texas Teacher Education, CSOTTE, Austin, Texas. (October 19, 2014).

Besonen, M. (Author & Presenter), Zimba, P. V. (Author), Hill, E. M. (Author), Tissot, P. (Author), McKay, M. C. (Author), Nicolau, B. (Author), Hu, X., Silliman, J. E., "Long-term Water Quality and Environmental Changes in Baffin Bay as Inferred from Sediment Cores—Preliminary Results," Texas Bays and Estuaries Meeting, University of Texas Marine Sciences Institute, Port Aransas, TX. (April 2014).

Smith, B. (Author & Presenter), Silliman, J. (Author), Besonen, M. (Author), "The Depositional History of Oso Bay; A South Texas Tidal Flat," Ocean Sciences Meeting, Honolulu, HI. (February 2014).

Besonen, M. (Author & Presenter), Zimba, P. V., Hill, E., Tissot, P., McKay, M., Silliman, J. E., "Finding The Baseline—Putting Recent Eutrophication Of Two South Texas Coastal Water Bodies Into Perspective By Using Sedimentary Records To Examine The Long-Term, Natural

Variability Of The Systems," AGU Fall Meeting, American Geophysical Union, San Francisco, CA (USA). (December 2013).

McCollough, C. (Author & Presenter), Giraldo, J. H. (Author), Grise, D. J. (Author), Silliman, J. E. (Author), Shawn, M. (Presenter), "STEP: STEM Talent Expansion Program at Texas A&M Corpus Christi," International Supplemental Instruction Conference, San Diego, CA. (May 2012).

Silliman, J. E. (Author & Presenter), Hansen, A. (Author), McDonald, J. (Author), Martinez, M. (Author), "Taking Geoscience to Public Schools: Attitude and Knowledge Relationships," AGU National Meeting, American Geophysical Union, San Francisco, CA. (2005).

Martinez, M. (Author & Presenter), Cherniss, S. (Author & Presenter), Hiracheta, A. (Author), Simpson, J. (Author), Silliman, J. E. (Other), "Earth Science Fun Activities for Family Events," SACNAS National Meeting, SACNAS, Denver, CO. (2005).

Ayala, J. (Presenter), Silliman, J. E. (Chair), "Analysis of Extraction/Isolation of Polycyclic Aromatic Hydrocarbons, Fatty Acid Methyl Esters, and Normal Alkanes from Marine Sediments," 60th ACS Southwest Regional Meeting, American Chemical Society, Corpus Christi, TX. (2004).

Martinez, M. (Author & Presenter), Silliman, J. E. (Other), "How to Put Together a Family Science at Your School," CAST Regional Meeting, CAST, Corpus Christi, TX. (2004).

Martinez, M. (Author & Presenter), Silliman, J. E. (Other), "Constructing a Cotton-Ball Catapult," STRSI Regional Meeting, STRSI, Corpus Christi, TX. (2004).

Silliman, J. E., "Maturation vs. migration controls on pyrrolic nitrogen compounds: A case study on the Permian Phosphoria Formation-derived oils in Wyoming," 219th ACS National Meeting, American Chemical Society, San Francisco, CA. (2000).

Contracts, Grants and Sponsored Research

Grant

Billiot, Fereshteh H (Principal), Larkin, Patrick D (Co-Principal), Billiot, Eugene J (Co-Principal), Causgrove, Tim P (Co-Principal), Silliman, James E (Co-Principal), Olson, Mark Anthony (Co-Principal), "Chemistry Department Grant," Sponsored by Welch Foundation, State, \$45,000.00. (June 1, 2016 - May 30, 2017).

Champion, Joseph K. (Co-Principal), Silliman, James E (Principal), Hill, Mary Denise (Co-Principal), McCollough, Cherie (Co-Principal), Wright, Pamela (Co-Principal), Tintera, George Dunkin (Supporting), Smee, Delbert Lee (Supporting), "Elementary Teachers Engaged in Authentic Math and Science [ETEAMS] (MSP Targeted Partnership)," Sponsored by National Science Foundation, Federal, \$1,500,000.00. (October 1, 2013 - September 30, 2016).

Billiot, Fereshteh H (Principal), Larkin, Patrick D (Co-Principal), Billiot, Eugene J (Co-Principal), Causgrove, Tim P (Co-Principal), Silliman, James E (Co-Principal), Olson, Mark Anthony (Co-Principal), "Chemistry Department Grant," Sponsored by Welch Foundation, State, \$35,000.00. (June 1, 2014 - May 30, 2015).

Billiot, Fereshteh H (Principal), Larkin, Patrick D (Co-Principal), Billiot, Eugene J (Co-Principal), Causgrove, Tim P (Co-Principal), Silliman, James E (Co-Principal), Olson, Mark Anthony (Co-Principal), "Chemistry Department Grant," Sponsored by Welch Foundation, State, \$35,000.00. (June 1, 2013 - May 30, 2014).

Giraldo, Jose Huberto (Principal), Grise, David J. (Co-Principal), McCollough, Cherie (Co-Principal), Silliman, James E (Co-Principal), "Recruitment, Retention, and Success in Science (R2S2)," Sponsored by National Science Foundation, Federal, \$999,998.00. (October 2006 - August 30, 2013).

Billiot, Fereshteh H (Principal), Larkin, Patrick D (Co-Principal), Billiot, Eugene J (Co-Principal), Causgrove, Tim P (Co-Principal), Silliman, James E (Co-Principal), Olson, Mark Anthony (Co-Principal), "Chemistry Department Grant," Sponsored by Welch Foundation, State, \$35,000.00. (June 1, 2012 - May 30, 2013).

Billiot, Fereshteh H (Principal), Larkin, Patrick D (Co-Principal), Billiot, Eugene J (Co-Principal), Causgrove, Tim P (Co-Principal), Silliman, James E (Co-Principal), Olson, Mark Anthony (Co-Principal), "Chemistry Department Grant," Sponsored by Welch Foundation, State, \$35,000.00. (June 1, 2012 - May 30, 2013).

Silliman, James E (Co-Principal), Magnussen, Nancy (Principal), Avila, Ludivina (Co-Principal), "South Texas Science Initiative," Sponsored by Motorola Solutions Foundation, Private, \$50,000.00. (September 1, 2011 - August 31, 2012).

Larkin, Patrick D (Co-Principal), Billiot, Fereshteh H (Principal), Billiot, Eugene J (Co-Principal), Causgrove, Tim P (Co-Principal), Olson, Mark Anthony (Co-Principal), Silliman, James E (Co-Principal), "Chemistry Departmental Research Training Grant," Sponsored by Welch Foundation, State, \$25,000.00. (June 1, 2011 - May 31, 2012).

Larkin, Patrick D (Co-Principal), Billiot, Fereshteh H (Principal), Billiot, Eugene J (Co-Principal), Causgrove, Tim P (Co-Principal), Olson, Mark Anthony (Co-Principal), Silliman, James E (Co-Principal), "Chemistry Departmental Research Training Grant," Sponsored by Welch Foundation, State, \$35,000.00. (June 1, 2011 - May 31, 2012).

Silliman, James E (Principal), "n-Alkane and Polycyclic Aromatic Hydrocarbon Contents of Corals and Sediments from the South Texas Coast," Sponsored by TRDF, Texas A&M University-Corpus Christi, \$28,203.00. (September 1, 2009 - August 31, 2011).

Larkin, Patrick D (Co-Principal), Billiot, Eugene J (Principal), Billiot, Eugene J (Co-Principal), Causgrove, Tim P (Co-Principal), Silliman, James E (Co-Principal), "Chemistry Departmental Research Training Grant," Sponsored by Welch Foundation, State, \$25,000.00. (June 1, 2010 - May 31, 2011).

Larkin, Patrick D (Co-Principal), Southard, Jack (Principal), Billiot, Eugene J (Co-Principal), Billiot, Fereshteh H (Co-Principal), Causgrove, Tim P (Co-Principal), Silliman, James E (Co-Principal), "Chemistry Departmental Research Training Grant," Sponsored by Welch Foundation, Private, \$75,000.00. (June 1, 2007 - May 31, 2010).

Silliman, James E (Principal), "Characteristics of Hispanic Women Influencing STEM Careers (CHIC)," Sponsored by TRDF, Texas A&M University-Corpus Christi, \$6,200.00. (September 1, 2008 - August 31, 2009).

Silliman, James E (Co-Principal), Fox, Joe (Principal), Strychar, Kevin (Co-Principal), Cammarata, Kirk (Co-Principal), Lawrence, A. (Co-Principal), "Acquisition of an Amino Acid Analyzer for Enhancement of Research/Teaching at Texas A&M University-Corpus Christi," Sponsored by NSF, Texas A&M University-Corpus Christi, \$105,440.00. (September 1, 2006 - August 31, 2009).

Larkin, Patrick D (Co-Principal), Billiot, Eugene J (Principal), Billiot, Fereshteh H (Co-Principal), Causgrove, Tim P (Co-Principal), Silliman, James E (Co-Principal), "Acquisition of an AA Graphite Furnace and Microwave Digestor for the Enhancement of Research/Teaching at Texas

A&M University-Corpus Christi," Sponsored by National Science Foundation, Federal, \$98,643.00. (January 1, 2005 - December 31, 2008).

Silliman, James E (Principal), Blount, H. (Co-Principal), Hansen, Alan (Co-Principal), McDonald, JoAnn (Co-Principal), Hill, Denise (Co-Principal), "The Cabeza de Vaca Earthmobile Program," Sponsored by NSF, Texas A&M University-Corpus Christi, \$580,868.00. (June 1, 2003 - May 31, 2008).

Larkin, Patrick D (Co-Principal), Billiot, Eugene J (Principal), Billiot, Fereshteh H (Co-Principal), Causgrove, Tim P (Co-Principal), Silliman, James E (Co-Principal), "Acquisition of a GC/MS for the Enhancement of Research at Texas A&M University-Corpus Christi," Sponsored by National Science Foundation, Federal, \$142,385.00. (January 1, 2004 - December 31, 2007).

Larkin, Patrick D (Principal), Billiot, Eugene J (Co-Principal), Billiot, Fereshteh H (Co-Principal), Causgrove, Tim P (Co-Principal), Silliman, James E (Co-Principal), Morvant, Mark M (Co-Principal), "Chemistry Departmental Research Training Grant," Sponsored by Welch Foundation, Private, \$75,000.00. (September 1, 2004 - August 31, 2007).

Silliman, James E (Principal), "Comparing Sample Preparation and Extraction Procedures for Organic Geochemical Applications," Sponsored by TRDF, Texas A&M University-Corpus Christi, \$14,107.00. (September 1, 2005 - August 31, 2006).

Silliman, James E (Co-Principal), Billiot, Eugene (Principal), Billiot, Fereshteh (Co-Principal), "Acquisition of a GC/MS System for Enhancement of Research/Teaching at Texas A&M University-Corpus Christi," Sponsored by NSF, Texas A&M University-Corpus Christi, \$142,385.00. (September 1, 2003 - August 31, 2006).

SERVICE

Department

Committee Member, Geologist Visiting Professor Search Committee. (2015).
Committee Member, PENS Chair Search Committee. (2013).
Committee Member, PENS Chair Search Committee. (2012 - 2013).
Committee Chair, Chemical Oceanographer Search Committee. (2011 - 2012).
Committee Member, Organic Chemist Search Committee. (2009 - 2010).
Committee Chair, CMSS Recruitment Committee. (2006 - 2009).
Committee Member, Hydrogeologist Search Committee. (2006 - 2007).
Coordinator, National Ocean Sciences Bowl. (2005 - 2007).
Committee Member, Organic Chemist Search Committee. (2004 - 2005).
Committee Member, Physical Chemist Search Committee. (2003 - 2004).

College

Committee Chair, Science Olympiad Committee. (October 2010 - Present).
Faculty Mentor, Island Days. (2002 - 2010).
Committee Member, Coastl Bend Science Fair Judging Committee. (2004 - 2006).
Faculty Advisor, Freshman Orientation. (2003 - 2006).
Committee Member, HRI Laboratory Design Committee. (2001 - 2003).

University

Committee Member, Institutional Review Board (IRB). (September 2014 - August 2015).
Committee Member, Women's Center Committee. (2005 - 2006).

Committee Member, American Democracy Group. (2005).
Committee Member, Homecoming Committee. (2004 - 2005).
Committee Member, Faculty Renaissance Center Committee. (2002 - 2004).

Professional

Officer, Treasurer, American Chemical Society, South Texas Section. (2003 - 2004).

Service Awards and Honors

Conservation & Environmental Stewardship Award, Coastal Bend Bays Foundation. (2006).