Patrick Louchouarn, PhD

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ADMINISTRATIVE EXPERIENCE

Executive Associate Vice President of Academic Affairs, *TAMUG*. **Associate Provost**, *TAMU*

2012-present

Serve as Chief Academic Officer and chief research administrator for Texas A&M University's branch campus at Galveston. Also serve as Associate Provost at Texas A&M University.

- Manage the academic infrastructure of a campus with seven Departments, 150 Faculty, and an annual budget of ~\$69M.
- Interface and coordinate with the Office of Executive Vice President and Provost on main campus.
- Developed strategic plan (2016-2020) identifying goals for next five years: growth in enrollment (+20% in next 5 years), improvement in student outcomes (retention, 4 and 6 years graduation, improvement of student support services), improvement in Faculty outcomes (increased extramural funding, increased publication and citation per tenure track Faculty).
- Led initiative for Faculty recruitment (50 total Faculty hires and rejuvenation of 50% of tenure track Faculty in 5 years).
- Improved research expenditures by +34% during tenure and awards of extramural funding by +400%.
- Led initiatives for diversification of curriculum (3 undergraduate programs and 1 PhD program).
- Developed a proposal, in coordination with the College of Engineering, to create a new Department of Ocean Engineering across two campuses, along with a collaborative first year engineering experience on the Galveston Campus.
- Worked with Legislature representatives and System's government office to raise funds for the construction of a new academic building on campus and a legislative center of excellence.
- Lead the strategic positioning of Texas A&M University at Galveston in Texas A&M's Capital Campaign (first time TAMUG is integrated in the campaign of the Texas A&M Foundation).
- Evaluate Department Heads' annual performance and campus wide P&T dossiers (humanities, social sciences, business, maritime transportation, engineering, and natural sciences).

Department Head, Dept. of Marine Sciences. Texas A&M University at Galveston. 2010-2013

Serve as chief administrative officer for academic and research activities of a highly multidisciplinary department at Texas A&M University at Galveston.

- Managed an academic unit of 44 Faculty, staff, and postdocs with an annual budget of ~\$2.5M and generating an average of \$3-4M per year in extramural research funds.
- Developed the research and scholarship activities of the Department at both undergraduate and graduate levels. Successfully attracted funds from foundations and philanthropic organizations.
- Lead the development of a) a Ph.D. program in Marine and Coastal Resources Management, b) a five-years combined B.Sc-M.Sc. professional program in Ocean and Coastal Resources, and c) a pre-health degree (Ocean and One Health).
- Initiated the process of Faculty rejuvenation in spite of a very difficult budgetary climate: Through the restructure of expenditures, Recruit and retain qualified and diverse faculty/staff.
- Serve on University level committees including advisory committees. Evaluate Faculty/Staff annual performance. Mentor junior Faculty towards P&T evaluations.

Director of Research, Dept. of Marine Sciences. Texas A&M University at Galveston.2009-2010

Coordinated the post-award research activities of one of the most active and funded academic departments on campus. Management of administrative research staff.

Associate Director, Masters Program in Public Administration (MPA). Columbia University. 2003-2006

Developed and monitored the science curriculum of a new professional graduate degree (MPA) in Environmental Science and Policy at Columbia University's School of International and Public Affairs. Recruited and retained qualified and diverse professional adjunct faculty. Managed teaching assistants. Ensure the full integration of the science curriculum in the program's social science structure. Contribute to increased enrollment (~40% over 4 years).

EDUCATION

Post-Doc. (NSERC)	Chemical Oceanography, University of Texas at Austin, 1998-1999
Ph.D.	Environmental Sciences, University of Québec in Montréal (UQAM), 1997
M.Sc.	Environmental Sciences, University of Québec in Montréal (UQAM), 1992
B.Sc.	Marine Biology - McGill University, 1989

PROFESSIONAL EXPERIENCE

- 2011-present **Professor**, Dept. of Marine Sciences (Texas A&M University at Galveston) and Dept. of Oceanography (Texas A&M University).
- 2006-2011 Associate Professor (Tenured by Texas A&M University), Dept. of Marine Sciences (Texas A&M University at Galveston) and Dept. of Oceanography (Texas A&M University).
- 2002-2006 **Associate Professor**, Columbia University, Dept. of Earth and Environmental Sciences & School of International and Public Affairs.
- 2000-2002 **Assistant Professor**, Texas A&M University-Corpus Christi, Dept. of Physical and Life Sciences.
- 1999-2000 **Associate Research Scientist**, Texas A&M Engineering Extension, Research position in environmental geochemistry. Director of environmental laboratory (metals/organics).
- 1998-1999 **Post-Doctoral Fellow (NSERC)**, University of Texas at Austin, Marine Science Institute.
- 1997 **Post-Doctoral Fellow**, University of Québec in Montréal.
- 1992-1997 Adjunct Professor, UQAM, Dept. of Earth and Atmospheric Sciences.

EDUCATIONAL ACTIVITIES

Teaching at the university level, since 1992, courses that can be grouped into the three following thematic "threads": Courses that address the needs of the university core curriculum for general science classes and which are integrated into a "liberal arts" degree structure; courses that are specifically designed as upper level electives for technical careers in science and technology (biotechnology, environmental science, medicinal chemistry) and can be used towards minors in chemistry or as pre-med electives; courses that integrate science analysis into non-research professional majors (pre- and in-service teacher certification, environmental and natural resource management, public policy).

Undergraduate: General Core Curriculum (Science)

- Earth System Science (bilingual: English & Spanish; Online version)
- Environmental Sciences
- Oceanography (also as upper level elective)

Undergraduate: Upper Level Curriculum in Environmental Sciences

- Instrumental Analysis (for biotechnology, environmental science, medicinal chemistry)
- Quantitative Chemical Analysis (for biotechnology, environmental science, medicinal chemistry)
- Sophomore and Senior Seminars

Graduate: Curriculum in Environmental Management

- Climate Change and Water Resources (Masters in Public Administration)
- Ecosystem Functioning and Biogeochemical Cycling (Masters in Public Administration)
- Environmental Chemistry and Regulatory Toxicology (Masters in Public Administration)
- Environmental Economics in Oceanography (Masters in Marine Resource Management; Online)

RESEARCH ACTIVITIES

Collaborative funding through a diversity of State to National level programs (NSF, NOAA, NASA, USGS). Some of these applied research efforts provided environmental agencies with the scientific information needed to support effective policies related to water and air quality management at the regional scale. All of these projects supported graduate and undergraduate students.

- Since joining Texas A&M University, attracted \$2.1M directly to my group out of a total of \$4.0M extramural funding for collaborative grants (2007-2020).
- 29 Grants since 1997 (see complete list of funded projects below).
- Since joining Texas A&M University, raised ~\$1.2M from internal and external funding sources to renew and expand instrument "park" in support of the environmental geochemistry research (2 GC/MSMS, Hg analyzer, CHN analyzer, ASE extractor, LA-ICPMS, LC/MSMS).

INTERNATIONAL ACTIVITIES

- 2010-present: **Permanent Jury Member (Co-Chair in 2012)**: International Partner University Fund -Grant Foundation. U.S. member of a team of 8 jury (4 from U.S. and 4 from France) that recommend funding of international projects (10-12/year) in humanities, social sciences, and natural sciences collaboratively undertaken by French and American institutions (supported by the *Institute for International Education* and the *Mellon Foundation*).
- 2005 **Invited Professor** (Sabbatical), *École de Sciences Politiques* (Sciences Po)/American Center - Paris. Participated in a joint project with a consortium of French universities towards the development of a professional Master program in sustainable development.
- 2005 **Invited Professor** (Sabbatical), *Institut National de Recherche Agricole* (INRA) Versailles-Grignon. Biogeochemistry of soils and sediments.
- 2001-2002 Developed a bilingual course (Spanish and English) in Earth System Science to fulfill curricular needs in universities of Mexico, Chile, and Puerto Rico thanks to a NASA grant and a MOU with the international *Consorcio Educativo para la Protección Ambienta*l.

International Research Collaborations

Dr. Gerard Cornelissen (Norway) - Norway Geotechnical Institute

- Dr. Yves Gelinas (Canada) Concordia University
- Dr. Toru Ishikawa (Japan) University of Tokyo
- Dr. Chonlin Lee (Taiwan) National Sun Yat Sen University
- Dr. Kurt H. Kjær (Denmark) Dir. of Research Natural History Museum, University of Copenhagen
- Dr. Marc Lucotte (Canada) University of Quebec in Montreal
- Dr. Tibisay Perez (Venezuela) Venezuelan Institute for Scientific Research (IVIC)
- Dr. Cornelia Rumpel (France) National Institute of Agricultural Research
- Dr. Laura Sánchez-García (Spain) Zaragoza University
- Dr. Camilla Snowman Andresen (Denmark) Geological Survey of Denmark and Greenland
- Dr. Roman Teisserenc (France) National Polytechnic Institute of Toulouse

EXTERNAL REVIEWS AND SERVICE

Series Editor: Nature: Education-Knowledge Project (Environmental Sciences). 2011-2014 External Reviewer:

Institutional Reviews:

- Off-Site Reaffirmation Committee for SACSOC (November 2016).
- On-Site Reaffirmation Committee for SACSOC (April 2015).
- Department of Marine Sciences University of Connecticut (2014)
- Marine Sciences Laboratory Pacific Northwest National Laboratory (2013).

Review panels: NASA 2012 ROSES program element A.31 Interdisciplinary Research in Earth Science (NASA Carbon Cycle & Ecosystems).

External Tenure and Faculty Dossiers:

- National University of Singapore (Associate Professor of Chemistry)
- University of Georgia (Tenure/Associate Professor of Marine Sciences)
- Georgia State University (Associate Dean Education)
- Concordia University (Full Professor of Chemistry)

Proposals - NSF, ACS-PRF, Hudson River Foundation, Irish Research Council for Science, Engineering and Technology (IRCSET), Fonds de Recherche du Québec - Nature et technologies (FRQNT), French Agence Nationale de la Recherche, Netherlands Science Council, Norway Science Council; Swiss NSF.

Journals – Analytical and Bioanalytical Chemistry; Analytical Chemistry; Applied Geochemistry; Biogeochemistry; Biogeosciences; Chemosphere; Environmental Pollution; Environmental Science & Technology; Estuarine, Coastal & Shelf Science; Geochimica et Cosmochimica Acta; Global Biogeochemical Cycles; J. of Environmental Radioactivity; J. of Exposure Science & Environmental Epidemiology; J. of Geophysical Research-Biogeosciences; Limnology & Oceanography; Marine Chemistry; Marine Pollution Bulletin; Organic Geochemistry; Quaternary International; Soil Science Society of America J.; Wetlands.

INSTITUTIONAL SERVICE

- 2017: Co-Chair of search committee for the Vice President of Research at Texas A&M University.
- 2016: Chair of search committee for the Superintendent of the Texas A&M Maritime Academy.
- 2016: Nominated to represent Texas A&M University at the 67th annual Current Strategy Forum (CSF), Naval War College
- 2012-present: Member of Advisory Councils of the Executive Vice President and Provost (Texas A&M University) and of the Vice Chancellor (Texas A&M System).
- 2015: Member of search committee for Dean of Faculties.
- 2010-2012: Member, Advisory committees of the V.P. of Academics and Research, Assessment Council Committee, and Academic Advisory Council Committee (Texas A&M Galveston)
- 2006-present: Member, Graduate Instruction Committee (Texas A&M Galveston)
- 2008-2011: Member, Faculty Senate and Diversity Sub-Committee (Texas A&M University)
- 2007: Chair, Tenure & Promotion Review Committee (Texas A&M Galveston, Dept. Marine Sciences)
- 2007-2011: Member, University Research Advisory Committee (Texas A&M Galveston)
- 2007-2010: Member, Graduate Recruiting and Academic Advisory Committee (Texas A&M)
- 2007-2008: Member, University Academic Enhancement Steering Committee (TAMUG)
- 2007: Member, Chemical Oceanography Faculty Search (Texas A&M)
- 2003-2006: Associate Director and Science Curriculum Director Masters of Public Affairs in Environmental Science and Policy (Columbia University)
- 2003-2006: Graduate Admissions Committees Columbia University

AWARDS

- 2010: Distinguished Achievement Award. Texas A&M University Association of Former Students.
- 1998-2000: Post-Doctoral NSERC
- 1994-1996: Eco-Research, Canadian Ministry of the Environment (Ph.D.)
- 1992-1994: NSERC (Ph.D.)
- 1993-1994: Scientific Council of Québec (Ph.D.)
- 1991-1992: Fondation Université du Québec (M.Sc.)
- 1989: Penhallow Price in Biology (McGill University).
- 1987-1989: University Scholar Fellowships (McGill University).

PROFESSIONAL MEMBERSHIPS

American Chemical Society American Society of Limnology & Oceanography American & European Geophysical Union

GRADUATE AND UNDERGRADUATE STUDENTS

- Anne Tamalavage, Ph.D. (co-Advisor) Texas A&M University Oceanography. Ongoing. M.Sc. (Advisor): Texas A&M University Oceanography. 2016.
- Matt Norwood, (Advisor): Ph.D. Texas A&M University Oceanography. 2017. B.Sc. Senior Thesis. Texas A&M University. 2011
- Allison Myers-Pigg, Ph.D. (Advisor): Texas A&M University Oceanography. 2016.
- Kendra Kopp, (Advisor): M.Sc. Texas A&M University at Galveston. 2015. B.Sc. Honors Senior Thesis. Texas A&M University. 2013.
- Amanda Sterne, B.Sc. Honors Senior Thesis. (Advisor). Texas A&M University. 2015
- Ching-Ping Lu, Ph.D. ongoing (Thesis Committee). Texas A&M University Oceanography. 2015
- Josh Williams, Ph.D. ongoing (Thesis Committee). Texas A&M University Oceanography. 2015
- Mohammad Al Mukaimi, M.Sc. (Thesis Committee). Texas A&M University Oceanography. 2013
- Xin-Xin Li, Ph.D. (Thesis Committee). Texas A&M University Oceanography. 2012
- Sally Walker, Ph.D. (Thesis Committee). Texas A&M University Oceanography. 2012
- Kaycee Peirce, B.Sc. Honors Senior Thesis. (Advisor). Texas A&M University. 2012
- Richard Smith, Ph.D. (Thesis Committee). Texas A&M University Oceanography. 2011
- NSF-REUs: Kandice Williams (2011); Heili Lowman (2010); Stacey Moller (2010)

- Shaya M. Seward, M.Sc. (Advisor). Texas A&M University Oceanography. 2010
- Omar R. Harvey, Ph.D. (Thesis Committee). Texas A&M University Geology & Geophysics. 2010
- Li-Jung Kuo, Ph.D. (Co-Advisor). Texas A&M University Geology & Geophysics. 2009
- Brandon Laroy, M.Sc. (Thesis Committee). Texas A&M University Fisheries. 2009
- Ryan Schloesser, M.Sc. (Thesis Committee). Texas A&M University Fisheries. 2009
- Danielle Aguirre, B.Sc. Senior Thesis. (Advisor). Texas A&M University. 2010
- Christina Pondell, B.Sc. Senior Thesis. (Advisor). Texas A&M University. 2009
- Marie Alexis, Ph.D. (External Thesis Reviewer). Université Pierre et Marie Curie. 2007
- Lillian Pitts, MPA (Advisor). Columbia University. 2004
- Stephane Houel, Ph.D. (Thesis Committee). University of Québec in Montréal. 2003
- April Patterson, MPA (Advisor). Columbia University. 2003
- Brion Dolan, B.Sc. Senior Thesis. (Advisor). Texas A&M University-Corpus Christi. 2002
- Jill Brandenberger, M.Sc. (Advisor). Texas A&M University–Corpus Christi. 2001
- Jason Clark, M.Sc. (Advisor). Texas A&M University- Corpus Christi. 2001

POST-DOCTORAL ASSOCIATES

• Dr. Stephane Houel, University of Québec in Montréal. 2003-2005

PEER-REVIEWED PUBLICATIONS (Students/Post Docs underlined)

Papers in Preparation (Draft in existence)

- Kopp, K.N.D., **P. Louchouarn**, K.H. Kjær. (2017 *In Preparation*). Buried Stories: A historical reconstruction of combustion processes and industrialization in Lake Botanisk, Copenhagen, Denmark. *Environmental Science & Technology.*
- <u>Norwood, M.</u>, **P. Louchouarn**, <u>L.-J. Kuo</u>, and <u>O.R. Harvey</u> (2017 *In Preparation*). The selective solubilization of Pyrogenic Water Soluble Organic Matter (Py-WSOM) extracted from low to mid temperature charcoals. *Organic Geochemistry.*

Papers in Review

- Mikkel Winther Pedersen, <u>Kendra Kopp</u>, P. Louchouarn, M.L. Siggaard-Andersen, J. Petersen, A. Rivers, P. Rasmussen, K.K. Kjeldsen, P. Ilsøe, T.J. Andersen, N. Schreiber, K. Brown, A.A. Bjørk, Svend N.K. Larsen, A. Ruter, A. Schomacker, C.S. Andresen, L. Hamerlik, L. Orlando, B. Odgaard, A.J. Hansen, S. Mollerup, A.S. Murray, S. Björck, S. Tringe, E.M. Rubin, E. Willerslev, and K.H. Kjær. (2018 *In Review*). The Rise of a City and the Origin of Urban Pollution and Pathogens. *Proceedings of the National Academy of Science*.
- Tamalavage, A.E., P.J. van Hengstum, Karl Kaiser, P. Louchouarn, J. Donnelly, N. Albury, P. Fall, S. Molodtsov (2018 *In Review*). Organic matter sources and lateral sedimentation in a Bahamian karst basin (sinkhole) over the late Holocene: influence of local vegetation and climate

Papers in Print

- 57. **P. Louchouarn**, <u>S. Seward</u>, G. Cornelissen, H.P. Arp, K.M. Yeager, R. Brinkmeyer, and P.H. Santschi, (2018 *In Press*). Limited mobility of dioxins near San Jacinto Super Fund site (waste pit) in the Houston Ship Channel, Texas due to strong sediment sorption. *Environmental Pollution*.
- Al Mukaimi, M., J. Williams, T. Dellapenna, P. Louchouarn, K. Kaiser, and P. Santschi. (2018 In Press). Centennial record of anthropogenic impacts in Galveston Bay: Evidence from trace metals (Hg, Pb, Ni, Zn) and lignin oxidation products. *Environmental Pollution*
- 55. Yeager, K.M., K.A. Schwehr, **P. Louchouarn**, R.A. Feagin, K.J. Schindler, and P.H. Santschi. (2017). Mercury inputs and redistribution in the Penobscot river and estuary, Maine. *Science of the Total Environment*. Vol. 622–623, 172–183.
- 54. <u>Myers-Pigg, A.N.</u>, **P. Louchouarn**, and R. Teisserenc. (2017). Flux of Dissolved and Particulate Low-Temperature Pyrogenic Carbon from Two High-Latitude Rivers across the Spring Freshet Hydrograph. *Frontiers in Marine Science (section Marine Biogeochemistry)*. DOI 10.3389/fmars.2017.00038
- 53. Hieke, A.S-C., R. Brinkmeyer, K.M. Yeager, K. Schindler, S. Zhang, C. Xu, P. Louchouarn, P.H.

Santschi. (2016). Widespread Distribution of Dehalococcoides spp. in the Houston Ship Channel and Galveston Bay, Texas, Sediments and the Potential for Reductive Dechlorination of PCDD/F in an Estuarine Environment. *Marine Biotechnology*. DOI 10.1007/s10126-016-9723-7.

- Myers-Pigg, A.N., R.J. Griffin, P. Louchouarn, M. Norwood, A. Sterne, and B. Karakurt Cevik (2016). Signatures of biomass burning aerosols in the plume of a saltmarsh wildfire in South Texas. Environmental Science & Technology. Vol. 50(17), 9308–9314.
- Harvey, O.R., <u>A.N. Myers-Pigg</u>, L-J. Kuo, B.P. Singh, Kuehn, K.A., and **P. Louchouarn** (2016). Discrimination in degradability of soil pyrogenic organic matter follows a return-on-energy-investment principle. *Environmental Science & Technology*. Vol. 50(16), 8578–8585.
- Gao, X., <u>M. Norwood</u>, C. Frederick, A. McKee, C.A. Masiello, and **P. Louchouarn**. (2016). Organic geochemical approaches to identifying formation processes for middens and charcoal-rich features. *Organic Geochemistry*. Vol. 94, 1–11.
- 49. <u>Williams, J.,</u> T. Dellapenna, **P. Louchouarn**, and G-H. Lee. (2015). Historical Reconstruction of Anthropogenic Mercury Input from Sedimentary Records: Yeongsan Estuary, South Korea. *Estuarine, Coastal and Shelf Science. Vol. 165. doi: 10.1016/j.ecss.2015.10.021*
- Armitage, A.R., W.E. Highfield, S.D. Brody, and P. Louchouarn (2015). The contribution of mangrove expansion to salt marsh loss in the western Gulf of Mexico. PLoS ONE 10(5): e0125404. doi:10.1371/ journal.pone.0125404.
- Myers-Pigg, A.N., P. Louchouarn, R.M.W. Amon, A. Prokushkin, <u>K. Pierce</u>, and A. Rubtsov (2015). Labile pyrogenic dissolved organic carbon in major Siberian Arctic rivers: Implications for wildfirestream metabolic linkages. *Geophysical Research Letters*. Vol. 42, 377–385.
- 46. <u>Williams, J</u>., T. Dellapenna, G-H. Lee, and **P. Louchouarn** (2014). Sedimentary impacts of anthropogenic alterations on the Yeongsan Estuary, South Korea. *Marine Geology.* Vol. 357, 256–271.
- 45. <u>Kuo, L-J,</u> C-L. Lee, C-A. Huh, J.T. Liu, J-C. Chen, and **P. Louchouarn** (2014). A centennial record of anthropogenic impacts and extreme weather events in southwestern Taiwan: Evidence from sedimentary molecular markers in coastal margin. *Marine Pollution Bulletin*. Vol. 86(1-2), 244–253.
- Brunner C.A., S. Simpson, J. Keim, R. Hatch, K.M. Yeager, K.B. Briggs, and P. Louchouarn. (2013). Effects of oil from the Macondo Well blowout on marsh foraminifera of Mississippi and Louisiana, USA. *Environmental Science & Technology*. Vol. 47, 9115–9123.
- 43. Masiello, C.A. and P. Louchouarn. (2013). Fire in the Ocean. Science. Vol. 340(6130), 287-288.
- 42. Sánchez-García, L. J.R. de Andrés, Y. Gélinas, M.W.I. Schmidt, **P. Louchouarn**. (2013). Different pools of black carbon in sediments from the Gulf of Cádiz (SW Spain): method comparison and spatial distribution. *Marine Chemistry*. Vol. 151, 13-22.
- 41. <u>Norwood, M.</u>, **P. Louchouarn**, <u>L.-J. Kuo</u>, and <u>O.R. Harvey</u> (2013). Characterization and biodegradation of water-soluble organic matter extracted form low-temperature charcoals. *Organic Geochemistry*. Vol. 56, 111–119.
- <u>Harvey, O.R.</u>, B.E Herbert, <u>L-J. Kuo</u>, and **P. Louchouarn**. (2012). Two-dimensional perturbationbased correlation infrared spectroscopy (2D-PCIS) reveals mechanisms by which biochars develop surface charge and resistance to environmental degradation. *Environmental Science & Technology*. Vol. 46(19), 10641-10650.
- Amon, R.M.W, A.J. Rinehart, S. Duan, P. Louchouarn, P. Raymond, R.M. Holmes, J.W. McClelland, B.J. Peterson, G. Guggenberger, A. Prokushkin, C. Stedmon, S.A.Walker. (2012). Dissolved organic matter sources in large Arctic rivers. *Geochimica et Cosmochimica Acta*. Vol. 94, 217–237.
- Louchouarn, P., <u>L-J. Kuo</u>, <u>J. Brandenberger</u>, F. Marcantonio, C. Garland, G. Gill, and V. Cullinan. (2012). Pyrogenic inputs of anthropogenic Pb and Hg to sediments of the Hood Canal, Washington, in the 20th century: Source evidence from elemental ratios, stable Pb isotopes, and PAH signatures. *Environmental Science & Technology*. Vol. 46(11), 5772–5781.
- <u>Harvey, O.R.</u>, <u>L-J. Kuo</u>, A.R. Zimmerman, **P. Louchouarn**, J.E. Amonette, B.E Herbert. (2012). An index-based approach to assessing recalcitrance and soil carbon sequestration potential of engineered black carbons (biochars). *Environmental Science & Technology*. Vol. 46(3), 1415–1421.

- <u>Shakya. K.M.</u>, P. Louchouarn, and R.J. Griffin. (2011). Lignin-derived phenols in Houston aerosols: Implications for natural background sources. *Environmental Science & Technology*. Vol. 45(19), 8268-8275.
- Kuo, L-J, P. Louchouarn, and B.E. Herbert. (2011). Influence of combustion conditions on yields of solvent-extractable anhydrosugars and lignin phenols in chars: Implications for characterizations of biomass combustion residues. *Chemosphere*. Vol. 84, 797–805.
- 34. <u>Brandenberger, J.M.</u>, **P. Louchouarn**, and E. Crecelius. (2011). Natural and post urbanization signatures of hypoxia in two basins of Puget Sound: Historical reconstruction of redox sensitive metals and organic matter inputs. *Aquatic Geochemistry*. Vol. 17(4), 645-670.
- <u>Kuo, L-J</u>, P. Louchouarn, B. Herbert, <u>J. Brandenberger</u>, T. Wade, and E. Crecelius. (2011). Combustion-derived substances in deep basins of the Puget Sound: Historical inputs from fossil fuel and biomass combustion. *Environmental Pollution*. Vol. 159, 983-990.
- Ishikawa, T., A.G. Barnston, K.A. Kastens, and P. Louchouarn. (2011). Understanding, evaluation, and use of climate forecast data by environmental policy students. In A.D. Feig and A. Stokes (Eds.), Qualitative inquiry in geoscience education research. Boulder, CO: GSA (Special Paper 474). doi:10.1130/2011.2474(11).
- Louchouarn P., R. Amon, <u>S. Duan, C. Pondell, S.M. Seward, and N. White.</u> (2010). Analysis of lignin-derived phenols in standard reference materials and dissolved organic matter by gas chromatography/tandem mass spectrometry. *Marine Chemistry*. Vol. 118, 85–97.
- Louchouarn, P., <u>L-J. Kuo</u>, T.L. Wade, and M. Schantz. (2009). Determination of levoglucosan and its isomers in size fractions of aerosol standard reference materials. *Atmospheric Environment*. Vol. 43, 5630-5636.
- <u>Walker, S.A.</u>, R.M.W. Amon, C. Stedmon, S. Duan, P. Louchouarn. (2009). The use of PARAFAC modeling to trace river water in the Canadian Archipelago. *JGR-Biogeosciences*. Vol. 114, G00F06, DOI:10.1029/2009JG000990.
- Schloesser, R.W., J.R. Rooker, P. Louchouarn, J.D. Neilson, and D.H. Secor. (2009). Inter-decadal variation in ambient oceanic δ¹³C and δ¹⁸O recorded in fish otoliths. *Limnology & Oceanography*. Vol. 54(5), 1665–1668.
- Sánchez-García, L., J. Ramón de-Andrés, A. Martín-Rubí, and P. Louchouarn. (2009). Diagenetic state and source characterization of marine sediments from the inner continental shelf of the Gulf of Cádiz (SW Spain), constrained by terrigenous biomarkers. *Organic Geochemistry*. Vol. 40(2), 184-194.
- Kuo, L-J, P. Louchouarn, and B.E. Herbert. (2008). Fate of CuO-derived lignin oxidation products during plant combustion: Application to the evaluation of char inputs to soil organic matter. Organic *Geochemistry*. Vol. 39, 1522–1536.
- Brandenberger, J., E. Crecelius, and P. Louchouarn. (2008). Historical inputs and natural recovery rates of heavy metals and organic biomarkers in Puget Sound during the 20th century. *Environmental Science & Technology*. Vol. 42(18), 6786–6790.
- Kuo, L-J, B.E. Herbert, and P. Louchouarn. (2008). Can levoglucosan be used to characterize and quantify char/charcoal black carbon in environmental media? *Organic Geochemistry*. Vol. 39, 1466-1478.
- Hammes, K., M.W.I. Schmidt, L.A. Currie, W.P. Ball, T.H. Nguyen, P. Louchouarn, and co-authors. (2007). Comparison of quantification methods to measure fire-derived (black/elemental) carbon in soils and sediments using reference materials from soil, water, sediment and the atmosphere. *Global Biogeochemical Cycles*. doi:10.1029/2006GB002914.
- Louchouarn P., S. Chillrud, <u>S. Houel</u>, B. Yan, D. Chaky, C. Rumpel, C. Largeau, G. Bardoux, D. Walsh, and R.F. Bopp (2007). Elemental and isotopic evidence of soot- and char-derived black carbon inputs to New York City's atmosphere during the 20th Century. *Environmental Science & Technology*. Vol. 41(1), 82-87.
- Louchouarn, P., T. Naehr, J. Silliman, and <u>S. Houel</u>. (2006). Elemental, stable isotopic (δ¹³C), and molecular signatures of organic matter in late Pleistocene to Holocene sediments from the Peruvian margin (ODP Site 1229). In Jørgensen, B.B., D'Hondt, S.L., and Miller, D.J. (Eds.), *Proceedings of*

the Ocean Drilling Program, Scientific Results, 201: 1-21.

- Houel S., P. Louchouarn, M. Lucotte, R. Canuel and B. Ghaleb. (2006). Translocation of soil organic matter following reservoir impoundment in boreal systems: Implications for in-situ productivity. *Limnology & Oceanography*. Vol. 51(3), 1497–1513.
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- 5. Brandenberger, J., G.A. Gill, E. Crecelius, **P. Louchouarn**, and <u>L-J. Kuo</u> (2010). Study of Atmospheric Deposition of Air Toxics to the Waters of Puget Sound: Year One Data Report. Department of Ecology State of Washington, Olympia, Washington.
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- 86. <u>Myers-Pigg, A.N.</u>, and **P. Louchouarn** (2017). Pyrogenic carbon dynamics across land-to-sea gradients. ASLO Ocean Sciences Meeting: Mountains to the sea. 26 Feb-03 Mar. Honolulu, HI.
- Maiorana-Boutilier A., Mitra S., <u>Norwood M.</u>, Louchouarn P., Bischoff J., Silva S., West A., Kennett J. (2016). Organic Composition of Younger Dryas Black Mat, Globally. GSA Conference – Southeastern Section 65th Annual Meeting.
- Louchouarn, P., K. Kaiser, <u>M. Norwood</u>, <u>S.A. Sterne</u>, A.R. Armitage, W. Highfield, S. Brody. (2015). From Ecosystem-Scale to Litter Biochemistry: Controls on Carbon Sequestration in Coastal Wetlands of the Western Gulf of Mexico. AGU Fall Meeting 2015, Dec. 14-18, San Francisco, California.
- 83. <u>Myers-Pigg, A.N.</u>, R. Teisserenc, N. Tananaev, **P. Louchouarn** (2015). High-resolution analysis of the terrestrial influence on DOC and POC export in a Siberian Arctic River during the spring freshet.

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- 72. Armitage, A.R., W.E. Highfield, <u>M.J. Norwood</u>, <u>N. White</u>, S.D. Brody, and **P. Louchouarn** (2014). Mangrove expansion on the Texas coast: implications for blue carbon storage in coastal wetlands. ASLO-AGU Ocean Sciences Meeting. 23-28 Feb. Honolulu, HI.
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- 66. Norwood, M.J., P. Louchouarn, A.R. Armitage, N. White, W.E. Highfield, and S.D. Brody (2013). Fluxes and Inventories of Blue Carbon in Texas Wetlands: Measuring Ecological Shifts from Coastal Salt Marsh to Mangrove Dominated Wetlands. Aquatic Sciences Meeting, 17-22 February, New Orleans, Louisiana.
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- Norwood, M., P. Louchouarn, and <u>L.-J. Kuo</u>. (2011). Structural Characterization and Reactivity of Pyrogenic Water-Soluble Organic Matter Derived from Biomass Combustion. AGU Fall Meeting 2011, Dec. 05-09, San Francisco, California.
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- Louchouarn, P., <u>L-J. Kuo</u>, J. Brandenberger, F. Marcantonio, G. Gill, and <u>C. Garland</u>. (2011). Historical inputs of combustion-derived Pb and Hg to watersheds of the Hood Canal, USA: Evidence from Pb isotope and PAH signatures. 2011 Salish Sea Ecosystem Conference, Oct. 25-27, Vancouver, Canada.
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- 49. Brandenberger, J.M., **P. Louchouarn**, E.A. Crecelius, G. Gill, L-J. Kuo1, V. Cullinan, and J. Williamson (2010). Deposition in the Puget Sound. Georgia Basin-Puget Sound IAS Coordinating Committee Meeting. "Energy for Healthy Transboundary Air and Ecosystems". 20–22 October, EPA R. 10 Office, Seattle, WA.
- 48. Brinkmeyer R, A.S.C. Hieke-Rambo, S. Zhang, C. Xu, K. Schindler, **P. Louchouarn**, K.M. Yeager, P.H. Santschi. (2010). Factor influencing microbial degradation of dioxins in the Houston Ship Channel and Galveston Bay, Texas. Dioxin 2010: 30th International Symposium on Halogenated Persistent Organic Pollutants, September 12-17, San Antonio, Texas.
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- 46. Louchouarn, P., <u>L.-J. Kuo</u>, J.M. Brandenberger, E. Crecelius, G. Gill, and <u>D. Aguirre</u>. (2010). Deposition of combustion-derived aerosols at the air-sea interface of a major coastal urban system of the Pacific Northwest (Puget Sound, WA). ASLO/AGU Ocean Meeting, Feb. 22-26, Portland, Oregon.
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- 44. Amon, R.M. <u>S.A. Walker</u>, **P. Louchouarn**, S. <u>Duan, R.H</u>. Benner, K. Kaiser, and C.A. Stedmon. (2010) The use of river water tracers to improve our understanding of surface ventilation in the Arctic Ocean. ASLO/AGU Ocean Meeting, Feb. 22-26, Portland, Oregon.
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- Amon, R.M.W., <u>S.A. Walker</u>, **P. Louchouarn**, <u>S. Duan</u>, A. Rinehart, R. Benner, K. Kaiser, C. Stedmon, B. Newton, P. Schlosser. (2009). The use of river water tracers to improve our understanding of surface ventilation in the Arctic Ocean. Gordon Conference, Polar Marine Science. Beyond IPY: Crossing Boundaries. March 15-20.
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- 39. <u>Kuo, L.-J.</u>, **P. Louchouarn**, and B.E. Herbert. (2008). Understanding the impact of charcoal inputs to soils and sediments on conventional geochemical makers. AGU Fall Meeting, Dec. 15-19.
- Brandenberger, J., E. Crecelius, and P. Louchouarn. (2008). Relationship between Pacific Decadal Oscillation and paleo-tracers of hypoxia in sediment cores from Puget Sound, WA. AGU Fall Meeting, Dec. 15-19.
- <u>Rinehart, A.J.</u> R.M.W. Amon, P. Louchouarn, <u>S. Duan</u>, B.J. Peterson, J.W. McClelland, and R.M. Holmes. (2008). Dissolved organic matter discharge from the six largest Arctic Rivers: chemical composition and seasonal variability. AGU Fall Meeting, Dec. 15-19.
- 36. P. Louchouarn, (2008). How authentic can scientific inquiry be in the classroom, and does it matter?

A case study addressing graduate professional programs in environmental sciences. GSA Meeting, Oct. 5-9, 2008. Vol. 40, No. 6, p. 215

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- Brandenberger, J.M., E. Crecelius, P. Louchouarn, S. Cooper, E. Leopold, and K. McDougall (2008). Natural sources of nutrient enrichment: Relationships between large-scale climate drivers and trends in hypoxia recorded in sediment cores from Puget Sound, WA. ASLO/AGU Ocean Meet., 4-7March.
- Cooper, S., J.M. Brandenberger, E. Crecelius, P. Louchouarn, E. Leopold, and K. McDougall (2008). Reconstructing trends in hypoxia using multiple paleoecological indicators recorded in sediment cores from Puget Sound, WA. ASLO/AGU Ocean Meeting, March 4-7.
- 32. Cooper, S.H. J.M. Brandenberger, E. Crecelius and **P. Louchouarn**. (2007). Puget Sound and Hood Canal: Past 300 Years. Estuarine Research Federation, November 4-8.
- Louchouarn, P., J.M. Brandenberger, and E. Crecelius (2007). Historical reconstruction of reduced oxygen levels in deep waters of Puget Sound: biogeochemical and Physical constraints on hypoxia conditions. ASLO Aquatic Sciences Meeting, February 4-9.
- 30. <u>Kuo, L.-J.</u>, B.E. Herbert, and **P. Louchouarn**. (2006). Molecular marker approach on characterizing and quatifying charcoal in environmental media. AGU. December 04.
- <u>Kuo, L-J</u>, B. E. Herbert and **P. Louchouarn**. (2006) Validating levoglucosan as an indicator for charcoal presence in environmental media: A laboratory study. In: BC/nanoC Geochemistry Symposium, Rice University, Houston, TX, USA, Aug.
- Alexis, M.A., C. Rumpel, P. Louchouarn, N. Péchot, D. Rasse and A. Mariotti, (2006). Production of two biomass burning tracers during a prescribed fire: Black carbon vs levoglucosan. Soil Sciences Society of America Annual Meeting. November 12-16.
- <u>Kuo, L.-J.</u>, B.E. Herbert, and **P. Louchouarn**. (2006). Validating levoglucosan as an indicator for charcoal presence in environmental media: A laboratory study. Rice University Black Carbon Meeting. August 23, 2006.
- 26. Louchouarn P. (2005). Double standards in public policy? Acknowledging the burden on science in decision-making. Invited conference at Sciences Po Chair in Sustainable Development. April 22.
- 25. Louchouarn P., and S. Houel. (2005). Soot/black carbon vs. chars in environmental media: Potential discrimination between these combustion by-products through elemental, molecular, and bulk isotopic analyses. EGU/AGU Joint Meeting, Vienna, Austria, April 24-29.
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- Louchouarn P., S. Houel, D. Peteet, and R. Sambrotto. (2005). "Paleofire history and bulk isotopic markers: Potential biases in source reconstruction of carbon sources to wetland sediments". ASLO Aquatic Meeting, Salt Lake City, UT, Feb. 20-24.
- 22. Louchouarn P., S. Houel, and M. Lucotte. (2004). "The role of pulse dynamics and watershed-scale anthropogenic impacts on estuarine cycling of terrigenous organic matter". 2004 AGU-CGU Joint Assembly, Montreal, Qc. May 17-21.
- Louchouarn P., D. Peteet, D. Pederson, S. Houel, and T. Filley. (2004). "The impact of long-term hydrological fluctuations on changes in vegetation and carbon fluxes in Hudson Estuary wetlands". 227th ACS National Meeting, Anaheim, CA, March 28-April 1.
- Houel, S., P. Louchouarn, D. Peteet, and M. Lucotte. (2004). "Fire and elemental black carbon analyses: A new addition to vascular plant biomarkers for reconstructions of allochthonous OM fluxes in aquatic systems". 227th ACS National Meeting, Anaheim, CA, March 28-April 1.
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- 6. Parker, R., B.E. Herbert, <u>J. Brandenberger</u>, and **P. Louchouarn**. (2001). Ground water discharge from Mid-Tertiary Rhyolitic ash-rich sediments as the source of elevated arsenic in South Texas surface waters. GSA Abstracts, Vol. 33, No. 6, October.
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GRANTS AND CONTRACTS

Awarded Research:

- NSF REU OCE: TAMUG-REU <u>O</u>cean and <u>C</u>oastal Res<u>EA</u>rch Experie<u>N</u>ces for <u>U</u>ndergraduate<u>S</u> (REU-OCEANUS). 2017-2020 (PI).
- NSF (Chemical Oceanography): "Development and application of a high sensitivity, ultra low volume method to measure biomarkers of terrigenous dissolved organic matter (tDOM) in the open ocean". 2015-2017 (Co-PI).
- Cameron Corp: "Locating a CDX Pilot Plant on the TAMUG Campus, Site Preparation, Installation, and Operation". (PI). 2014-2015.
- NASA-USDA (Carbon Cycle Science Program): "Examining the relationships between land use change, wetland alteration, and carbon sequestration in the Gulf of Mexico". (PI). 2011-2014.
- The Welch Foundation: Departmental grant to enhance undergraduate research in chemistry at Texas A&M University-Galveston. 2010-2015. (PI)
- NOAA-Northern Gulf of Mexico Institute: "Responses of Benthic Communities and Sedimentary Dynamics to Hydrocarbon Exposure in Neritic and Bathyal Ecosystems". 2010-2011 (Co-PI).
- Geological Survey of Denmark and Greenland: "Anthropogenic air pollution and environmental history of Copenhagen" (Co-PI). 2011-2012.
- Texas Commission of Environmental Quality: Pilot study for in situ remediation of legacy Dioxin and PCB concentrations in Texas aquatic systems using geosorbent amendment – Phase I". (Co-PI). 2011.
- Northern Gulf of Mexico Institute: "Responses of Benthic Communities and Sedimentary Dynamics to Hydrocarbon Exposure in Neritic and Bathyal Ecosystems. Phase I & II". (Sub-contract) 2010-2011.
- R&K Research: "Analysis of Sediment Cores from the Penobscot River Estuary". (Co-PI). 2008-2011.
- NSF: "MRI: Acquisition of a GC/MS triple quadrupole for the characterization of lignin and other terrestrial plant biomarkers in complex environmental media at TAMUG". (PI). 2009-2010.
- Texas Commission of Environmental Quality: "Fate of Dioxin in the Houston Ship Channel and Evaluation of Natural Remediation Processes". (Co-PI). 2009.
- Texas Commission of Environmental Quality (TCEQ): "Role of black carbon in the partitioning and mobility of dioxins in contaminated sediments of the Houston Ship Channel". (PI). 2009-2010.
- Dept. of Ecology-State of Washington: "Study of Atmospheric Deposition of Air Toxics to the Waters of Puget Sound, Washington". (Co-PI). 2008-2010.
- Texas A&M University-Pathways to Doctorate: Fellowship support for a Ph.D. student. 2008-2010.
- NOAA Coastal Hypoxia Research Program: "Historical evaluations of increased hypoxia in three basins of the Puget Sound" (Co-PI) - 2005-2008.
- Alliance Program (Columbia/Sciences-Po/Polytechnique): "Science Education: The role of authentic inquiry for building practice and scientific literacy in graduate multidisciplinary professional programs" (PI) - 2005.
- NSF: Collaborative Research: "Riverscope: Large-scale engineering analysis network for environmental research on the Hudson River" (Co-PI) – 2004-2005.
- Columbia University LDEO: "Testing the efficacy of probability maps as a means of communicating climate forecasts to policy makers" (Co-PI) - 2003.
- Earth Institute Columbia University: Funding for Post-doctoral Associate (PI) 2002-2005.
- JOI/USSSP: "Input vs. Preservation of Organic Matter in Peruvian Shelf Sediments during Past Glacial/Interglacial Oscillations" (Co-PI) 2003-2005.
- NSF: "MRI: Acquisition of Instrumentation for the Chemical and Biological Characterization of Factors Affecting the Distribution and Phytoremediation of Seagrasses in Coastal Bays and Estuaries" (Co-PI) - 2001-2003.
- US Coast Guard Research and Development Center: "Identification and Testing of Ballast Exchange Water", (Invited Investigator) 2000-2001.
- USGS/Texas Water Resource Institute: "Arsenic Concentrations in Water Resources of the Choke Canyon/Lake Corpus Christi Reservoir System: Surface and Ground Waters", (PI) 2001-2002.
- Texas ARP: "Contamination from South Texas Uranium Mines: Environmental Fate from Molecular to Watershed Scales" (Co-PI) – 2000-2001.
- TAMUCC College of Science & Technology Research Enhancement Grant: "Source and Fate of Heavy Metals in Sedimentary Environments of the Nueces River Watershed" (PI) – 2001.
- NSERC-Canada: "Assessment & Modeling of the Production and Emissions of Greenhouse Gases from Hydro-Electric Reservoirs", (Co-PI) - 2000-2003.
- TAMUCC College of Science & Technology Equipment Grant (Carbon Analyzer): (PI) 2000.
- NSERC: Equipment Grant (GC/MS), (Co-PI) 1997