

## CURRICULUM VITA

NAME: Peter Hans Santschi  
MARITAL STATUS: Married, 2 children  
HOME ADDRESS: Galveston TX 77551  
PHONE NUMBER: Work: 409-740 4476  
ORCID ID: 0000-0001-8188-7691  
E-MAIL: [santschi@tamug.edu](mailto:santschi@tamug.edu)  
URL: <https://www.tamug.edu/mars/faculty-bios/PeterHSantschi.html>  
<https://www.youtube.com/watch?v=mGnYuxE-tII>  
<http://loer.tamug.edu/people/Santschi/index.html>  
[https://scholar.google.com/citations?hl=en&user=ZKGyOTsAAA&AJ&view\\_op=list\\_works&sortby=pubdate](https://scholar.google.com/citations?hl=en&user=ZKGyOTsAAA&AJ&view_op=list_works&sortby=pubdate)

### **EDUCATIONAL HISTORY:**

- Privatdozent, Isotope Geochemistry, Swiss Federal Institute of Technology (ETH), Zürich, Switzerland, 1984.
- Ph.D. Chemistry (Dr. phil. II, Summa Cum Laude), University of Bern, Switzerland, 1975.
- M.S. Chemistry (Summa Cum Laude), University of Bern, Switzerland, 1971.
- B.S. Gymnasium Bern, Switzerland, Matura 1963.

### **PROFESSIONAL HISTORY:**

- Professor of Oceanography and of Marine Sciences, Texas A&M University, 1988 - present.
- Visiting Professor at University of Rhode Island (1987), University of Geneva, Switzerland (1996-1997, 2003), University of Bern, Switzerland (2002), Swiss Institute of Technology, ETH (2003), and National Taiwan University, Taipei (2003), Hong Kong University of Science and Technology (2004).
- Section Head, Chemical Oceanography, Department of Oceanography, Texas A&M University, College Station, TX, 1990 - 1996.
- Focal Area Coordinator of Center for Shelf and Coastal Oceanography, Texas Institute of Oceanography, 1992-2000.
- Director, Laboratory for Oceanographic and Environmental Research (LOER), 1989-present.
- Senior Chemist, Texas A&M University, Galveston, TX, 1988 - present.
- Head of Isotope Geochemistry and Radiology Section of Swiss Institute for Water Resources and Water Pollution Control, EAWAG, Dübendorf, Switzerland, 1983 - 1988.
- Adjunct Senior Research Scientist, Lamont-Doherty Geological Observatory of Columbia University, 1983 - present.
- Senior Research Scientist, Lamont-Doherty Geological Observatory of Columbia University, July 1, 1981 - July, 1982.

- Research Associate, Lamont-Doherty Geological Observatory of Columbia University, July 1, 1977 - June 30, 1981.
- Teaching and Research Assistant, University of Berne, Switzerland, 1970 - 1975.
- Lecturer in Chemistry, Humboltianum Gymnasium (High School), 1968-1970.

### **PROFESSIONAL ACTIVITIES:**

- Associate Editor, Marine Chemistry, 2000-present.
- Member of the International Advisory Board of the Journal of Terrestrial, Atmospheric and Oceanic Sciences (TAO), 2012-present.
- Member of Editorial Advisory Board of Open Oceanography Journal, 2005-present.
- Member, External Advisory Review Panel, Ultrasensitive Nuclear Measurements Initiative, PNNL, 2013.
- Member, Review Panels of the SBR-PNNL, Early Career, SFA, and SBIR programs of the Department of Energy, 2009, 2010, 2011, 2012, 2013.
- Member, Review Panel of the Chemical Oceanography Program, National Science Foundation, 1990-1991, 2004, 2006, 2010, 2015.
- Member, International "Audit Team", Review Committee for Radiochemistry at the Paul Scherrer Research Institute (PSI) of the Swiss Institute of Technology (ETH), 2006.
- Member, Advisory Board, Aquatic Sciences, 1988-2001.
- Member, Actinide Migration Advisory Committee to Rocky Flats Environmental Technology Site (Kaiser-Hill/DOC), 1996-1999.
- Expert Member, Toxics and Pesticides Subcommittee of the Gulf of Mexico Program, 1990-1991.
- Member, Advisory Board, Aquatic Sciences, a Multidisciplinary Journal for Theoretical and Applied Limnology, Fisheries Science and Water Technology, 1988 - present.
- Swiss Delegate for Meetings of Int. Commission for Subseabed Disposal of Radioactive Waste, 1984-1987.
- Expert Member, International Committee for the Assessment of Chernobyl Fallout in Lake Constance, 1986-1988.
- Expert Member, Swiss National Committee for the Surveillance of Radioactivity, 1983-1988.
- Member of Professional Societies (e.g., ACS, AGU, EUG, AAS, ASLO, CERF, ...)

### **AWARDS, HONORS AND MEMBERSHIP IN PROFESSIONAL SOCIETIES:**

- Distinguished Professor of Texas A&M University (2021).
- Elected Member of the European Union Academy of Sciences (EUAS) (2020).
- Elected Member of the Selection Panel for the 2020 Kuwait Prize in the field of Fundamental Sciences (sub-specialization: Earth Sciences), the most prestigious price for Scientists from Arab Countries.
- Elected Geochemical Fellow of the Geochemical Society and the European Association of Geochemistry (2017).
- Elected a Fellow of the American Geophysical Union (2014).
- Environmental Science and Technology Outstanding Reviewer Recognition (2013).
- Distinguished Achievement Awards in Graduate Student Mentoring (2013) and for Research () from Texas A&M's Association of Former Students.
- Regents Professor of Texas A&M University (2009).

- Member of Phi Kappa Phi Society of Texas A&M University Chapter (2005).
- Association of Former Student Distinguished Achievement Award for Research from Texas A&M University (2004).
- Limnology and Oceanography Outstanding Reviewer Recognition (2004).
- Listed in Marquis Who's Who in the South and Southwest, Macmillan Directory Division, Wilmette, Il., Who's Who in Science and Engineering, a Reed Ref. Publ. Comp., Wilmette, Il.; also in: Who's Who in America, and Who's Who in the World, all since 1991.
- Member of American Geophysical Union, American Society of Limnology and Oceanography, Oceanography Society, American Chemical Society, Estuarine Research Federation, AAAS, SETAC.
- Visiting Professor at Lamont-Doherty Earth Observatory of Columbia University (1982-1988), University of Rhode Island, School of Oceanography (1986), Dept. of Geology and Dept. of Chemistry, University of Geneva, Geneva, Switzerland (1996), Dept. of Chemistry and Biochemistry, University of Bern, Bern, Switzerland (2002), Dept. of Chemistry, University of Geneva, Geneva, Switzerland (2003), Swiss Institute of Technology, ETH, Zurich, Switzerland (2003), National Center for Oceanographic Research, NCOR, National Taiwan University, Taipei, Taiwan (2003), and Hong Kong University of Science and Technology (2004), National Taiwan Ocean University (2008).
- Lamont-Doherty Geological Observatory Postdoctoral Fellowship, 1976.
- Swiss National Science Foundation Postdoctoral Fellowship, 1976.

**SERVICE TO SCIENTIFIC COMMUNITY, UNIVERSITY, COLLEGE, AND DEPARTMENTS:**

***A. Administrative Positions:***

Section Head, Environmental Radiochemistry and Radiology, EAWAG – ETH (Swiss Institute of Technology), Zurich, Switzerland (1983-1988); Section Head, Chemical Oceanography, Department of Oceanography, Texas A&M University, College Station, TX (1990 – 1996). Director, Laboratory of Oceanographic and Environmental Research, and the Coastal Zone Laboratory (1990-present).

***B. Committees:***

2022:

MECS Dept: Promotion and Tenure Advisory Committee (Co-Chairman)

TAMUG: Promotion and Tenure Advisory Committee (Member)

TAMUG: Member of the Honor Council.

2021:

MECS Dept: Promotion and Tenure Advisory Committee (Co-Chairman)

TAMUG: Promotion and Tenure Advisory Committee (Member)

TAMUG: Research Award Committee (Chairman) til spring 2021

2020:

MECS Dept: Promotion and Tenure Advisory Committee (Chairman)

TAMUG: Research Award Committee (Chairman)

*2019:*

MARS Dept: Promotion and Tenure Advisory Committee (Member)

TAMUG: Research Award Committee (Chairman)

*2018:*

MARS Dept: Promotion and Tenure Advisory Committee (Chairman)

MARA Dept: Promotion and Tenure Advisory Committee (Member)

TAMUG: Research Award Committee (Chairman)

*2017:*

MARS Dept: Promotion and Tenure Advisory Committee (member)

TAMUG: Promotion and Tenure Advisory Committee (Chairman)

*2016:*

MARS Dept: Promotion and Tenure Advisory Committee (member)

TAMUG: Promotion and Tenure Advisory Committee (member)

MARS Dept.: Executive Committee (Member)

MARS Dept: Post Tenure Review Committee (Member)

TAMUG: Promotion and Tenure Advisory Committee (member)

*2015:*

MARS Dept: Promotion and Tenure Advisory Committee (Chair)

*2014:*

MARS Dept: Promotion and Tenure Advisory Committee (Member)

MARS Dept: DH Search Committee (Member)

MARS Dept.: Executive Committee (Member)

MARB Dept.: Marine Toxicologist Search Committee (Member)

OCNG Dept: Promotion and Tenure Advisory Committee (Member)

TAMUG: Promotion and Tenure Advisory Committee (Member)

*2013:*

MARS Dept: Promotion and Tenure Advisory Committee (Chair)

MARS Dept: DH Search Committee (Member)

MARS Dept.: Research Advisory Committee (Member)

MARS Dept.: Executive Committee (Member)

MARS Dept.: Metrics Committee (Member)

TAMUG: Promotion and Tenure Advisory Committee (Member)

TAMU: Eminent Scholar Committee (Member)

*2012:*

MARS Dept: Promotion and Tenure Advisory Committee (Chair)

MARS Dept.: Research Advisory Committee (Member)

MARS Dept.: Executive Committee (Member)

*2011:*

MARS Dept: Promotion and Tenure Advisory Committee (Member)

MARS Dept: Chemistry Faculty Search Committee (Chair)

OCNG Dept.: Tenure and Promotion Committee (member)

MARS Dept.: Research Advisory Committee (Member)

*2010:*

MARS Dept: Promotion and Tenure Advisory Committee (Chair)

MARS Dept: Department Head Search Committee (member)

MARS Dept: Strategic Planning Committee (member)

OCNG Dept.: Tenure and Promotion Committee (member)

OCNG Dept: Faculty Search Committee (member)

*2009*

MARS Dept: Promotion and Tenure Advisory Committee (Chair)

TAMUG - College: Tenure and Promotion Committee (member)

OCNG/Geosciences: Tenure and Promotion Committee (member)

*2008*

MARS Dept: Promotion and Tenure Advisory Committee (Chair)

TAMUG - College: Tenure and Promotion Committee (Chair)

OCNG/Geosciences: Tenure and Promotion Committee (member)

*2007*

MARS Dept: Promotion and Tenure Advisory Committee (Chair)

TAMUG - College: Tenure and Promotion Committee (Chair)

OCNG/Geosciences: Tenure and Promotion Committee (member)

*2006*

MARS Dept: Promotion and Tenure Committee (Chair)

MARS Dept: Promotion and Tenure Committee (Chair)

MARS Dept. Promotion and Tenure Committee (Member)

TAMUG - College: Tenure and Promotion Committee (Chair)

OCNG/Geosciences: Tenure and Promotion Committee (member)

College of Geosciences College Research Advisory Council (member)

*2005/6*

MARS Dept: Trace Biogeochemist Search Committee (Chair)

MARS Dept: Promotion and Tenure Committee (Chair)

TAMUG - College: Tenure and Promotion Committee (Chair)

OCNG/Geosciences: Tenure and Promotion Committee (member)

College of Geosciences College Research Advisory Council (member)

*2004/5:*

MARS Dept.: Academic Advisory Committee (Chair)

TAMUG: Tenure and Promotion Committee.

OCNG/Geosciences: Tenure and Promotion Committee.

*2003/4:*

MARS Dept.: Academic Advisory Committee (Chair)

TAMUG: Tenure and Promotion Committee.

OCNG/Geosciences: Tenure and Promotion Committee.

*2002/3:*

Sabbatical

*2002:*

MARS Dept.: Search Committee for Biogeochemist (Chair)

MARS Dept.: Academic Advisory Committee (Chair)

TAMUG: Tenure and Promotion Committee.

OCNG/Geosciences: Tenure and Promotion Committee.

TAMUG: Research Advisory Committee.

*2001:*

MARS Dept.: Search Committee for Marine Organic Chemist (Chair)

MARS Dept.: Search Committee for Biogeochemist (Chair)

MARS Dept.: Academic Advisory Committee (Chair)

TAMUG: Tenure and Promotion Committee.

OCNG/Geosciences: Tenure and Promotion Committee.

TAMUG: Promotion Committee.

TAMUG: Research Advisory Committee.

*2000:*

MARS Program/OCNG: Academic Advisory Committee.

TAMUG: Tenure and Promotion Committee.

OCNG Dept.: Tenure and Promotion Committee.

OCNG Dept. Search Committee for Physical Oceanographer (Chair).

OCNG Dept.: Search Committee for Geological Oceanographer (Chair).

Oceanography Dept.: Search Committee for Chemical Oceanographer (Chair).

TAMUG: Promotion Committee for Graham Worthy, TAMUG.

TAMUG: Research Advisory Committee, TAMUG.

*1999:*

MARS Program/OCNG Dept.: Academic Advisory Committee.

MARS Program/Dept.: Search Committee for Physical Oceanographer (Chair)

TAMUG: Research Advisory Committee

*1998:*

TAMUG: Committee for hiring Head of Fiscal Office, Terry Lovel

TAMUG: College Committee for promotion of Graham Worthy

MARS/OCNG Dept.: Academic Advisory Committee

*1997:*

None (sabbatical leave)

*1996:*

TAMU/College of Geosciences and Maritime Studies: Grievance Committee for Captain Bourgeois.

TAMU/ OCNG Dept.: Ship Committee.

TAMU/Dept. of Oceanography: Senior Executive Council, member.

TAMU/ OCNG Dept.: Promotion Advisory Committee.

TAMUG/MARS Program: Curriculum Committee

TAMUG/MARS Program: Promotion Advisory Committee

TAMUG: Research Advisory Council.

TIO: Galveston Bay Information Center Advisory Committee (Chair)

TIO: Center for Shelf and Coastal Oceanography Steering Committee.

*1995:*

TAMU/ OCNG Dept.: Ship Committee.

TAMU/ OCNG Dept.: Senior Executive Council.  
TAMU/ OCNG Dept.: Promotion Advisory Committee.  
TAMUG/MARS Program: Curriculum Committee  
TAMUG/MARS Program: Promotion Advisory Committee  
TAMUG: Research Advisory Council, member.  
TIO: Galveston Bay Information Center Advisory Committee (Chair)  
TIO: Center for Shelf and Coastal Oceanography Steering Committee.  
*1994:*  
TAMU/ OCNG Dept.: Ship Committee.  
TAMU/ OCNG Dept.: Senior Executive Council.  
TAMU/ OCNG Dept.: Promotion Advisory Committee.  
TAMUG/MARS: Curriculum Committee  
TAMUG/MARS: Promotion Advisory Committee  
TAMUG: Research Advisory Council.  
TIO: Galveston Bay Information Center Advisory Committee (Chair)  
TIO: Coordinator for Texas Bays and Estuaries focal area.  
TIO: Center for Coastal and Shelf Processes Advisory Steering Committee.  
*1993:*  
TAMU/ OCNG Dept.: Ship Committee.  
TAMU/ OCNG Dept.: Senior Executive Council.  
TAMU/ OCNG Dept.: Dept. Head Search Committee.  
TAMUG: Promotion Advisory Committee for Dr. Randy Davis to Full Professor.  
TAMUG: Promotion Advisory Committee for Dr. Graham Worthy.  
TAMUG: Research Advisory Council.  
TIO: Galveston Bay Information Center Advisory Committee: Chairman  
TIO: Coordinator for Texas Bays and Estuaries focal area.  
TIO: Center for Coastal and Shelf Processes Advisory Steering Committee, member.  
College of Geosciences and Maritime Studies: Environmental Committee (Co-Chair).  
*1992:*  
TAMU/ OCNG Dept.: Ship Committee.  
TAMU/ OCNG Dept.: Senior Executive Committee.  
TAMU: Committee for Academic Issues, College of Geosciences and Maritime Studies.  
TAMU: Search Advisory Committee for Dean of College of Geosciences and Maritime Studies.  
TAMU/TAMUG: Search Committee for Assistant Professor, Chemical Oceanography and/or  
Marine Chemistry (Chair).  
TAMUG: University Promotion Advisory Committee.  
TAMUG: University Promotion Advisory Committee.  
TAMUG: University Tenure Advisory Committee.  
*1991:*  
TAMU/ OCNG Dept.: Ship committee.  
TAMU: Committee for Academic Issues, College of Geosciences and Maritime Studies  
TAMU: Search Advisory Committee for Dean of College of Geosciences and Maritime Studies.  
TAMUG: Advisory Committee for Research Enhancement Grants.  
TAMUG: Promotion Advisory Committee for Dr. Steven Curley to Full Professor.  
TAMUS: Committee on Intrasystem Initiative on Environmental Quality.  
*1990:*

OCNG Dept.: Ship committee.

### ***C. Service to Scientific Community***

#### ***Scientific Journals:***

- Associate Editor, Marine Chemistry, since 2000.
- Member of the International Advisory Board of the Journal of Terrestrial, Atmospheric and Oceanic Sciences (TAO), 2012-present.
- Member of the International Editorial Advisory Board of Open Oceanography Journal, 2005-present.
- Member, Advisory Board, Aquatic Sciences, 1988-2002.

#### ***Review and Advisory Panels:***

- Member, Academic Advisory Committee (AAC) of the Research Center for Environmental Changes (RCEC) at Academia Sinica, Taipei, Taiwan, 2020-2021.
- Member of the Selection Panel for the 2020 Kuwait Prize in the field of Fundamental Sciences (sub-specialization: Earth Sciences).
- Member, review panel of Germany on proposals for Clusters of Excellence on "Geo 11", evaluating coordinated research proposals for 200 Mio € available funding, 2018.
- Member, DOE PNNL, Ultra-Sensitive Nuclear Measurements Initiative (USNMI) Annual review panel project, 2014, 2015.
- Member, NSF, Chemical Oceanography Review Panels, 2010, 2006, 2004, 1991, 1990.

#### ***Reviewer of Proposals:***

U.S. National Science Foundation (Chem., Bio., Geol., and Phys. Oceanography), Department of Energy – Office of Science, Seagrant of different States, Nat. Geography, Hudson River Foundation, ACS, Petroleum Res. Fund, National Science Foundations of UK, Switzerland, Austria, Poland, and Taiwan, and the International Science Foundation, the Research Corporation.

#### ***Reviewer of Journal articles:***

Nature, Science, Geochim. Cosmochim. Acta, Limnol. Oceanography, Est. Coast. Shelf Science, Environ. Sci. Technol., Aquatic Sciences, Marine Chemistry, Limnol. Oceanogr., Estuaries, J. Env. Radioact., Croat. Chim. Acta, Radiochim. Acta, Estuarine Coastal and Shelf Science, Estuaries, J. Hydrol., Deep-Sea Res., I&II, ODP, Aquatic Geochem., J.Mar.Res., AECT, Marine Biology, Mar. Ecol. Progr. Ser., J. Chromat., Exp. Mar. Biol. Ecol., Env. Chem. Lett., J. Environ. Radioactivity, J. Env. Quality, Env. Chem. Lett., The Scientific World Journal, ECSS, MECO, Marine Biol., Aquatic Sciences, Radiochim. Acta, Catena, Wat. Res. Res., Wat. Res., Env. Toxicol., Contin. Shelf Sci., Chem. Geol., Colloids and Surfaces, Rev. Min. Geol., Earth Planet. Sci. Lett., Geophys. Res. Lett., J. Geophys. Res., Environ. Chem., GLA, ACA, JEMBE, Environ. Chem., Current Nanoscience, Environ. Technol., J. Mar. Systems, JGR Atmosphere, JGR Oceans, ...

### **FIELD EXPERIENCE:**

Participant on various scientific expeditions to the North Atlantic and Pacific Ocean (e.g., GEOSECS-Indian Ocean, MANOP-Pacific, California Borderland, SEEP-Atlantic, Gulf of Mexico).



Chief scientist of 92G3, 93G1, 93G7, 94G4 R/V Gyre cruises to the Gulf of Mexico and the Middle Atlantic Bight (1992-1994).

### **EXPERIENCE WITH INDUSTRY AND COURT CASES:**

Assessment of Natural Attenuation and Contaminant Mobility at Superfund Sites and Remediation Strategies: Natural Resources Defense Council and Maine People's Alliance on Mercury in Penobscot River and Estuary, Maine; Aluminum Company of America (ALCOA) on Mercury Contamination in Lavaca Bay, TX; Montrose Chemical Corporation of California, Stauffer Management Company, Rhone-Poulenc, and Chris-Craft Industries, on DDT in Palos Verdes Shelf sediments; Environ, and others.

Effluent and Emission Assessments, Contaminant Mobility, Speciation and Transport of actinides and other contaminants; Baseline Studies in Natural Environments: Kodak Company, Silver Council, Houston Lighting and Power, Texas Chemical Council, Kaiser-Hill Company, Anchor Environ. Company, Texas Clean Coal Technology Foundation.

### **SYNERGISTIC ACTIVITIES:**

Development of analytical protocols for the determination of trace metals, thiols and sulfides, individual acid polysaccharides, of inorganic and organic iodine species, in natural waters. At any one time, I am responsible for mentoring 4-6 undergraduate students in the laboratory, which encourages some of them to pursue a career in science. Furthermore, I, or my graduate students and postdocs, routinely give presentations not only in a university class environment and in seminars, but also to high school students, as well as at local, national and international meetings to disseminate new research results. In 2002/2003, I also was visiting Professor in the Chemistry Departments of the University of Bern and Geneva, Switzerland, the Swiss Institute of Technology, Zurich, Switzerland, the National Center for Oceanographic Research at the National Taiwan University in Taipei, Taiwan, and in 2004, at the Hong Kong University of Science and Technology. These extended scientific visits help not only the scientific exchange with foreign countries, but also in the recruitment of graduate students and post docs.

### **RESEARCH EMPHASIS:**

Research interests include a broad range of topics in Marine and Environmental Chemistry, including the role of natural nanoparticles in the biogeochemical cycling of trace substances, tracer applications using radioactive and stable isotopes, relationships between trace element and natural organic matter biogeochemistry, and the importance of exopolymeric substances and hydroxamate siderophores for trace element binding and removal from natural waters. That involves learning from new techniques, approaches and concepts that are used in related fields and applying them to solve questions in biogeochemistry and environmental science. Current themes of research are: Trace element speciation and cycling. Tracer applications in natural water systems using stable and radioactive isotopes. Sediment-water and particle-water interactions, with emphasis on colloids. Natural organic matter geochemistry. Metal-organic matter binding. Mobility of radioactive and toxic trace contaminants in surface waters, sediments and ground water. Applications of atomic force microscopy, accelerator, thermal ionization, and gas chromatography mass spectrometry in marine and environmental chemistry and geochemistry.

## **TEACHING EXPERIENCE:**

Graduate courses in the Oceanography Department at Texas A&M University, OCNG644 "Isotope Geochemistry", OCNG681 "Seminar in Oceanography/Marine Science", OCNG646 "Dynamics of Environmental Colloids"; Courses taught at other Universities: "Geochemical Oceanography", "Radioactivity in the Environment", and "Environmental Colloids" at the Swiss Institute of Technology (ETH) in Zurich, Switzerland. "Marine Organic Chemistry", "Marine Colloids Chemistry", and "Marine Radiochemistry" courses within a block course in "Marine Biogeochemistry" at AMCE, Hong Kong University of Science and Technology, HKUST. Undergraduate courses in the Department of Marine Sciences at Texas A&M University at Galveston in MARS440 "Chemical Oceanography", MARS430 "Geological Oceanography", MARS340 "Geochemistry", MARS481 "Seminar in Marine Science", MARS491 "Research", "Environmental Geology", CHEM383 "Environmental Chemistry", CHEM464 "Nuclear Chemistry".

## **GRADUATE STUDENTS AND POSTDOCTORAL RESEARCH SCIENTISTS:**

***List of chaired or co-chaired graduate student committees at TAMU (Total number of sponsored graduate students: 26; 23 at TAMU/TAMUG, 1 at EAWAG-ETH Zurich, Switzerland, 2 at LDEO-Columbia University, New York):***

- PhD: Russell Grandbois, "Role of microbial processes in iodine interactions with soils", Interdisciplinary Marine Biology Program, Texas A&M University (2019, expected).
- MS: Matthew Athon, Oceanography, Texas A&M University (2016) "Chemisorption of Radionuclides on Commercial, Synthetic, and Biogenic Sorbents for Use in In-situ Gamma Spectrometry".
- PhD: Chia Ying Chuang (Anderin), Oceanography, Texas A&M University (2013), "Examining The Binding Of Radionuclides With Marine Biopolymers, A Comparative Study On Th, Pa, Pb, Po And Be Isotopes".
- PhD: Hsiu-Ping Li (Erin), Interdisciplinary Marine Biology Program, Texas A&M University (co-chair, 2012), "Roles of naturally occurring bacteria in controlling iodine-129 mobility in subsurface soils".
- PhD: Chen Xu, Oceanography, Texas A&M University (2011), "Molecular Level Characterization and mobility of radionuclide-carrying natural organic matter in aquatic environments".
- PhD: Saijin Zhang, Oceanography, Texas A&M University (2010), "Natural organic matter (NOM) in aquatic systems: Interactions with radionuclides, <sup>234</sup>Th(IV), <sup>129</sup>I, and biofilm".
- MS: Chen Xu, Oceanography, Texas A&M University (2007), "Optimized Procedures for Extraction, Purification, and Characterization of Exopolymeric Substances (EPS) from Two Bacteria (*Sagittula stellata* and *Pseudomonas fluorescens* Biovar II) with Relevance to the Study of Actinide Binding in Aquatic Environments".
- PhD: Kimberly A. Roberts, Oceanography, Texas A&M University (2007). "The interaction of actinides (Pu, Th, and Pa), inorganic particles, and organic colloids (humic substances and extracellular polymeric substances, EPS)".
- MS: CHARLES MELCHOR LANDIN. Oceanography, Texas A&M University (2007). "Dissolved Gaseous Mercury Behavior in Shallow Water Estuaries".

- MS: Sara E. Keach, Oceanography, Texas A&M University (2006). "Monomethylmercury Concentrations on the Texas-Louisiana Shelf during Hypoxia Formation".
- MS: Jennifer Haye, Oceanography, Texas A&M University (2005). "Role of Natural Organic Matter in Governing the Bioavailability of Toxic Metals to American Oysters (*Crassostrea virginica*)".
- PhD: Nicolas G. Alvarado Quiroz, Oceanography, Texas A&M University (2004). "Characterization of Marine Exopolymeric Substance (EPS) Responsible for Binding of Thorium (IV) Isotopes".
- PhD: Kathy Schwehr, Oceanography, Texas A&M University (2004). "Speciation and Transport of Anthropogenic <sup>129</sup>Iodine and Natural <sup>127</sup>Iodine in Surface and Subsurface Environments".
- PhD: Kevin Yaeger, Geology, Texas A&M University (2002). "Texas Coastal Plain Fluvial Processes and Marine Sedimentation Using Lithogenic and Atmospheric Radionuclides; Sediment Source Apportioning, Isotope Fractionation and Coupled Transport Processes".
- PhD: Kent Warnken, Oceanography, Texas A&M University (2002). "Trace Metal Inputs to Galveston Bay: Importance of Benthic and Riverine Fluxes".
- PhD: Degui Tang, Oceanography, Texas A&M University (2000). "The organic complexation of trace metals in estuarine waters of Galveston Bay: the importance of reduced sulfur species".
- PhD: M. Quigley, Oceanography, Texas A&M University (2000). "Tracing Colloid-Colloid and Colloid-Particle Interactions Using Thorium".
- PhD: S. Oktay, Oceanography, Texas A&M University (1999). "<sup>129</sup>I Cycling in Terrestrial and Coastal Marine Environments".
- MS: J. Schwantes, Oceanography, Texas A&M University (1997). "Natural and Anthropogenic Radionuclides in the Marginal Seas of Siberia: Implications for the Fate and Removal of Pollutants".
- MS: R. Carvalho, Oceanography, Texas A&M University (1997). "Bioavailability of Colloidally-bound Metals in Penaeid Shrimp".
- PhD: Liang-Saw Wen, Oceanography, Texas A&M University (1996). "Geochemistry of trace metals in estuarine waters: A multi-phase speciation approach".
- PhD: Laodong Guo, Oceanography, Texas A&M University (1995). "Cycling of dissolved and colloidal organic matter in oceanic environments as revealed by carbon and thorium isotopes".
- MS: M. Ravichandran, Oceanography, Texas A&M University (1995). "Investigations on the Sediment Chronology and Trace Metal Accumulation in Sabine-Neches Estuary, Beaumont".

***List of sponsored postdocs and visiting scholars at TAMU (Total number of sponsored postdoctoral and visiting scholars: 22)***

- Hernando Bacosa (2019), visiting research scientist, Texas A&M University at Galveston.
- Peng Lin (2016-2017), assistant research scientist, Texas A&M University at Galveston.
- Luni Sun (2016-2017), assistant research scientist, Texas A&M University at Galveston.
- You-min Lin (2015), presently research scientist at UTMB
- Chia Ying Chuang (Anderin; 2014-2015), presently research scientist at Academia Sinica, Taipei.
- Hsiu-Ping Li (Erin; 2012-2014), was postdoctoral research scientist, Texas A&M University at Galveston, presently school teacher.
- Chen Xu (2011 - 2012), presently Associate Research Scientist, Texas A&M University at Galveston.

- Saijin Zhang (2010 - 2012), was Assistant Research Scientist, Texas A&M University at Galveston, presently working for industry.
- Shigeyoshi Otsuka (visiting scientist, 2010-2011), Research Scientist, Research Group for Environmental Science Japan Atomic Energy Agency (JAEA) 2-4, Shirakata-shirane, Tokai, Ibaraki 319-1195, Japan.
- Jinzhou Du (visiting scientist, 2009-2010), Professor, State Key Laboratory of Estuarine and Coastal Research East China Normal University, 3663, Zhongshan road-North, Shanghai, 2000062, P.R.China.
- Aijun Miao (2006-2009), presently Associate Professor, School of Environment, Nanjing University, #22 Hankou Road, Nanjing, Jiangsu Province 210093, China PRC
- Kathy Schwehr (2004-2007), presently Research Scientist, Texas A&M University, Galveston, TX.
- Robin Brinkmeyer (2004-2006), was Assistant Professor, Texas A&M University, Galveston, TX.
- Kevin Yeager (2003-2005), presently Associate Professor, Department of Earth and Environmental Sciences, University of Kentucky, Lexington, KY
- Gary Schultz (2001-2003), presently Associate Professor in the Biology Department at Marshall University (Huntington, WV).
- Chin-Chang Hung (1999-2002), presently Professor, Institute of Marine Geology and Chemistry, National Sun Yat-sen University, Kaohsiung 80424, Taiwan, Taiwan.
- Degui Tang (2000), presently Principal Scientist at Pfizer, Inc.
- Liang-Saw Wen (1996-1998), presently Associate Professor, Dept. of Oceanography and National Center for Ocean Research, National Taiwan University Taipei, Republic of China.
- Laodong Guo (1995-1997), presently Professor, School of Freshwater Sciences, University of Wisconsin-Milwaukee, Milwaukee, WI 53204, USA
- Jean Moran (1995-1998), presently Associate Professor, Dept. of Earth and Environmental Sciences, California State University, East Bay, Hayward, CA.
- Bruce Honeyman (1990-1991, Senior Research Scientist), presently Emeritus Professor at Colorado School Mines, Golden, CO.
- Gaboury Benoit (1989, Visiting Professor), presently Professor of Environmental Sciences at Yale University.

*External reader and examiner on Ph.D. Dissertations:*

Dept. of Oceanography, Dalhousie University, Canada (Sherry E.H. Niven, 1989); Dept. of Chemistry, University of Geneva, Switzerland (Eric Balnois, 1997); Yale School of Forestry and Environmental Studies, Yale University (T.R. Rozan, 1998); Dept. of Civil Engineering, Texas A&M University (Jon Schwantes, 2002); Dept. of Earth Sciences, University of Geneva, Switzerland (Patrick Rossé, 2005); University of Lausanne, Switzerland (Fabienne Chawla, 2010).

## **BIBLIOGRAPHY:**

### **A) THESIS, DISSERTATION AND HABILITATION**

1. T-X Diagrams in the ternary system SnCl<sub>2</sub>-AlCl<sub>3</sub>-NaCl. Masters Thesis in Inorganic Chemistry, 1968, with Prof. Dr. Huber, Dept. of Chemistry, University of Berne, Switzerland.

2. Specific Adsorption of methylorange onto silica gel. Masters Thesis in Organic Chemistry, 1970, with Prof. Dr. Arm, Dept. of Chemistry, University of Berne, Switzerland.
3. Chemical processes in Lake Biel, Switzerland. Ph.D. Dissertation in Chemistry, 1975, with Prof. Dr. P.W. Schindler, Dept. of Chemistry, University of Berne, Switzerland.
4. Radioisotopes as tracers of sediment-water interactions in controlled experimental ecosystems: Case studies. Habilitation Thesis in Isotope Geochemistry, 1983, Department of Geology, Swiss Institute of Technology (ETH), Zurich, Switzerland.

**B) PUBLICATIONS** (underlined are Master/PhD students whose research was part of the publication; double underlined are past Master/PhD students; \* at the end of the last name for undergraduate students who participated in the published research)

Peter H. Santschi has published as both Santschi, P.H. and Santschi, P. While most of his publications deal with some aspects of the field of environmental biogeochemistry and radiochemistry, they impacted many other fields, including Environmental Sciences - Ecology (204), Marine Freshwater Biology (151), Public Environmental Occupational Health (108), Oceanography (107), Chemistry (91), Biochemistry – Molecular Biology (88), Toxicology (80), Science Technology Other Topics (75), Physical Sciences Other Topics (71), Water Resources (60), Geochemistry Geophysics (56), Agriculture (53), Energy Fuels (45), Engineering (43), Physics (34), Geology (33), Nuclear Science Technology (32), Geography (24), Radiology Nuclear Medicine Medical Imaging (22), Biodiversity conservation (19), Meteorology Atmospheric Sciences (18), Plant Sciences (17), Instruments Instrumentation (15), Microbiology (14), Biotechnology Applied Microbiology (13). As of October 2, 2019, his ISI (All Databases) listed publications (342) have been cited almost 15,000 times, with an average citation per publication of over 43.5, and ISI **h-index of 69**, and productivity  $m\text{-index} = h/\Delta t = 1.53$  with  $\Delta t = 45 = \text{years}$  since the 1<sup>st</sup> publication in 1974. Other indexes are the  $g\text{-index} = 137$ ; and Google Scholar  $h\text{-index} = 83$  and  $i\text{-10 index} = 257$ , with well over 21,500 citations.

***B1. Peer reviewed ISI-cited original journal articles (276)***

1. Santschi, P.H., and P.W. Schindler. 1974. Complex formation in the ternary systems Ca(II)-H<sub>4</sub>SiO<sub>4</sub>-H<sub>2</sub>O and Mg(II)-H<sub>4</sub>SiO<sub>4</sub>-H<sub>2</sub>O. J. Chem. Soc., Dalton Transactions, 181-184.
2. Santschi, P.H., and P.W. Schindler. 1974. Chemische Prozesse im Bielersee. Vom Wasser 43, 43-51.
3. Santschi, P.H., and P.W. Schindler. 1977. Chemical and geochemical studies of Lake Biel. I. A mass balance for Lake Biel and its implications for the rates of erosion in the drainage area. Swiss J. Hydrol. 39, 181-200.
4. Schindler, P.W., and P.H. Santschi. 1978. Unsere Seen aus der Sicht des Chemikers, Chimia 32, 1-9.
5. Santschi, P.H., Y.-H. Li, and J. Bell. 1979. Natural radionuclides in Narragansett Bay. Earth Planet. Sci. Lett. 45, 201-213.
6. Li, Y.-H., H.W. Feely, and P.H. Santschi. 1979. <sup>228</sup>Th - <sup>228</sup>Ra radioactive disequilibrium in the New York Bight and its implications to coastal pollution. Earth Planet. Sci. Lett. 42, 13-26.
7. Santschi, P.H., D. Adler, M. Amdurer, Y.-H. Li, and J. Bell. 1980. Thorium isotopes as analogues for "particle-reactive" pollutants in coastal marine environments. Earth Planet. Sci. Lett. 47, 327-335.

8. Santschi, P.H., Y.-H. Li, and S. Carson. 1980. The fate of trace metals in Narragansett Bay, Rhode Island: Radiotracer experiments in microcosms. *Estuar. Coast. Mar. Sci.* 10, 635-654.
9. Santschi, P.H. 1980. A revised estimate of trace metal fluxes to Narragansett Bay. *Estuar. Coast. Mar. Sci.* 11, 115-118.
10. Santschi, P.H., Y.-H. Li, J. Bell, R.M. Trier, and K. Kawtaluk\*. 1980. Plutonium in the coastal marine environment. *Earth Planet. Sci. Lett.* 51, 248-265.
11. Adler, D., M. Amdurer, and P.H. Santschi. 1980. Metal tracers in two marine microcosms: sensitivity to scale and configuration. In: *Microcosms in Ecological Research*, J. Giesy, ed., NTIS, CONF-781101, 348-368.
12. Bopp, R., P.H. Santschi, Y.-H. Li, and B.L. Deck. 1981. Biodegradation and gas exchange of gaseous alkanes in model estuarine ecosystems. *Organic Geochem.* 3, 9-14.
13. Li, Y.-H., P.H. Santschi, A. Kaufman, L.R. Benninger and H.W. Feely. 1981. Natural radionuclides in waters of the New York Bight. *Earth Planet. Sci. Lett.* 55, 217-228.
14. Santschi, P.H., Y.-H. Li, J. Bell, D. Adler, M. Amdurer and U.P. Nyffeler, 1983. The relative mobility of natural (Th, Pb, Po) and fallout (Pu, Cs, Am) radionuclides in the coastal marine environment: Results from model ecosystems (MERL) and Narragansett Bay studies. *Geochim. Cosmochim. Acta* 47, 201-310.
15. Santschi, P.H., P. Bower, U.P. Nyffeler, A. Azevedo and W. S. Broecker. 1983. Estimates of the resistance to chemical transport posed by the deep-sea boundary layer. *Limnology and Oceanography* 28, 899-912.
16. Santschi, P.H., U.P. Nyffeler, P. O'Hara, M. Buchholtz and W.S. Broecker. 1984. Radiotracer uptake on the sea floor: results from the "active" MANOP chamber deployments in the eastern Pacific. *Deep Sea Res.* 31, 451-468.
17. Santschi, P.H. 1984. Particle flux and trace metal residence times in natural waters. *Limnol. and Oceanogr.* 29(5), 1100-1108.
18. Santschi, P.H., S. Nixon, M. Pilson, and C. Hunt. 1984. Accumulation of sediments, trace metals (Pb, Cu) and hydrocarbons in Narragansett Bay, Rhode Island. *Est. Coast. Shelf Sci.* 19(4), 427-450.
19. Nyffeler, U.P., Y.-H. Li and P.H. Santschi. 1984. A kinetic approach to describe trace element distribution between particles and solution in natural aquatic systems, *Geochim. Cosmochim. Acta* 48(5), 1513-1522.
20. Li, Y.-H., L. Burkhardt, M. Buchholtz, P. O'Hara and P.H. Santschi. 1984. Partitioning of radiotracers between suspended particles and sea water. *Geochim. Cosmochim. Acta* 48(10), 2011-2020.
21. Santschi, P.H. 1985. The MERL mesocosm approach for studying sediment-water interactions and ecotoxicology, *Environ. Technol. Lett.*, 6, 335-350.
22. Wan Guojang, Santschi, P.H., Farrenkothen, K., Sturm, M., and Stumm, W. 1985. Distribution and dating of <sup>137</sup>Cs in recent sediments in Lake Greifen (Switzerland), *Acta Scient. Circumstantia* 5(3), 360-365.
23. Santschi, P.H., U.P. Nyffeler, R.F. Anderson, S.L. Schiff, P. O'Hara. 1986. Response of radioactive trace metals to acid-base titrations in controlled experimental ecosystems: Evaluation of transport parameters for application to whole lake radiotracer experiments. *Can. J. Fish. Aquat. Sci.*, 43(1), 60-77.
24. Nyffeler, U.P., P.H. Santschi and Y.-H. Li. 1986. The relevance of scavenging kinetics to modelling of sediment-water interactions in natural waters. *Limnol. Oceanogr.*, 31(2), 277-292.

25. Moore, W.S., and P.H. Santschi, 1986.  $^{228}\text{Ra}$  in the Indian Ocean, *Deep Sea Res.*, 33(1), 107-120.
26. Santschi, P.H. 1986. Radionuclides as tracers for sedimentation and remobilization processes in the ocean and in lakes. In: *Sediments and Water Interactions*, P.G. Sly, ed., Springer Verlag, 435-447.
27. Santschi, P.H., Y.-H. Li, P. O'Hara and M. Amdurer. 1986. Removal and backdiffusion processes of radiotracers in shallow coastal marine ecosystems of Narragansett Bay, R.I., USA. *Rapp. P.-v. Reun. Cons. Int. Explor. Mer.* 186, 206-212.
28. Wan Guojang, Santschi, P.H., Sturm, M., Farrenkothen, K., Lueck, A., Werth, E., and Schuler, Ch. 1986. A comparative study on recent sedimentation rates of Lake Greifen, Switzerland, using varve counting and radionuclide dating. *Geochimica* 9(3), 259-270.
29. Hoehn, E., and P.H. Santschi. 1987. Interpretation of tracer displacement during infiltration of river water to ground water, *Water Resour. Res.*, 23(4), 633-640.
30. Wan, G.J., P.H. Santschi, M. Sturm, K. Farrenkothen, E. Werth, and Chr. Schuler. 1987. Natural ( $^{210}\text{Pb}$ ,  $^7\text{Be}$ ) and fallout ( $^{137}\text{Cs}$ ,  $^{239,240}\text{Pu}$ ,  $^{90}\text{Sr}$ ) radionuclides as geochemical tracers of sedimentation in Greifensee, Switzerland, *Chemical Geology* 63, 181-196.
31. Santschi, P.H., E. Hoehn, A. Lueck, and K. Farrenkothen, 1987. Tritium as a tracer for the movement of surface and ground waters in the Glatt Valley, Switzerland, *Environ. Sci. Technol.* 21, 908-916.
32. Berelson, W., M. Buchholtz, D. Hammond, and P.H. Santschi. 1987. Radon fluxes measured with the MANOP Bottom Lander, *Deep Sea Res. A*, 34(7), 1209-1228.
33. Anderson, R.F., P.H. Santschi, U.P. Nyffeler, S.L. Schiff. 1987. Validating the use of radiotracers as analogues of stable metal behavior in enclosed aquatic ecosystem experiments. *Can. J. Fish. Aquat. Sci.*, 44 (Suppl. 1), 251-259.
34. Santschi, P.H., Y.-H. Li, P. O'Hara, M. Amdurer, D. Adler, and P. Doering. 1987. The relative mobility of radioactive trace elements across the sediment-water interface of the MERL model ecosystems of Narragansett Bay, *J. Mar. Res.*, q.
35. Wan, G. J., and Santschi, P.H. 1987. Prediction of radionuclide inventory for sediments in Lake Greifen (Switzerland). *Scientia Geographica Sinica* 7 (4), 358-363.
36. Santschi, P.H., Bajo, C., Mantovani, M., Orcinolo, D., Cranston, R., and Bruno, J. 1988. Uranium in pore waters from North Atlantic (GME and southern Nares Abyssal Plain) sediments, *Nature*, 331, 155-157.
37. Santschi, P.H., Bollhalder, S., Farrenkothen, K., Lueck, A., Zingg, S. and Sturm, M. 1988. Chernobyl radionuclides in the environment: tracers for the tight coupling of atmospheric, terrestrial and aquatic geochemical processes, *Environ. Sci. Technol.* 22, 510-516.
38. Honeyman, B.D., and Santschi, P.H. 1988 Critical review: Metals in aquatic systems. Predicting their scavenging residence times from laboratory data remains a challenge. *Environ. Sci. Technol.* 22, 862 - 871.
39. Santschi, P.H. 1988. Factors controlling the biogeochemical cycles of trace elements in fresh and marine waters as revealed by artificial radioisotopes, *Limnol. Oceanogr.*, 33(4, part 2), 848-866.
40. Li, Y.-H., P.H. Santschi, P. O'Hara, M. Amdurer and P. Doering. 1989. The importance of a benthic ecosystem to the removal of radioactive trace elements from coastal waters, *Environ. Technol. Lett.*, 10, 57-70.
41. Santschi, P.H., and Honeyman, B.D. 1989. Radionuclides in aquatic environments. *Radiation Physics and Chemistry* 34 (2), 213 - 240.

42. Dominik, J., Schuler, Ch., and Santschi, P. 1989. Residence times of  $^{234}\text{Th}$  and  $^7\text{Be}$  in Lake Geneva. *Earth Planet. Sci. Lett.* 93, 345 - 358.
43. Santschi, P.H. 1989. Use of radionuclides in the study of contaminant cycling processes. *Hydrobiologia*, 176/177, 307-320.
44. Honeyman, B.D., and Santschi, P.H. 1989. A Brownian-pumping model for trace metal scavenging: evidence from Th isotopes, *J. Mar. Res.*, 47/4, 950-995.
45. Santschi, P.H., Bollhalder, S. Zingg, S., Lueck, A. and Farrenkothen, K. 1990. The self-cleaning capacity of surface waters after radioactive fallout. Evidence from European waters after Chernobyl, 1986-1988., *Environ. Sci. Technol.*, 24, 519-527.
46. Santschi, P.H., Anderson, R.F., Fleisher, M.Q., and Bowles, W. 1991. Measurements of diffusive sublayer thicknesses in the ocean by alabaster dissolution, and their implications for the measurements of benthic fluxes, *J. Geophys. Res. C*, 96/6, 10641-10657.
47. Honeyman, B.D., and Santschi, P.H. 1991. Coupling of trace metal adsorption and particle aggregation: kinetic and equilibrium studies using  $^{59}\text{Fe}$ -labeled hematite, *Environ. Sci. Technol.*, 25, 1739-1747.
48. Schuler, Ch., Wieland, E., Santschi, P.H., Sturm, M., Lück, A., Farrenkothen, K., Bollhalder, S., Beer, J., Bonani, G., Hofmann, H.J., Suter, M., and Wölfli, W. 1991. A multi-tracer study of radionuclides in Lake Zurich, Switzerland 1. Comparison of atmospheric and sedimentary fluxes of  $^7\text{Be}$ ,  $^{10}\text{Be}$ ,  $^{210}\text{Pb}$ ,  $^{210}\text{Po}$  and  $^{137}\text{Cs}$ , *J. Geophys. Res.*, 96 (C9),17051-17065.
49. Wieland, E., Santschi, P.H., and Beer, J. 1991. A multi-tracer study of radionuclides in Lake Zurich, Switzerland 2. Residence times, removal processes, and sediment focusing, *J. Geophys. Res.* , 96 (C9),17067-17080.
50. Baskaran, M., Santschi, P.H., Benoit, G., and Honeyman, B.D. 1992. Scavenging of Th isotopes by colloids in seawater of the Gulf of Mexico, *Geochim. Cosmochim. Acta*, 56, 3375-3388.
51. Baskaran, M., Murphy, D.J., Santschi, P.H., Orr, J.C., and Schink, D.R. 1993. A method for rapid in situ extraction of Th, Pb and Ra isotopes from large volumes of seawater, *Deep Sea Research I*, 40, 849-865.
52. Morse, J.W., Presley, B.J., Taylor, R.J., Benoit, G., and Santschi, P.H. 1993. Trace metal chemistry of Galveston Bay: Water, Sediments and Biota. *Mar. Environ. Res.*, 36, 1-37.
53. Baskaran, M., and Santschi, P.H. 1993. The role of particles and colloids in the transport of radionuclides in coastal environments of Texas, *Mar. Chem.*, 43, 95-114.
54. Wieland, E., Santschi, P.H., Höhener, P., and Sturm, M. 1993. Scavenging of Chernobyl  $^{137}\text{Cs}$  and natural  $^{210}\text{Pb}$  in Lake Sempach, Switzerland, *Geochim. Cosmochim. Acta*, 57, 2959-2979.
55. Baskaran, M., Coleman, Ch.H., and Santschi, P.H. 1993. Atmospheric depositional fluxes of  $^7\text{Be}$  and  $^{210}\text{Pb}$  at Galveston and College Station, Texas, *J. Geophys. Res.*, 98 (D11), 20,555-20,571.
56. Santschi, P.H., Honeyman, B.D., and Quigley, M.S. 1993. The "Zero-order Model" revisited: Paul Schindler's influence on the development of trace metal scavenging models, *Aquatic Sciences*, 55/4, 230-239.
57. Guo, L., Coleman, C.H., Jr., and Santschi, P.H. 1994. The distribution of colloidal and dissolved organic carbon in the Gulf of Mexico, *Mar. Chem.*, 45, 105-119.
58. Benoit, G., Oktay, S., Cantu, A., Hood, M.E., Coleman, C., Corapcioglu, O., and Santschi, P.H. 1994. Partitioning of Cu, Pb, Ag, Zn, Fe, Al, and Mn between filter-retained particles, colloids and solution in six Texas estuaries, *Mar. Chem.*, 45/4, 307-336.



59. Santschi, P.H., Guo, L., Baskaran, M., Trumbore, S., Southon, J., Bianchi, T.S., Honeyman, B., and Cifuentes, L. 1995. Isotopic evidence for the contemporary origin of high-molecular weight organic matter in oceanic environments, *Geochim. Cosmochim. Acta*, 59(3), 625-631.
60. Bianchi, T.S., Lambert, C., Santschi, P.H., Baskaran, M., and Guo, L.D. 1995. Plant pigments as biomarkers of high-molecular weight dissolved organic carbon, *Limnology and Oceanography*, 40, 422-428.
61. Ravichandran, M., Baskaran, M., Santschi, P.H., and Bianchi, T.S. 1995. History of trace metal pollution in Sabine-Neches estuary, Beaumont, Texas, *Environ. Sci.&Technol.*, 29, 1495-1503.
62. Guo, L., Santschi, P.H., Baskaran, M., and Zindler, A. 1995. Distribution of dissolved and particulate  $^{230}\text{Th}$  and  $^{232}\text{Th}$  in seawater from the Gulf of Mexico and off Cape Hatteras, as measured by SIMS, *Earth Planet. Sci. Lett.*, 133, 117-128.
63. Guo, L., Santschi, P.H., and Warnken, K.W. 1995. Dynamics of dissolved organic carbon (DOC) in oceanic environments. *Limnol. Oceanogr.*, in 40(8), 1392-1403.
64. Santschi, P.H. 1995. Seasonality of nutrient concentrations in Galveston Bay, *Mar. Env. Res.*, 40, 337-362.
65. Baskaran, M., Asbill, S., Santschi, P.H., Davis, T., Brooks, J., Champ, M., Makeyev, V., and Khlebovich, V. 1995. Distribution of  $^{239,240}\text{Pu}$  and  $^{238}\text{Pu}$  Concentrations in Sediments from the Ob and Yenisey Rivers and the Kara Sea, *Applied Radiation and Isotopes*, 46/11, 1109-1119.
66. Schink, D.R., Santschi, P.H., Corapcioglu, O., Sharma, P., and Fehn, U. 1995.  $^{129}\text{I}$  in Gulf of Mexico waters, *Earth. Plant. Sci. Lett.*, 135, 131-138.
67. Ravichandran, M., Baskaran, M., Santschi, P.H., and Bianchi, T.S. 1995. Geochronology of sediments of Sabine-Neches Estuary, Texas, *Chemical Geology (Isotope Geoscience)*, 125, 291-306.
68. Schink, D.R., Santschi, P.H., Corapcioglu, O., Oktay, S., and Fehn, U. 1995. Prospects for "iodine-129" dating of marine organic matter using AMS, *Nucl. Instr. and Methods in Phys. Res. B*, 99, 524-527.
69. Stordal, M.C., Gill, G.A., Wen, L.-S., and Santschi, P.H. 1996. Mercury phase speciation in the surface waters of selected Texas estuaries: Importance of colloidal forms. *Limnol. Oceanography*, 41(1), 52-61.
70. Baskaran, M., Santschi, P.H., Guo, L., Bianchi, T.S., and Lambert, C. 1996.  $^{234}\text{Th}$ : $^{238}\text{U}$  disequilibria in the Gulf of Mexico: importance of organic matter and particle concentration, *Continental Shelf Res.*, 16, 353-380.
71. Quigley, M., Honeyman, B.D., and Santschi, P.H. 1996. Thorium sorption in the marine environment: equilibrium partitioning at the hematite/water interface, sorption/desorption kinetics and particle tracing. *Aquatic Geochemistry*, 1, 277-301.
72. Santschi, P.H., D.R. Schink, O. Corapcioglu, S. Oktay-Marshall, P. Sharma, and U. Fehn, 1996. Evidence for elevated levels of Iodine-129 in the deep Western Boundary Current in the Middle Atlantic Bight, *Deep-Sea Res.*, 43, 259-265.
73. Baskaran, M., Asbill, S., Santschi, P.H., Brooks, J., Champ, M., Adkinson, D., Colmer, M.R., and Makeyev, V. 1996. Pu,  $^{137}\text{Cs}$  and excess  $^{210}\text{Pb}$  in Russian Arctic sediments. *Earth Planet. Sci. Lett.*, 140, 243-257.
74. Stordal, M. C., Santschi, P.H., and Gill, G.A. 1996. Colloidal pumping: Evidence for the coagulation process using natural colloids tagged with  $^{203}\text{Hg}$ . *Environ. Sci. Technol.*, 30, 3335-3340.

75. Guo, L., P.H. Santschi, L.A. Cifuentes, S. Trumbore, and J. Southon. 1996. Cycling of dissolved organic matter in the Middle Atlantic Bight as revealed by carbon isotopic ( $^{13}\text{C}$ ,  $^{14}\text{C}$ ) signatures. *Limnol. Oceanogr.*, 41, 1242-1252.
76. Guo, L., and P.H. Santschi. 1996. A critical evaluation of the cross-flow ultrafiltration technique for the sampling of colloidal organic in seawater. *Marine Chemistry*, 55, 113-128.
77. Wen, L.S., M.C. Stordal, G.A. Gill, and P.H. Santschi. 1996. An ultra-clean cross-flow ultrafiltration technique for the study of trace metal phase speciation in sea water. *Marine Chemistry*, 55, 129-152.
78. Buesseler, K.O., Bauer, J.E., Chen, R.F., Eglinton, T.I., Gustafsson, O., Landing, W., Mopper, K., Moran, S.B., Santschi, P.H., VernonClark, R., and Wells, M.L. 1996. Sampling marine colloids using cross-flow filtration: Overview and results from an intercomparison study. *Mar. Chem.*, 55, 1-32.
79. Bai, Z., Wan, G.J., Wang, H.S., Wan, X., Huang, Santschi, P.H., and Baskaran, M. 1996.  $^7\text{Be}$  distribution in surface soil of central Guizhou karst region and its erosion trace. *Progr. Nat. Sci.*, 6(6), 700-710.
80. Bai, Z. G., Wan, G. J., Wang, C. S., Wan, X., Huang, R. G., Santschi, P. H. and Baskaran, M. 1996.  $^7\text{Be}$ : A geochemical tracer for seasonal erosion of surface soil in watershed of Lake Hongfeng, Guizhou, China. *Pedosphere*. 6(1): 23-28.
81. Wen, L.S., P.H. Santschi, G. Gill and C. Paternostro\*. 1997. Colloidal and particulate silver in river and estuarine waters of Texas, *Environ. Sci. and Technol.*, 31, 723-731.
82. Guo, L., Santschi, P.H., and Baskaran, M. 1997. Interactions of thorium isotopes with colloidal organic matter in oceanic environments. *Colloids and Surfaces A*, 120, 255-271.
83. Guo, L., and Santschi, P.H. 1997. Composition and cycling of colloids in marine environments, *Reviews of Geophysics*, 35, 17-40.
84. Guo, L., and Santschi, P.H. 1997. Measurements of dissolved organic carbon (DOC) in seawater by the high temperature combustion method. *Acta Oceanologica Sinica*, 16(2), 59-73.
85. Wen, L.S., Santschi, P.H., and Tang, D. 1997. Interactions between radioactively labeled colloids and natural particles: Evidence for Colloidal Pumping. *Geochim. Cosmochim. Acta*, 61(14), 2867-2878.
86. Bianchi, T.S., Lambert, C.D., Santschi, P.H., Guo, L., and Hatcher, P.G. 1997. Sources and transport of land-derived particulate and dissolved organic carbon in the Gulf of Mexico (Texas Shelf/Slope). *Organic Geochemistry*, 27, 65-78.
87. Guo, L., and Santschi, P.H. 1997. Isotopic and elemental characterization of colloidal organic matter from the Chesapeake Bay and Galveston Bay. *Marine Chemistry*, 59, 1-15.
88. Santschi, P.H., Lenhart, J.J., Honeyman, B.D. 1997. Heterogeneous processes affecting trace contaminant distribution in estuaries: the role of natural organic matter. *Marine Chemistry*, 58, 99-125.
89. Santschi, P.H., Balnois, E., Wilkinson, K., Zhang, J., Buffle, J., and Guo, L. 1998. Fibrillar polysaccharides in marine macromolecular organic matter, as imaged by Atomic Force Microscopy and Transmission Electron Microscopy, *Limnology and Oceanography*, 43(5), 896-908.
90. Wen, L.S., P.H. Santschi, C. Paternostro, and G. Gill. 1999. Estuarine trace metal distributions in Galveston Bay I: Importance of colloidal forms in the speciation of the dissolved phase, *Mar. Chem.*, 63 (3-4), 185-212.

91. Santschi, P.H., Allison, M., Asbill, S., Perlet, A.B., Cappellino, S., Dobbs C., McShea, L. 1999. Sediment transport and Hg recovery in Lavaca Bay, as evaluated from radionuclide and Hg distributions. *Environ. Sci. Technol.*, 33, 378 -391.
92. Carvalho, R.A., Benfield, M.C., and Santschi, P.H. 1999. Comparative bioaccumulation studies of colloiddally-complexed and free-ionic heavy metals in juvenile brown shrimp *penaeus aztecus* (crustacea: docapoda: penaeidae). *Limnol. Oceanogr.*, 44(2), 403-414.
93. Warnken, K.W., Gill, G.A., Wen, L.-S., Griffin, L.L., and Santschi, P.H. 1999. Trace metal analysis of natural waters by ICP-MS with on-line preconcentration and ultrasonic nebulization. *J. Analyt. Atomic Spectrometry.*, 14(2), 247-252.
94. Lambert, C.D., Bianchi, T.S., and Santschi, P.H. 1999. Cross-shelf changes in phytoplankton community composition in the Gulf of Mexico (Texas shelf/slope): The use of plant pigments as biomarkers. *Continental Shelf Research*, 19, 1-21.
95. Santschi, P.H., Guo, L., Walsh, I.D., Quigley, M.S., and Baskaran, M. 1999. Boundary exchange and scavenging of radionuclides in continental margin waters of the Middle Atlantic Bight. Implications for organic carbon fluxes. *Cont. Shelf Res.*, 19, 609-636.
96. Moran, J.E., Oktay, S., Santschi, P.H., and Schink, D.R. 1999. Atmospheric dispersal of <sup>129</sup>Iodine from European nuclear fuel reprocessing facilities. *Environ. Sci. Technol.*, 33(15), 2536-2542.
97. Paulsen, S.C., List, E.J., and Santschi, P.H. 1999. Modeling variability in <sup>210</sup>Pb and sediment fluxes near the Whites Point outfalls, Palos Verdes shelf, California. *Environ. Sci. & Technol.*, 33(18), 3077-3085.
98. Paulsen, S.C, List, E.J., and Santschi, P.H. 1999. Comment on "In-situ measurements of chlorinated hydrocarbons in the water column off the Palos Verdes Peninsula, California". *Environ. Sci. Technol.*, 33(21), 3927-3928.
99. Guo, L., and Santschi, P.H. 2000. Sedimentary sources of old high molecular weight dissolved organic matter from the ocean margin benthic nepheloid layer. *Geochim. Cosmochim. Acta*, 64(4), 651-660.
100. Guo, L., Wen, L.-S., Tang, D., and Santschi, P.H. 2000. Re-examination of cross-flow ultrafiltration for sampling marine colloids: evidence from molecular probes. *Mar. Chem*, 69(1-2), 75-90.
101. Tang, D., Wen, L.-S., and Santschi, P.H. 2000. Analysis of biogenic thiols in natural samples by HPLC separation and fluorescence detection with ammonium 7-fluorobenzo-2-oxa-1,3-diazole-4-sulfonate (SBD-F), *Anal. Chim. Acta*, 408, 299-307.
102. Oktay, S.D., Santschi, P.H., Moran, J.E., Sharma, P. 2000. The <sup>129</sup>Iodine Bomb Pulse Recorded in Mississippi River Delta Sediments: Results from Isotopes of I, Pu, Cs, Pb, and C, *Geochim. Cosmochim. Acta*, 64 (6), 989-996.
103. Guo, L., Santschi, P.H., and Warnken, K.W. 2000. Trace metal composition of colloidal material in estuarine and marine environments. *Marine Chemistry*, 70, 257-275.
104. Tang, D., and Santschi, P.H. 2000. Sensitive determination of dissolved sulfide in estuarine water by solid phase extraction and high-performance liquid chromatography detection of methylene blue. *J. Chromatography A*, 883, 305-309.
105. Tang, D., Santschi, P.H., Hung, C.-C., and Warnken, K. 2000. The distribution of biogenic thiols in surface waters of Galveston Bay. *Limnol. Oceanogr.*, 45(6), 1289-1297.
106. Warnken, K.W., Tang, D., Gill, G.A., and Santschi, P.H. 2000. Performance optimization of a commercially available iminodiacetate resin for the determination of Mn, Ni, Cu, Cd, and Pb

- by on-line preconcentration inductively coupled plasma-mass spectrometry. *Analyt. Chim. Acta*, 423, 265-276.
107. Mitra, S., Bianchi, T.S., Guo, L., and Santschi, P.H. 2000. Sources and transport of terrestrially derived dissolved organic matter in the Chesapeake Bay and the Middle Atlantic Bight. *Geochim. Cosmochim. Acta*, 64(20), 3547-3557.
  108. Baskaran, M., Asbill, S., Schwantes, J., Santschi, P.H., Champ, M., Brooks, J., Adkinson, D., and Makeyev, V. 2000. Concentrations of  $^{137}\text{Cs}$ ,  $^{239,240}\text{Pu}$  and  $^{210}\text{Pb}$  in sediment samples from Pachora Sea and biological samples from the Ob and Yenisey Rivers and Kara Sea. *Marine Pollution Bulletin*, 40(10), 830-838.
  109. Warnken, K.W., Gill, G., Griffin, L.L., and Santschi, P.H. 2000. Benthic exchange of nutrients in Galveston Bay, Texas, *Estuaries*, 23(5), 647-661.
  110. Hung, C.-C., and Santschi, P.H. 2001. Spectrophotometric determination of total uronic acids in seawater using cation exchange separation and pre-concentration by lyophilization. *Analyt. Chim. Acta*, 427, 111-117.
  111. Santschi, P.H., Guo, L., Asbill, S., Allison, M., Kepple, B., and Wen, L.-S. 2001. Accumulation rates and sources of sediments and organic carbon on the Palos Verdes shelf based on multiple radioisotopic tracers ( $^{137}\text{Cs}$ ,  $^{239,240}\text{Pu}$ ,  $^{210}\text{Pb}$ ,  $^{234}\text{Th}$ ,  $^{238}\text{U}$  and  $^{14}\text{C}$ ). *Marine Chemistry*, 73(2), 125-152.
  112. Santschi, P.H., Wen, L.S., Guo, L. 2001. Transport and diagenesis of trace metals and organic matter in Palos Verdes shelf sediments affected by a wastewater outfall. *Marine Chemistry*, 73(2), 153-171.
  113. Warnken, K.W., Gill, G.A., Griffin, L.L., and Santschi, P.H. 2001. Sediment-water exchange fluxes of Mn, Fe, Ni, and Zn in Galveston Bay, Texas, *Marine Chemistry*, 73(3-4). 215-231.
  114. Tang, D., Warnken, K.W., and Santschi, P.H. 2001. Organic complexation of Copper in surface waters of Galveston Bay. *Limnol. Oceanogr.*, 46(2), 321-330.
  115. Hung, C.-C., Tang, D., Warnken, K., and Santschi, P.H. 2001. Distributions of carbohydrates, including uronic acids, in estuarine waters of Galveston Bay. *Marine Chemistry*, 73, 305-318.
  116. Guo, L., Hunt, B., and Santschi, P.H. 2001. Ultrafiltration behavior of major ions (Na, Ca, Mg, F, Cl, and  $\text{SO}_4$ ) in natural waters. *Water Research*, 35(6), 1500-1508.
  117. Guo, L., Hunt, B.J., Santschi, P.H., and Ray, S. 2001. Effect of dissolved organic matter on the uptake of trace metals by American oysters. *Environ. Sci. Technol.*, 35(5), 885-893.
  118. Santschi, P.H., Guo, L., and Wen, L.-S. 2001. Box coring artifacts in sediments affected by a waste water outfall. *Mar. Poll. Bulletin*, 42(4), 267-272.
  119. Santschi, P.H., Presley, B.J., Wade, T.L., Garcia-Romero, B., and Baskaran, M. 2001. Historical contamination of PAHs, PCBs, DDTs, and heavy metals in Mississippi River Delta, Galveston Bay and Tampa Bay sediment cores. *Mar. Environ. Res.* 52(1), 51-79.
  120. Wieland, E., Lienemann, P., Bollhalder, S., Lück, A., and Santschi, P.H. 2001. Composition and transport of settling particles in Lake Zurich: Importance of lateral pathways. *Aquatic Sciences*, 63(2), 123-149.
  121. Quigley, M. S., Santschi, P. H., Guo, L. and Honeyman, B. D. 2001. Sorption irreversibility and coagulation behavior of  $^{234}\text{Th}$  with surface-active marine organic matter. *Mar. Chem.* 76: 27-45.
  122. Oktay, S.D., Santschi, P.H., Moran, J.E., and Sharma, P. 2001.  $^{129}\text{I}$  and  $^{127}\text{I}$  transport in the Mississippi River. *Environ. Sci. and Technol.*, 35, 4470-4476.

123. Quigley, M.S., Santschi, P.H., Hung, C.-C., Guo, L., and Honeyman, B.D. 2002. Importance of polysaccharides for  $^{234}\text{Th}$  complexation to marine organic matter. *Limnology and Oceanography*, 47, 367-377.
124. Tang, D., Warnken, K.W., and Santschi, P.H. 2002. Distribution and partitioning of trace metals (e.g., Ni, Cu, Cd, Pb, Zn) in Galveston Bay waters. *Mar. Chem.*, 78, 29-45.
125. Guo, L., Santschi, P.H., and Ray, S. 2002. Metal partitioning between colloidal and dissolved phases and its relation with bioavailability to American oysters *Mar. Environ. Res.*, 54 (1), 49-64.
126. Guo, L., Hung, C.C., Santschi, P.H. and Walsh, I.D. 2002.  $^{234}\text{Th}$  scavenging and its relationship to acid polysaccharide abundance in the Gulf of Mexico. *Mar. Chem.*, 78(2/3), 103-119.
127. Baskaran, M., and Santschi, P.H. 2002. Particulate and dissolved  $^{210}\text{Pb}$  activities in the shelf and slope regions of the Gulf of Mexico waters. *Contin. Shelf Res.*, 22, 1493-1510.
128. Santschi, P.H., Roberts, K., and Guo, L. 2002 The organic nature of colloidal actinides transported in surface water environments. *Environ. Sci. Technol.*, 36, 3711-3719.
129. Moran, J.E., Oktay, S.D., and Santschi, P.H. 2002. Sources of Iodine and  $^{129}\text{I}$  in Rivers. *Wat. Res. Res.*, 38(8), 1149, DOI: 10.1029/2001WR000622, 24-1 to 24-10.
130. Wen, L.-S., Santschi, P.H., Gill, G., and Tang, D. 2002. Silver Concentrations in Colorado Watersheds Using Improved Methodology. *Environmental Toxicology and Chemistry*., 21(10), 2040–2051.
131. Santschi, P.H., and Roberts, K.A. 2002. Actinide Migration from Contaminated Soil to Surface Water at the Rocky Flats Environmental Technology Site. *J. Nuclear Sci. and Technol., Suppl.* 3, 485-488.
132. Yeager, K.M., Santschi, P.H., Phillips, J.D., and Herbert, B.E. 2002. Sources of alluvium in a coastal plain stream based on radionuclide signatures from the  $^{238}\text{U}$  and  $^{232}\text{Th}$  decay series. *Wat. Res. Res.* 38 (11), art. no. 1242.
133. Santschi, P.H., Hung, C.-C., Guo, L., Pinckney, J., Schultz, G., Alvarado-Quiroz, N., and Walsh, I. 2003. Control of acid polysaccharide production, and  $^{234}\text{Th}$  and POC export fluxes by marine organisms, *Geophysical Res. Lett.*, 30(2), Art. No. 1044, doi 10.1029/2002GL016046.
134. Hung, C.-C., Guo, L., Santschi, P.H., Alvarado-Quiroz, N.J., Haye, J. 2003. Distributions of carbohydrate species in the Gulf of Mexico. *Mar. Chem.*, 81, 119-135.
135. Schwehr, K.A., and Santschi, P.H. 2003. A sensitive determination of iodine species in fresh and sea water samples, including organo-iodine, using high performance liquid chromatography and spectrophotometric detection. *Analytica Chimica Acta*, 482, 59-71.
136. Guo, L., Tanaka, N., Schell, D.M., and Santschi, P.H. 2003. Nitrogen and carbon isotopic composition of HMW dissolved organic matter in marine environments. *Mar. Ecol. Progr. Ser.*, 252(2003): 51-60.
137. Hung, C.-C., Guo, L., Schultz, G., Pinckney, J.L., and Santschi, P.H. 2003. Production and fluxes of carbohydrate species in the Gulf of Mexico, *Global Biogeochem. Cycles*, 17(2), 1055, doi:10.1029/2002GB001988.
138. Yeager, K.M., and Santschi, P.H. 2003. Invariance of isotope ratios of lithogenic radionuclides: more evidence for their use as sediment source tracers. *J. Environ. Radioactivity*, 69, 159-176.
139. Santschi, P.H., and Schwehr, K.A. 2004.  $^{129}\text{I}/^{127}\text{I}$  as a new environmental tracer or geochronometer for biogeochemical or hydrodynamic processes in the Hydrosphere and Geosphere: The central role of organo-iodine. *Sci. Tot. Environ.*, 321, 257-271.

140. Warnken, K.W., and Santschi, P.H. 2004. Biogeochemical behavior of organic carbon in the lower Trinity River downstream of the Lake Livingston reservoir (Texas, USA). *Sci. Tot. Env.*, 329, 131-144.
141. Roberts, K.A., and Santschi, P.H. 2004. Inverse dependency of particle residence times in ponds to the concentration of phosphate, the limiting nutrient. *J. Environ. Radioactivity*, 76(3), 311-318.
142. Roberts, K.A., Santschi, P.H., Leppard, G.G., and West, M. 2004. Characterization of organic-rich colloids from surface and ground waters at the actinide-contaminated Rocky Flats Environmental Technology Site (RFETS), Colorado, USA. *Colloids and Surfaces A: Physicochem. Eng. Aspects*, 244, 105-111.
143. Yeager, K.M., Santschi, P.H., and Rowe, G.T. 2004. Sediment accumulation and radionuclide inventories ( $^{239,240}\text{Pu}$ ,  $^{210}\text{Pb}$  and  $^{234}\text{Th}$ ) in the northern Gulf of Mexico, as influenced by organic matter and macrofaunal density. *Marine Chemistry*, 91, 1-14.
144. Hung, C.-C., Guo, L.D., Roberts, K.A., and Santschi, P.H. 2004. Upper ocean carbon flux determined by size-fractionated  $^{234}\text{Th}$  data and sediment traps in the Gulf of Mexico. *Geochemical Journal*, 38(6), 601-611.
145. Olivier, S., Fifield, L.K., Gäggeler, H.W., Santschi, P.H., Schwikowski, M., Schotterer, U., Wacker, L., Bajo, S., and Papina, T. 2004. Plutonium from global fallout recorded in an ice core from the Belukha Glacier, Siberian Altai. *Environ. Sci. Technol.* 38, 6507-6512.
146. Yeager, K.M., Santschi, P.H., Phillips, J.D., and Herbert, B.E. 2005. Tributary effects and sediment reworking in lower reaches of a stream as indicated by radionuclides, Loco Bayou, Texas, Texas, *Environ. Geol.*, 47, 382-395.
147. Hung, C.-C., Warnken, K.W., and Santschi, P.H. 2005. A seasonal survey of carbohydrates and uronic acids in the Trinity River, Texas. *Organic Geochem.*, 36, 463-474.
148. Tengberg, A., Hall, P., Andersson, U., Linden, B., Styrenius, O., Boland, G., de Bovee, F., Carlsson, B., Ceradini, S., Devol, A., Duineveld, G., Fremann, J.-U., Glud, R.N., Khriponoff, A., Leather, J., Linke, P., Lund-Hansen, L., Rowe, G., Santschi, P.H., de Wilde, P., and Witte, U. 2005. Intercalibration of benthic flux chambers II. Hydrodynamic characterization and flux comparisons of 14 different designs. *Mar. Chem.*, 94, 147-173.
149. Schwehr, K.A., Santschi, P.H., Moran, J.E., and Elmore, D. 2005. Near-conservative behavior of  $^{129}\text{I}$  in the orange county aquifer system, California. *Appl. Geochem.*, 20, 1461-1472.
150. Jiann, K.-T., Wen, L.-S., and Santschi, P.H. 2005. Dynamics of Trace Metal Speciation (Cd, Cu, Ni and Pb) in the Danshuei River Estuary, a Macro-tidal, Temporally Anoxic Estuary in Taiwan. *Marine Chemistry*, 96(3-4), 293-313.
151. Schwehr, K.A., Santschi, P.H., and Elmore, D. 2005. The dissolved organic iodine species of the isotopic ratio of  $^{129}\text{I}/^{127}\text{I}$ : A novel tool for tracing terrestrial organic carbon in the estuarine surface waters of Galveston Bay, Texas. *Limnol. Oceanogr. Methods*, 3, 326-337.
152. Hung, C.-C., Santschi, P.H., and Gillow, J.B. 2005. Isolation and characterization of extracellular polysaccharides produced by *Pseudomonas fluorescens* Biovar II. *Carbohydrate Polymers*, 61, 141-147.
153. Wan, G.J., Chen, J.A., Wu, F.C., Xu, S.Q., Bai, Z.G., Wan, E.Y., Wang, C.S., Huang, R.G., Yeager, K.M., and Santschi, P.H. 2005. Coupling between  $^{210}\text{Pb}_{\text{ex}}$  and organic matter in sediments of a nutrient-enriched lake: An example from Lake Chenghai, China. *Chem. Geol.*, 224(4), 223-236.

154. Alvarado Quiroz, N.A., Hung, C.-C., and Santschi, P.H. 2006. Binding of Thorium(IV) to carboxylate, phosphate and sulfate functional groups from marine exopolymeric substances (EPS), *Mar. Chem.*, 100, 337-353.
155. Wen L.-S., Jiann, K.-T., and Santschi, P.H. 2006. Physicochemical Speciation of Bio-active Trace Metals (Cd, Cu, Fe, Ni) in the Oligotrophic South China Sea, *Mar. Chem.*, 101, 104-129.
156. Haye, J.M., Santschi, P.H., Roberts, K.A., and Ray, S. 2006. Protective role of alginic acid for metal uptake by American Oysters (*Crassostrea virginica*), *Environ. Chem.*, 3, 172-183.
157. Yeager, K.M., Santschi, P.H., Schindler, K.J.\*, Andres, M.J., and Weaver, E.A. 2006. The relative importance of terrestrial versus marine sediment sources to the Nueces-Corpus Christi Estuary, Texas: An isotopic approach. *Estuaries and Coasts*, 29(3), 443-454.
158. Hung, C.-C., Gong, G.-C., Jiann, K.T., Yeager, K.M., Santschi, P.H., Wade, T.L., Sericano, J.L., Hwey-Lian Hsieh, H.-L. 2006. Relationship between carbonaceous materials and Polychlorinated Biphenyls (PCBs) in the sediments of the Danshui River and adjacent areas, Taiwan. *Chemosphere*, 65, 1452-1461.
159. Santschi, P.H., Oktay, S.D., and Cifuentes, L., 2007. Carbon isotopes and iodine concentrations in a Mississippi River delta core recording land use, sediment transport, and dam building in the river's drainage basin. *Mar. Env. Res.*, 63, 278-290.
160. Yeager, K.M., Santschi, P.H., Rifai, H.S., Suarez, M.P., Brinkmeyer, R.L., Hung, C.-C., Schindler, K., Andres, M., and Weaver, E. 2007. Dioxin chronology and fluxes in sediments of the Houston Ship Channel, Texas: Influence of non-steady state sediment transport and total organic carbon. *Environ. Sci. Technol.*, 41, 5291-5298.
161. Hung, C.-C., Gong, G.-C., Chen, H.-Y., Hsieh, H.-L., Santschi, P.H., Wade, T.L., Sericano, J.L. 2007. Relationship between pesticides and organic carbon fractions in sediments of the Danshui River estuary and adjacent coastal areas of Taiwan. *Environ. Pollution*, 148, 546-554.
162. Guo, L.D., Warnken, K.W., and Santschi, P.H. 2007. Retention behavior of dissolved uranium during ultrafiltration: Implications for colloidal uranium in surface waters. *Mar. Chem.*, 107, 156-166.
163. Warnken, K.W., Santschi, P.H., Roberts, K.A., and Gill, G.A. 2008. The cycling and oxidation pathways of organic carbon in a shallow estuary along the Texas Gulf Coast. *Estuarine, Coastal and Shelf Science*, 76, 69-84.
164. Hung, C., Moran, S.B., Cochran, J.K., Guo, L.D., and Santschi, P.H. 2008. Comment on "How accurate are  $^{234}\text{Th}$  measurements in seawater based on the  $\text{MnO}_2$ -impregnated cartridge technique?" by Pinghe Cai et al., *Geochem. Geophys. Geosyst.*, 9(2), Q02009, doi:10.1029/2007GC001770.
165. Roberts, K.A., Santschi, P.H., and Honeyman, B.D. 2008. Pu(V) reduction and enhancement of particle-water partitioning by exopolymeric substances. *Radiochim. Acta*, 96(9-11), 739-745.
166. Zhang, S., Xu, C., and Santschi, P.H. 2008. Chemical composition and  $^{234}\text{Th}(\text{IV})$  binding of extracellular polymeric substances (EPS) produced by the marine diatom *Amphora* sp. . *Marine Chemistry*, 112, 81-92.
167. Xu, C., Santschi, P.H., Zhong, J.Y., Hatcher, P.G., Francis, A.J., Dodge, C.J., Roberts, K.A., Hung, C.-C., Honeyman, B.D. 2008. Colloidal cutin-like substances cross-linked to siderophore decomposition products mobilizing plutonium from contaminated soils, *Environmental Science and Technology*, 42(22), 8211-8217.

168. Ding, Y.-X., Chin, W.-C., Rodriguez, A., Hung, C.-C., Santschi, P.H., and Verdugo, P. 2008. Amphiphilic exopolymers from *Sagittula stellata* induce self-assembly of DOM polymers and the formation of marine microgels. *Marine Chemistry*, 112, 11–19.
169. Santschi, P.H., and Rowe, G.T. 2008. Radiocarbon-derived sedimentation rates in the Gulf of Mexico. *Deep-Sea Res. II, Gulf of Mexico Special Issue*, 55, 2572–2576.
170. Wen, L.-S., Warnken, K.W., and Santschi, P.H. 2008. The role of organic carbon, iron, and aluminium oxyhydroxides as trace metal carriers in the Trinity River and Trinity River Estuary (Galveston Bay, Texas), *Marine Chemistry*, 112, 20–37.
171. Warnken, K.W., P.H. Santschi. 2009. Sediment and trace metal delivery from the Trinity River watershed to Galveston Bay and the Gulf of Mexico. *Estuaries and Coasts*, 32, 158–172.
172. Ravens, T.M., Thomas, R.C., Roberts, K.A., and Santschi, P.H. 2009. Causes of salt marsh erosion in Galveston Bay, Texas, *Journal of Coastal Research*, doi: 10.2112/07-0942, 25, 265–272.
173. Guo, L.D., White, D.M., Xu, C., and Santschi, P.H. 2009. Chemical and isotopic composition of estuarine colloidal organic matter from the Mississippi River plume. *Marine Chemistry*, 114, 63–71.
174. Zhang, S., and Santschi, P.H. 2009. Application of cross-flow ultrafiltration for isolating exopolymeric substances (EPS) from a marine diatom (*Amphora sp.*). *Limnol. Oceanogr.: Methods* 7, 2009, 419–429.
175. Xu, C., Santschi, P.H., Schwehr, K.A., and Hung, C.-C. 2009. Optimized isolation and purification procedure for obtaining strongly actinide binding exopolymeric substances (EPS) from two bacteria (*Sagittula stellata* and *Pseudomonas fluorescens* Biovar II). *Bioresource Technology*, 100, 6010–6021.
176. Schwantes, J.M., Addleman, R. S., Davidson, J. D., Douglas, M., Meier, D., Mullen, O.D., Myjak, M., Jones, M.E., Woodring, M.L., Johnson, B., and Santschi, P.H. 2009. Medium-resolution autonomous in situ gamma detection system for marine and coastal waters. *Journal of Radioanalytical and Nuclear Chemistry*, 281, DOI: 10.1007/s10967-009-0325-y.
177. Ding, Y.-X., Hung, C.-C., Santschi, P.H., Verdugo, P., and Chin, W.-C. 2009. Spontaneous assembly of exopolymers from phytoplankton. *Terrestrial, Atmospheric and Oceanic Sciences (TAO)*, 20(5), 741–747.
178. Roberts, K.A., Santschi, P.H., Hung, C.-C., Xu, C., Conte, M.H. 2009. Thorium vs. Protactinium fractionation in the ocean, as determined from particle-water partitioning experiments with sediment trap material from the Gulf of Mexico and Sargasso Sea. *Earth Planet Sci. Lett.*, 286(1-2), 131–138.
179. Schwehr, K.A., Santschi, P.H., and Kaplan, D.I., Yeager, C.M., Brinkmeyer, R. 2009. Organiodine formation in aquifer sediments at ambient concentrations. *Environ. Sci. Technol.*, 43, 7258–7264.
180. Miao, A.J., Schwehr, K.A., Xu, C., Zhang, S.J., Quigg, A., and Santschi, P.H. 2009. The algal toxicity of silver engineered nanoparticles and detoxification by exopolymeric substances. *Environ. Pollution*, 157(11), 3034–3041.
181. Hung, C.-C., Xu, C., Santschi, P.H., Zhang, S., Schwehr, K.A., Quigg, Guo, L., Gong, G.-C., A., Pinckney, J., Long, R., and Wei, C.-L. 2010. Comparative evaluation of sediment-trap and <sup>234</sup>Th-derived POC fluxes from the upper oligotrophic waters of the Gulf of Mexico and the subtropical northwestern Pacific Ocean. *Mar. Chem.*, 121, 132–144.



182. Duan, S.W., Bianchi, T.S., Santschi, P.H., and Amon, R.M.W. 2010. Effects of tributary inputs on nutrient export from the Mississippi and Atchafalaya River to the Gulf of Mexico. *Marine and Freshwater Research*, 61, 1029-1038.
183. Yeager, K.M., Brinkmeyer, R., Rakocinski, C.F., Schindler, K.J., Santschi, P.H. 2010. Impacts of Dredging Activities on the Accumulation of Dioxins in Surface Sediments of the Houston Ship Channel, Texas. *J. Coast. Res.*, 26(4), 743-752.
184. Hung, C.-C., Gong, G.-C., Ko, F.-C., Chen, H.-Y., Hsu, M.-L., Wu, J.-M., Peng, S.-C., Yeager, K.M., Santschi, P.H. 2010. Carbonaceous materials as a pollution marker to evaluate persistent organic pollutants in aquatic sediments. *Marine Pollution Bulletin*, 60(7), 1010-1017.
185. Zhang, S., Schwehr, K.A., Ho, Y., Xu, C., Roberts, K.A., Kaplan, D., Brinkmeyer, R., Yeager, C.M., Santschi, P.H. 2010. A novel approach for the simultaneous determination of iodide, iodate, and organo-iodide for  $^{127}\text{I}$  and  $^{129}\text{I}$  in Environmental Samples Using Gas Chromatography - Mass Spectrometry. *Env. Sci. Technol.*, 44, 9042-9048.
186. Schwantes, J.M., and Santschi, P.H. 2010. Mechanisms of Plutonium sorption to mineral oxide surfaces: New insights with implications to colloid-enhanced migration. *Radiochim. Acta*, 98(9-11), 737-742.
187. Miao, A.-J., Luo, Z., Chen, C.-S., Chin, W.-C., Santschi, P.H., Quigg, A. 2010. Zinc Oxide Engineered Nanoparticles: Dissolution and Toxicity to Marine Phytoplankton. *Environ. Tox. Chem.*, 29, 2814 -2822.
188. Miao, A.-J., Luo, Z., Chen, C.-S., Chin, W.-C., Santschi, P.H., and Quigg, A. 2010. Intracellular uptake: A possible mechanism for silver engineered nanoparticle toxicity to a freshwater alga. *PLoS ONE*, 5(12), 1-8 (e15196).
189. Johnson, B.E., Santschi, P.H., Addleman, R.S., Douglas, M., Davidson, J., and Schwantes, J. 2011. Collection of fission and activation product elements from fresh and ocean waters: a comparison of traditional and novel sorbents. *Applied Radiation and Isotopes*, 69, 205–216.
190. Duan, S.W., Bianchi, T.S., Santschi, P.H., and Amon, R.W.M. 2011. Temperature Control on Soluble Reactive Phosphorus in the Lower Mississippi River. *Estuaries and Coasts*, DOI 10.1007/s12237-010-9284-3, Vol. 34(1), 78-89.
191. Xu, C., Santschi, P. H., Hung, C.-C., Zhang, S., Schwehr, K.A., Roberts, K.A., Guo, L.D., Gong, G.-C., Quigg, A., Long, R., Pinckney, J., Duan, S.W., Amon, R., Wei, C.-L. 2011. Controls of Th-234 removal from the oligotrophic ocean by polyuronic acids and modification by microbial activity. *Marine Chemistry*, 123, 111–126.
192. Kaplan, D.I., Roberts, K.A., Schwehr, K.A., Lilley, M.S., Brinkmeyer, R., Denham, M.E., DiPrete, D., Hsiu-Ping Li, H.-P., Powell, B.A., Xu, C., Yeager, C.M., Zhang, S.J., Santschi, P.H. 2011. Evaluation of a Radioiodine Plume Increasing in Concentration at the Savannah River Site. *Env. Sci. Technol.*, 45, 489-495.
193. Li, H.-P., Brinkmeyer, R., Jones, W.L., Zhang, S.J., Xu, C., Schwehr, K.A., Santschi, P.H., Kaplan, D., Yeager, C.M. 2011. Iodide accumulation by aerobic bacteria isolated from subsurface sediments of a  $^{129}\text{I}$ -contaminated aquifer at the Savannah River Site, S.C. *Applied Environmental Microbiology*, 77(6), 2153–2160.
194. Wen, L.-S., Warnken, K.W., Santschi, P.H., Li, H.-P., Davison, W., Zhang, H., Li, H.-P., and Jiann, K.-T. 2011. Molecular weight and chemical reactivity of dissolved trace metals (Cd, Cu, Ni) in surface waters from the Mississippi River to Gulf of Mexico. *Estuarine Coastal and Shelf Science*, 92, 649-658.
195. Zhang, S., Du, J., Xu, C., Schwehr, K.A., Ho, Y.-F., Li, H.-P., Roberts, K.A., Kaplan, D.I., Brinkmeyer, R., Yeager, C.M., Chang, H.-S., Santschi, P.H. 2011. Concentration dependent

- mobility, retardation and speciation of iodine in surface sediment from the Savannah River Site. *Environmental Science and Technology*, 45, 5543-5549.
196. Chen, C.-S., Anaya, J.M., Zhang, S., Spurgin, J.\* , Chuang, C.-Y., Xu, C., Miao, A.-J., Chen, E.Y.T., Schwehr, K.A., Jiang, Y., Quigg, A., Santschi, P.H., and Chin, W.-C. 2011. Effects of engineered nanoparticles on the assembly of exopolymeric substances from marine phytoplankton. *PLoS ONE*, July 2011 | Volume 6 | Issue 7 | e21865.
  197. Hung, C.-C., Gong, G.-C., Ko, F.-C., Lee, H.-J., Chen, H.-Y., Wu, J.-M., Hsu, M.-L., Peng, S.-C., Nan, F.-H., Santschi, P.H. 2011. Polycyclic aromatic hydrocarbons in surface sediments of the East China Sea and their relationship associated with carbonaceous materials. *Marine Pollution Bulletin*, 63, 464–470.
  198. Otosaka, S., Schwehr, K.A., Kaplan, D.I., Roberts, K.A., Zhang, S., Xu, C., Li, S.-P., Ho, Y.-F., Brinkmeyer, R., Yeager, C.M., Santschi, P.H. 2011. Transformation and transport processes of  $^{127}\text{I}$  and  $^{129}\text{I}$  species in an acidic groundwater plume at the Savannah River Site. *Science of the Total Environment*, 409, 3857–3865.
  199. Xu, C., Zhang, S., Ho, Y.-F., Miller, E.J.\* , Roberts, K.A., Li, H.-P., Schwehr, K.A., Otosaka, S., Kaplan, D.I., Brinkmeyer, R., Yeager, C.M., Santschi, P.H. 2011. Is soil natural organic matter a sink or source for radioiodine ( $^{129}\text{I}$ ) at the Savannah River Site? *Geochim. Cosmochim. Acta*, 75, 5716–5735.
  200. Xu, C., Zhang, S., Chuang, C.-Y., Miller, E.J.\* , Schwehr, K.A., Santschi, P.H. 2011. Chemical composition and relative hydrophobicity of microbial exopolymeric substances (EPS) isolated by anion exchange chromatography and their actinide-binding affinities. *Marine Chemistry*, 126, 27-36.
  201. Wei, C.-L., Lin, S.-Y., Sheu, D.D.-D., Chou, W.-C., Yi, M.-C., Santschi, P.H., and Wen, L.-S. 2011. Particle-reactive Radionuclides ( $^{234}\text{Th}$ ,  $^{210}\text{Pb}$ ,  $^{210}\text{Po}$ ) as Tracers for the Estimation of Export Production in the South China Sea. *Biogeosciences*, 8, 3793–3808.
  202. Xu, C., Miller, E.J.\* , Zhang, S., Li, H.-S., Ho, Y.-F., Schwehr, K.A., Kaplan, D.I., Roberts, K.A., Otosaka, S., Brinkmeyer, R., Yeager, C.M., Santschi, P.H. 2011. Sequestration and remobilization of radioiodine ( $^{129}\text{I}$ ) by soil organic matter and possible consequences of the remedial action at Savannah River Site. *Env. Sci. Technol.*, 45, 9975–9983.
  203. Johnson, B.E., Santschi, P.H., Addleman, R.S., Douglas, M., Davidson, J., Schwantes, J. 2011. Optimization and Evaluation of Mixed-Bed Chemisorbents for Extracting Fission and Activation Products from Marine and Fresh Waters, *Analytica Chimica Acta* 708, 52– 60.
  204. Li, H.-P., Brinkmeyer R., Jones W.L., Zhang, S., Xu, C., Ho, Y.-F., Schwehr, K.A., Kaplan, D.I., Santschi, P.H., and Yeager, C.M. 2012. Iodide Oxidizing Activity of Bacteria from Subsurface Sediments of the Savannah River Site, SC, USA, p. 89-97. In M. Kawaguchi, K. Misaki, H. Sato, T. Yokokawa, T. Itai, T. M. Nguyen, J. Ono, and S. Tanabe (ed.), *Interdisciplinary Studies on Environmental Chemistry Vol. 6 - Environmental Pollution and Ecotoxicology*. Terra Scientific Publishing Company Tokyo.
  205. Li, H.-P., Yeager, C.M., Brinkmeyer, R., Zhang, S., Ho, Y.-F., Xu, C., Jones, W.L., Schwehr, K.A., Otosaka, S., Kaplan, D.I., Santschi, P.H. 2012. Organic acids produced by subsurface bacteria enhance iodide oxidation in the presence of hydrogen peroxide. *Environmental Science and Technology*, 46, 4837-4844.
  206. Hung, C.-C., Gong, G.-C., Santschi, P.H. 2012.  $^{234}\text{Th}$  in different size classes of sediment trap collected particles from the Northwestern Pacific Ocean. *Geochim. Cosmochim. Acta*, 91, 60–74.

207. Maiti K., Buesseler K.O., Pike, M., Benitez-Nelson, C., Cai, P.H., Chen, W.F., Cochran, K., Dai, M.H., Dehairs, F., Gasser, B., Kelly, R.P., Masque, P., Miller, L., Miquel, J.C., Moran, S.B., Morris, P.J., Peine, F., Planchon, F., Renfro, A.A., Rutgers van der Loeff, M., Santschi, P.H., Turnewitsch, R., Waples, J.T., Xu, C. 2012. Intercalibration studies of short-lived Thorium-234 in the water column and marine particles. L&O Methods Special volume on GEOTRACES intercalibrations, 10, 631-644.
208. Zhang, S.J., Jiang, Y.L., Chen, C.-S., Spurgin, J.\*, Schwehr, K.A., Quigg, A., Chin, W.-C., and Santschi, P.H. 2012. Aggregation and dissolution of quantum dots in marine environments: importance of extracellular polymeric substances. *Env. Sci. & Technol.*, 46, 8764–8772.
209. Xu, C., Zhong, J.Y., Hatcher, P.G., Zhang, S., Li, H.-P., Ho, Y.-F., Schwehr, K.A., Kaplan, D.I., Roberts, K.A., Brinkmeyer, R., Yeager, C.M., Santschi, P.H. 2012. The molecular environment of stable iodine and radioiodine ( $^{129}\text{I}$ ) in natural organic matter: evidence from NMR. *Geochim. Cosmochim. Acta*, 97, 166–182.
210. Johnson, B.E., Santschi, P.H., Chuang, C.-Y., Ootosaka, S., Addleman, R.S., Rutledge, R.D., Chouyyok, W., Davidson, J., Fryxell, G.E., Schwantes, J.M. 2012. Collection of Lanthanides and Actinides from Natural Waters with Conventional and Nanostructured Sorbents. *Environmental Science and Technology*, 46, 11251–11258.
211. Zhang, S., Jiang, Y., Chen, C.-S., Creeley, D.\*, Schwehr, K.A., Quigg, A., Chin, W.-C., and Santschi, P.H. 2013. Ameliorating Effects by Extracellular Polymeric Substances excreted by *Thalassiosira pseudonana* on algal toxicity of CdSe Quantum Dots. *Aquatic Toxicology*, 126, 214– 223.
212. Yang, W.F., Guo, L.D., Chuang, C.-Y., Schumann, D., Ayrarov, M., Santschi, P.H. 2013. Sorption characteristics of  $^{210}\text{Pb}$ ,  $^{210}\text{Po}$  and  $^7\text{Be}$  onto micro-particle surfaces and the effects of macromolecular organic compounds. *GCA*, 107, 47–64.
213. Xu, C., Chen, H.M., Sugiyama, Y., Zhang, S.J., Li, H.-P., Ho, Y.-F., Chuang, C.-Y., Schwehr, K.A., Kaplan, D.I., Yeager, C., Roberts, K.A., Hatcher, P.G., Santschi, P.H. 2013. Novel Molecular-Level Evidence of Iodine Binding to Natural Organic Matter from Fourier Transform Ion Cyclotron Resonance Mass Spectrometry. *Science of the Total Environment*, 449, 244–252.
214. Jiann, K.-T., and Santschi, P.H., and Presley, B.J. 2013. Relationships between geochemical parameters (pH, DOC, EDTA concentrations) and Trace Metal (Cd, Co, Cu, Fe, Mn, Ni, Pb, Zn) concentrations in River Waters of Texas (USA). *Aquatic Geochemistry*, 19:173–193.
215. Zhang, S., Xu, C., Creeley, D.\*, Ho, Y.-F., Li, H.-P., Grandbois, R., Schwehr, K.A., Kaplan, D.I., Yeager, C.M., Wellman, D., and Santschi, P.H. 2013. Iodine-129 and Iodine-127 Speciation in Groundwater at the Hanford Site, U.S.: Iodate Incorporation into Calcite. *ES&T*, 47, 9635-9642.
216. Chuang, C.-Y., Santschi, P.H., Ho, Y.-F., Conte, M.H., Guo, L.D., Schumann, D., Ayrarov, M. 2013. Biopolymers as major carrier phases and redox regulators of Th, Pa, Pb, Po, and Be in settling particles from the Atlantic Ocean. *Marine Chemistry*, 157, 131–143.
217. Zhang, Saijin; Xu, Chen; Creeley, Danielle\*; Ho, Yi-Fang; Li, Hsiu-Ping; Grandbois, Russell; Schwehr, Kathy; Kaplan, Daniel; Yeager, Chris; Wellman, Dawn; Santschi, Peter H. 2013. Response to Comment on “Iodine-129 and Iodine-127 Speciation in Groundwater at Hanford Site, U.S.: Iodate Incorporation into Calcite”. *Env. Sci. Technol.*, 47, 13205-13206.

218. Kaplan, D.I., Zhang, S., Roberts, K.A., Schwehr, K.A., Xu, C., Creeley, D.\*, Ho, Y.-F., Li, H.-P., Yeager, C.M., and Peter H. Santschi, P.H. 2014. Radioiodine concentrated in a wetland. *J. Environmental Radioactivity*, 131, 57-61.
219. Li, H.-P., Daniel, B., Creeley, D.\*, Grandbois, R., Zhang, S., Xu, C., Ho, Y.-F., Schwehr, K.A., Kaplan, D.I., Santschi, P.H., Hansel, C., Yeager, C.M. 2014. Superoxide production by a manganese-oxidizing bacterium facilitates iodide oxidation. *Applied and Environmental Microbiology*, 80(9), 2693-2699.
220. Xu, C., Athon, M.\*, Ho, Y.-F., Chang, H.-S., Zhang, S., Kaplan, D.I., Schwehr, K.A., DiDonato, N., Hatcher, P.G., Santschi, P.H. 2014. Plutonium Immobilization and Remobilization by Soil Mineral and Organic Matter in the Far-field of the Savannah River Site, USA. *ES&T*, 48, 3186-3195.
221. Emerson, H.P., Xu, C., Ho, Y.-F., Zhang, S., Schwehr, K.A., Lilley, M., Kaplan, D.I., Santschi, P.H., and Powell, B.A. 2014. Geochemical controls of iodine transport in Savannah River Site subsurface environments. *Applied Geochem.*, 45, 105-113.
222. Chuang, C.-Y., Santschi, P.H., Jiang, Y., Ho, Y.-F., Quigg, A., Guo, L.D., Ayranov, M., Schumann, D. 2014. Important role of diatoms in the scavenging of particle reactive radionuclides, Thorium, Protactinium, Lead, Polonium and Beryllium, in the ocean: a case study with *Phaeodactylum tricornutum*. *Limnol. Oceanogr.*, 59(4), 1256-1266.
223. Chang, H.-S., Xu, C., Schwehr, K.A., Zhang, S., Kaplan, D.I., Seaman, J.C., Yeager, C.M., and Santschi, P.H. 2014. Model of Radioiodine Speciation and Partitioning in Organic-rich and Organic-poor Soils from the Savannah River Site. *Journal of Environmental Chemical Engineering*, 2, 1321-1330.
224. Kaplan, D. I., M. E. Denham, S. Zhang, C. Yeager, C. Xu, K. A. Schwehr, H. P. Li, Y. F. Ho, D. Wellman, and P. H. Santschi. 2014. Radioiodine Biogeochemistry and Prevalence in Groundwater. *Critical Reviews of Environmental Science and Technology*, 44(20), 2287-2335.
225. Hung, C.-C., Ko, F.-C., Gong, G.-C., Wu, J.-M., Chiang, H.-L., Peng, S.-C., Santschi, P.H. 2014. Changes in zooplankton PAH concentrations across hydrographic fronts in the East China Sea. *Marine Pollution Bulletin*, 83(1), 248-257.
226. Hung, C.-C., Gong, G.C., Lee, M.A., Liao, C.H., Chang, Y., Shih, Y.Y., Chen, K.S., Chen, M.-H., Santschi, P.H. 2014. Impacts of Typhoons on Nutrient Supply and Potential Fish Production in the Southern East China Sea. *Typhoon Impact and Crisis Management*, 267-282.
227. Schwehr, K.A., Otsuka, S., Merchel, S., Kaplan, D.I., Zhang, S., Xu, C., Li, H.-P., Ho, Y.-F., Yeager, C.M., Santschi, P.H., ASTER Team. 2014. Speciation of iodine isotopes inside and outside of a contaminant plume at the Savannah River Site. *Science of the Total Environment*, 497-498, 671-678.
228. Zhang, S., Ho, Y.-F., Creeley, D.\*, Roberts, K.A., Xu, C., Li, H.-P., Schwehr, K.A., Kaplan, D.I., Yeager, C.M., and Santschi, P.H. 2014. Temporal Variation of Iodine Concentration and Speciation ( $^{127}\text{I}$  and  $^{129}\text{I}$ ) in Wetland Groundwater from the Savannah River Site, USA. *Environ. Sci. Technol.*, 48, 11218-11226.
229. Xu, C., Zhang, S., Athon, M.\*, Ho, Y.-F., Li, H.-P., Grandbois, R., Schwehr, K.A., Kaplan, D.I., Yeager, C.M., Wellman, D., Santschi, P.H. 2015. A Re-evaluation of Radioiodine Transformation and Migration in the subsurface of Hanford Site. *J. Env. Radioactivity*, 139, 43-55.
230. Chuang, C.-Y., Santschi, P.H., Wen, L.S., Xu, C., Zhang, S., Ho, Y.-F., Schwehr, K.A., Jiang, Y., Ho, Y.F., Quigg, A., Hung, C.-C., Guo, L.D., Ayranov, M., Schumann, D. 2015. Binding

- of Th, Pa, Pb, Po and Be radionuclides to marine colloidal macromolecular organic matter. *Marine Chemistry*, 173, 320–329.
231. Lam, P.J., Twining, B.S., Jeandel, C., Roychoudhury, A., Resing, J., Geibert, W., Santschi, P.H., Anderson, R.F. 2015. Methods for analyzing the concentration and speciation of major and trace elements in marine particles. *Progress in Oceanography*, 133, 32–42.
  232. Yang, W.F., Guo, L.D., Chuang, C.-Y., Santschi, P.H., Schumann, D., Ayranov, M. 2015. Influence of macromolecular organic matter on the adsorption of  $^{210}\text{Pb}$ ,  $^{210}\text{Po}$  and  $^7\text{Be}$  on nanoparticles in seawater. *Earth and Planetary Science Letters* 423, 193–201.
  233. Chuang, C.-Y., Santschi, P.H., Ho, Y.-F., Xu, C., Jiang, Y., Quigg, A., Guo, L.D., Hatcher, P.G., Ayranov, M., Schumann, D. 2015. Molecular level characterization of diatom associated biopolymers that bind  $^{234}\text{Th}$ ,  $^{233}\text{Pa}$ ,  $^{210}\text{Pb}$ , and  $^7\text{Be}$  in seawater: a case study with *Phaeodactylum tricornutum*. *J. Geophys. Res. Biogeosci.*, 120, 9, 1858-1869.
  234. Xu, C., Zhang, S., Kaplan, D.I., Ho, Y.-F. , Schwehr, K.A., Roberts, K.A., Chen, H.M., Didonato, N., Athon, M.\*, Hatcher, P.G., Santschi, P.H. 2015. Evidence for Hydroxamate Siderophores and Other N-Containing Organic Compounds Controlling  $^{239,240}\text{Pu}$  Immobilization and Remobilization in a Wetland Sediment. *Environ. Sci. Technol.*, 49, 11458–11467.
  235. Jiann, K.-T., Wen, L.-S., and Santschi, P.H. 2016. Clean sampling and analysis of river and estuarine waters for trace metal studies. *J. Vis. Exp.*, e54073, doi:10.3791/54073; <http://www.jove.com/video/54073>; doi:10.3791/54073.
  236. Xu, C., Zhang, S., Sugiyama, Y., Nobuhito Ohte, N., Ho, Y.-F., Fujitake, N., Kaplan, D.I., Yeager, C.M., Schwehr, K.A., Santschi, P.H. 2016. Factors controlling iodine and  $^{239,240}\text{Pu}$  concentrations and mobility in soils from the Northwestern Fukushima Prefecture, Japan. *Journal of Environmental Radioactivity* 153, 156-166.
  237. Kaplan, D.I., Xu, C., Huang, S., Lin, Y.M., Tolic, N., Roscioli-Johnson, K.M., Santschi, P.H., and Jaffé, P.R. 2016. Unique Organic Matter and Microbial Properties in the Rhizosphere of a Wetland Soil. *Environ. Sci. Technol.*, 50, 4169–4177 (DOI: 10.1021/acs.est.5b05165).
  238. Hieke, A.-S.C., Brinkmeyer, R., Yeager, K.M., Schindler, K.J., Zhang, S., Xu, C., Louchouart, P., Santschi, P.H. 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* 18, 6, 630–644; doi:10.1007/s10126-016-9723-7.
  239. DiDonato, N., Xu, C., Santschi, P.H., and Hatcher, P.G. 2017. A new perspective on structural components of Pu-mobilizing organic colloids from a contaminated soil. *ES&T*, 51, 4803–4811; DOI: 10.1021/acs.est.6b04955.
  240. Santschi, P.H., Yeager, K.M., Schwehr, K.A., Schindler, K. 2017. Estimates of recovery of the Penobscot River Estuarine System from mercury contamination in the 1960's. *STOTEN*, 596–597, 351–359; <http://dx.doi.org/10.1016/j.scitotenv.2017.04.094>.
  241. Athon, M.T., Santschi, P.H., Fryxell, G.E., Chuang, C.-Y. 2017. Sorption of selected radionuclides (e.g.  $^7\text{Be}$ ,  $^{57}\text{Co}$ ,  $^{106}\text{Ru}$ ,  $^{125}\text{Sb}$ ,  $^{133}\text{Ba}$ ,  $^{137}\text{Cs}$ ,  $^{210}\text{Pb}$ ,  $^{210}\text{Po}$ ,  $^{233}\text{Pa}$ , and  $^{234}\text{Th}$ ) on different  $\text{MnO}_2$  phases. *Environmental Chemistry*, 14, 207-214. <http://dx.doi.org/10.1071/EN17026>.
  242. Sun, L., Xu, C., Chin, W.C., Zhang, S., Lin, P., Schwehr, K.A., Quigg, A., Chiu, M.-H., Chin, W.-C., Santschi, P.H. 2017. Light-induced aggregation of microbial exopolymeric substances. *Chemosphere* 181, 675-681, doi: 10.1016/j.chemosphere.2017.04.099.

243. Chiu, M.-H., Garcia, S.G., Hwang, B., Claiche, D., Sanchez, G., Aldayafleh, R., Tsai, S.-M., Santschi, P.H., Quigg, A., Chin, W.-C. 2017. Corexit, Oil and Marine Microgels. *Marine Pollution Bulletin* 122, 376-378.
244. Zhao, Y., Wang, Y., Santschi, P.H., and Quigg, A. 2017. Response of the antioxidant defense system of two microalgal species (*Alexandrium minutum* and *Dunaliella salina*) to the toxicity of BDE-47. *Mar. Poll. Bulletin*, 124, 459-469.
245. Lin, P., Xu, C., Zhang, S., Sun, L., Schwehr, K.A., Bretherton, L., Quigg, A., Santschi, P.H. 2017. Partitioning of natural radionuclide analogues for particle cycling in the ocean ( $^{234}\text{Th}$ ,  $^{233}\text{Pa}$ ,  $^{210}\text{Pb}$ ,  $^{210}\text{Po}$  and  $^7\text{Be}$ ) with biopolymers associated with coccolithophores: a case study with *Emiliana huxleyi*. *Journal of Geophysical Research: Biogeosciences*, 122, 2033–2045.
246. Yeager, C.M., Amachi, S., Grandbois, R., Kaplan, D.I., Xu, C., Schwehr, K.A., and Santschi, P.H. 2017. Microbial transformation of iodine: From radioisotopes to iodine deficiency. *Advances in Applied Microbiology*, 101, 83-136.
247. Chiu, M.-H., Khan, Z., Garcia, S.G., Le, A., Kagiri, A., Ramos, J., Tsai, S.-M., Drobenaire, H., Santschi, P.H., Quigg, A., Chin, W.-C. 2017. Effect of Engineered Nanoparticles on Exopolymeric Substances Release from Marine Phytoplankton. *Nanoscale Research Letters*, 12:620; DOI 10.1186/s11671-017-2397-x.
248. Lin, P., Xu, C., Zhang, S., Fujitake, N., Kaplan, D.I., Yeager, C.M., Sugiyama, Y., Schwehr, K.A., Santschi, P.H. 2017. Plutonium Partitioning Behavior to Humic Acids from Widely Varying Soils Is Related to Carboxyl-Containing Organic Compounds. *Env. Sci. Technol.*, 51(20), 11742-11751.
249. Hatcher, P.G., Obeid, W., Wozniak, A.S., Xu, C., Zhang, S., Santschi, P.H., Quigg, A. 2018. Identifying oil/marine snow associations in mesocosm simulations of the Deep Water Horizon Oil Spill event using solid-state  $^{13}\text{C}$  NMR spectroscopy. *Marine Pollution Bulletin*, 126, 159-165.
250. Yeager, K.M., Schwehr, K.A., Louchouart, P., Schindler, K., and Santschi, P.H. 2018. Hg inputs and redistribution in the Penobscot estuary. *STOTEN*, 622/623, 172–183.
251. Al Mukaimi, M.E., Williams, J.R., Dellapenna, T.M., Louchouart, P., Kaiser, K., Santschi, P.H. 2018. Centennial record of anthropogenic impacts in Galveston Bay: Evidence from trace metals and biomarkers. *Environmental Pollution*, <https://doi.org/10.1016/j.envpol.2018.01.027>
252. Grandbois, R., Yeager C.M., Tani, Y., Xu, C., Zhang, S., Beaver, M.\* , Schwehr, K.A., Kaplan, D.I., and Santschi, P.H., 2018. Biogenic manganese oxides facilitate iodine oxidation at low pH. *Geomicrobiology Journal*, 35(3), 167–173.
253. Louchouart, P., Seward, S., Cornelissen, G., Arp, H.P.H., Yeager, K.M., Brinkmeyer, R., Santschi, P.H. 2018. Limited mobility of dioxins near San Jacinto Super Fund site (waste pit) in the Houston Ship Channel, Texas due to high amorphous organic carbon. *Environmental Pollution*, 238, 988-998.
254. Lin, P., Xu, C., Xing, W., Sun, L., Kaplan, D.I., Fujitake, N., Yeager, C.M., Schwehr, K.A., Santschi, P.H. 2018. Radionuclide uptake by colloidal and particulate humic acids obtained from 14 soils collected worldwide. *Scientific Reports*, 8 (1), 4795.
255. Kamalanathan, M., Schwehr, K.A., Bretherton, L.J., Genzer, J., Hillhouse, J., Xu, C., Williams, A., Santschi, P.H., Quigg, A. 2018. Diagnostic tool to ascertain marine aggregate's exposure to chemically enhanced water accommodated fraction of oil using Fourier Transform Infrared spectroscopy. *Marine Pollution Bulletin*, 130, 170–178.

256. Doyle, S.M., Whitaker, E.A., De Pascuale, V., Wade, T.L., Knap, A.H., Santschi, P.H., Quigg, A., and Sylvan, J.B. 2018. Rapid Formation of Microbe-Oil Aggregates and Changes in Community Composition in Coastal Surface Water Following Exposure to Oil and the Dispersant Corexit. *Frontiers Microbiology*, 9, 689; doi: 10.3389/fmicb.2018.00689.
257. Yeager, K.M., Schwehr, K.A., Schindler, K., Santschi, P.H. 2018. Sediment accumulation and sediment mixing in the Penobscot River Estuary system, STOTEN, 635, 228–239.
258. Kamalanathan, M., Xu, C., Schwehr, K.A., Bretherton, L., Beaver, M.\*, Doyle, S.M., Sweet, J., Genzer, J., Hillhouse, J., Sylvan, J.B., Santschi, P.H., Quigg, A. 2018. Extracellular enzyme activity profile in a chemically enhanced water accommodated fraction of surrogate oil: towards understanding microbial activities after the Deepwater Horizon oil spill. *Frontiers in Microbiology*, section Aquatic Microbiology, doi: 10.3389/fmicb.2018.00798.
259. Sun, L., Chiu, M.-H., Xu, C., Lin, P., Schwehr, K.A., Bacosa, H., Kamalanathan, M., Quigg, A., Chin, W.-C., Santschi, P.H. 2018. The effects of sunlight on the composition of exopolymeric substances affecting the subsequent aggregation process during oil spill and corexit exposure. *Marine Chemistry*, 203, 49-54.
260. Xu, C., Zhang, S., Beaver, M.\*, Lin, Y., Wade, T.L., Schwehr, K.A., Lin, P., Sun, L., Kopp, K., Chin, W.-C., Chiu, M.H., Hatcher, P.G., Knap, A.H., Quigg, A., Santschi, P.H. 2018a. Decreased sedimentation efficiency of petro- and non-petro-carbon caused by a dispersant for Macondo surrogate oil in a mesocosm simulating a coastal microbial community. *Marine Chemistry*, 206, 34-43.
261. Schwehr, K. A., Xu, C., Chiu, M.-H., Shang, S., Sun, L., Lin, P., Beaver, M.\*, Jackson, C.\*, Agueda, O.\*, Chin, W.-C., Quigg, A., Santschi, P.H. 2018. Protein: Polysaccharide ratio in exopolymeric substances controlling the surface tension of seawater in the presence or absence of surrogate Macondo oil with and without Corexit. *Marine Chemistry*, 206, 84-92.
262. Xu, C., Zhang, S., Beaver, M.\*, Lin, P., Sun, L., Doyle, Sylvan, J.B., Wozniak, A., Schwehr, K.A., Lin, Y., Wade, T.L., Hatcher, P.G., Chin, W.-C., Chiu, M.-H., Quigg, A., Santschi, P.H. 2018b. The role of microbially-mediated exopolymeric substances (EPS) in regulating Macondo oil transport in a mesocosm experiment. *Marine Chemistry*, 206, 52-61.
263. Bacosa, H.P., Kamalanathan, M., Chiu, M.-H., Vasquez, C., Tsai, S.-M., Sun, L., Labonté, J.M., Schwehr, K.A., Hala, D., Santschi, P.H., Chin, W.-C., Quigg, A. 2018. Extracellular polymeric substances (EPS) producing and oil degrading bacteria isolated from the northern Gulf of Mexico. *PLoS ONE*, 13(12):e0208406. <https://doi.org/10.1371/journal.pone.0208406>.
264. Bretherton, L., Kamalanathan, M., Genzer, J., Hillhouse, J., Setta, S., Liang, Y., Brown, C., Bradet-Legrís, M., Xu, C., Sweet, J., Passow, U., Finkel, Z., Irwin, A., Santschi, P.H. Quigg, A. 2019. Response of natural phytoplankton communities exposed to crude oil and chemical dispersants during a mesocosm experiment. *Aquatic Toxicology* 206, 43–53.
265. Sun, L., Chin, W.-C., Chiu, M.-H., Xu, C., Lin, P., Schwehr, K.A., Quigg, A., Santschi, P.H. 2019. Sunlight induced aggregation of protein-containing dissolved organic matter in the ocean, *Science of the Total Environment* 654, 872–877.
266. Chiu M.-H., Vazquez, C.I., Shiu, R.-F., Le, C., Sanchez, N.R., Kagiri, A., Garcia, C.A., Nguyen, C.H., Tsai, S.-M., Zhang, S., Xu, C., Santschi, P.H., Quigg, A., Chin, W.-C. 2019. Impact of Exposure of Crude Oil and Dispersant on Aggregation of Extracellular Polymeric Substances. *Science of the Total Environment* 657, 1535–1542.
267. Kaplan, D.I., Price, K., Xu, C., Li, D., Lin, P., Xing, W., Nichols, R., Schwehr, K.A., Seaman, J.C., Ohnuki, T., Chen, N., Santschi, P.H. 2019. Iodine Speciation in a Silver-Amended Cementitious System. *Environment International*, 126, 576–584.

268. Passow, U., Sweet, J., Francis, S., Xu, C., Dissanayake, A. L.J. Lin, J., Santschi, P.H., Quigg, A. 2019. Diatom aggregation – in the presence or absence of oil. *MEPS*, 612, 65–86.
269. Kaplan, K.I., Xu, C., Li, D., Lin, P., Xing, W., Nichols, R., Schwehr, K.A., Santschi, P.H. 2019. Radioiodine Speciation in Cementitious Environments. *Applied Geochemistry* 103, 15–22.
270. Wozniak, A.S., Prem, P., Obeid, W., Quigg, A., Xu, C., Santschi, P.H., Schwehr, K.A., Hatcher, P.G. 2019. Rapid degradation of oil in mesocosm simulations of MOSSFA events. *Env. Sci. Technol.*, 53, 3441–3450.
271. Lin, P., Xu, C., Kaplan, D.I., Chen, H.M., Yeager, C.M., Xing, W., Sun, L., Schwehr, K.A., Yamazaki, H., Saito-Kokubu, Y., Hatcher, P.G., Santschi, P.H. 2019. Nagasaki sediments reveal that long-term fate of plutonium is controlled by select organic matter moieties. *STOTEN*, 678, 409–418.
272. Kamalanathan, M., Chiu, M.-H., Bacosa, H., Schwehr, K.A., Tsai, S.-M., Doyle, S., Yard, A.\*, Mapes, S., Vazquez, C., Bretherton, L., Sylvan, J., Santschi, P.H., Chin, W.-C., Quigg, A. 2019. Role of polysaccharide synthesis in diatom (*Thalassiosira pseudonana*) and the associated bacteria in response to hydrocarbon exposure. *Plant Physiol.*, 180(4), 1898–1911.
273. Xu, C., Chin, W.-C., Lin, P., Chen, H.M., Lin, P., Chiu, M.-C., Waggoner, D.C., Xing, W., Sun, L., Schwehr, K.A., Hatcher, P.G., Quigg, A., Santschi, P.H., 2019. Marine Gels, Extracellular Polymeric Substances (EPS) and Transparent Exopolymeric Particles (TEP) in natural seawater and seawater contaminated with a water accommodated fraction of Macondo oil surrogate. *Marine Chemistry*; <https://doi.org/10.1016/j.marchem.2019.103667>.
274. Li, D., Kaplan, D.I., Price, K.A., Seaman, J.C., Roberts, K., Xu, C., Lin, P., Xing, W., Schwehr, K.A., Santschi, P.H. 2019. Radioiodine immobilization of silver-impregnated granular activated carbon secondary solid waste in cementitious systems. *J. Env. Radioactivity*, 208–209 (2019) [doi.org/10.1016/j.jenvrad.2019.106017](https://doi.org/10.1016/j.jenvrad.2019.106017)
275. Xu, C., Lin, P., Zhang, S., Sun, L., Xing, W., Schwehr, K.A., Chin, W.-C., Wade, T.L., Knap, A.H., Hatcher, P.G., Yard, A.\*, Jiang, C., Quigg, A., Santschi, P.H. 2019. The interplay of extracellular polymeric substances and oil/Corexit to affect the petroleum incorporation into sinking marine oil snow in four mesocosms. *STOTEN*, 693 (2019) <https://doi.org/10.1016/j.scitotenv.2019.133626>
276. Li, D., Xu, C., Yeager, C.M., Lin, P., Xing, W., Schwehr, K.A., Chen, N., Arthur, Z., Kaplan, D.I., Santschi, P.H. 2019 Molecular Interaction of Aqueous Iodine Species with Humic Acid Studied by I and C K-edge X-ray Absorption Spectroscopy. *ES&T*, 53 (21), 12416–12424.
277. Shiu, R.-F., Vazquez, C.I., Tsai, Y.-T., Torres, G.V., Chen, C.-S., Santschi, P.H., Quigg, A., Chin, W.-C. 2020. Nano-plastics induce aquatic particulate organic matter (microgels) formation. *Science of the Total Environment*, [doi.org/10.1016/j.scitotenv.2019.135681](https://doi.org/10.1016/j.scitotenv.2019.135681)
278. Lin, P., Xu, C., Xing, W., Hillhouse, J., Sun, L., Schwehr, K.A., Quigg, A., Santschi, P.H. 2020. Partitioning of iron and plutonium in exopolymeric substances and intracellular biopolymers: a comparison study between the coccolithophore *Emiliania huxleyi* and the diatom *Skeletonema costatum*. *Mar. Chem.*, [doi.org/10.1016/j.marchem.2019.103735](https://doi.org/10.1016/j.marchem.2019.103735)
279. Shiu, R.-F., Chiu, M.-H., Vazquez, C.I., Yi-Yen Tsai, Y.-Y., Le, A., Wa-kagiri, A., Xu, C., Kamalanathan, M., Bacosa, H., Doyle, S., Sylvan, J., Santschi, P.H., Quigg, A., Chin W.-C. 2020. Protein to carbohydrate (P/C) ratio changes in microbial extracellular polymeric substances induced by oil and Corexit. *Marine Chemistry* 223 (2020) 103789; <https://doi.org/10.1016/j.marchem.2020.103789>.



280. Kamalanathan, M., Doyle, S., Xu, C., Buchot, G.G., Bacosa, H., Bretherton, L., Morales, M., Wade, T.L., Schwehr, K.A., Santschi, P.H., Sylvan, J., Quigg, A. 2020. Exoenzymes as a signature of microbial response to marine environmental conditions, *mSystems*, <https://doi.org/10.1128/mSystems.00290-20>
281. Bacosa, H.P., Steichen, J., Kamalanathan, M., Windham, R., Lubguban, A., Labonte, J., Kaiser, K., Hala, D., Santschi, P.H., Quigg, A.S. 2020. Polycyclic aromatic hydrocarbons (PAHs) and putative PAH-degrading bacteria in Galveston Bay, TX (USA), following Hurricane Harvey (2017). *Environmental Science and Pollution Research*, <https://doi.org/10.1007/s11356-020-09754-5>.
282. Xu, C., Lin, P., Sun, L., Chen, H.-M., Xing, W., Hatcher, P.G., Conte, M., Santschi, P.H. 2020. Molecular nature of marine particulate organic iron-carrying moieties revealed by electrospray ionization Fourier-transform ion cyclotron resonance mass spectrometry (ESI-FTICRMS). *Frontiers in Earth Science-Biogeoscience*, “The Oceanic Particle Flux and its Cycling Within the Deep Water Column”, *Frontiers of Earth Science*, 8:266; Higher Education Press 2020, 2095-0195. doi: 10.3389/feart.2020.00266
283. Genzer, J. L., Kamalanathan, M., Bretherton, L., Hillhouse, J., Xu, C., Santschi, P. H. and Quigg, A. 2020. Diatom aggregation when exposed to crude oil and chemical dispersants: potential impacts of ocean acidification. *PLoS ONE*. *PLoS ONE* 15(7): e0235473. <https://doi.org/10.1371/journal.pone.0235473>
284. Shiu, R.-F., Vazquez, C.I., Chiang, C.-Y., Chiu, M.-H., Chen, C.-S., Ni, C.-W., Gong, G.-C., Quigg, A., Santschi, P.H., Chin, W.-C. 2020. Nano- and microplastics trigger secretion of protein-rich extracellular polymeric substances from phytoplankton. *STOTEN*, <https://doi.org/10.1016/j.scitotenv.2020.141469>.
285. Bacosa, H.P., Kamalanathan, M., Cullen, J., Shi, D., Xu, C., Schwehr, K.A., Hala, D., Lubguban, A.A., Wade, T.L. Knap, A.H., Santschi, P.H., and Quigg, A.S. 2020. Marine snow aggregates are enriched in polycyclic aromatic hydrocarbons (PAHs) in oil contaminated waters; insights from a mesocosm study. *Journal of Marine Science and Engineering (JMSE)*, Special Issue "Degradation of Marine Oil Pollution “, *J. Mar. Sci. Eng.* 2020, 8(10), 781; <https://doi.org/10.3390/jmse8100781>
286. Rowe, G.T., Fernando, H., Elferink, C., Shakeel Ansari, G.A., Sullivan, J., Heathman, T., Quigg, A., Petronella, S., Wade, T.L., Santschi, P.H. 2020. Polycyclic aromatic hydrocarbons (PAH) cycling and fates in Galveston Texas, USA. *PLoS One*, <https://doi.org/10.1371/journal.pone.0243734>
287. Santschi, P.H., Xu, C., Schwehr, A.K., Lin, P., Sun, L., Chin, W.-C., Kamalanathan, M., Quigg, A. 2020. Can the protein/carbohydrate (P/C) ratio of exopolymeric substances (EPS) be used as a proxy for its ‘stickiness’ and other biophysical properties? Perspective article in *Marine Chemistry*, <https://doi.org/10.1016/j.marchem.2019.103734>.
288. Lin, P., Xu, C., Sun, L., Xing, W., Santschi, P.H. 2020. Incorporation of hydroxamate siderophore and associated Fe into marine particles in natural seawater. *Frontiers Marine Science*, <https://doi.org/10.3389/fmars.2020.584628>
289. Sun, L., Chin, W.-C., Chiu, H.-H., Xu, C., Lin, P., Schwehr, K.A., Quigg, A., Santschi, P.H. 2021. Sunlight induced aggregation of protein-containing dissolved organic matter (DOM) in the coastal ocean, *Marine Chemistry*, <https://doi.org/10.1016/j.marchem.2020.103907>.
290. Chen, C.-S., Shiu, R.-F., Hsieh, Y.-Y., Xu, C., Vazquez, C.I., Cui, Y., Hsu I.C., Quigg, A., Santschi, P.H., Chin, W.-C. 2021. Stickiness of Extracellular Polymeric Substances on

different surfaces via Magnetic Tweezers. STOTEN, <https://doi.org/10.1016/j.scitotenv.2020.143766>

291. Lin, P., Xu, C., Xing, W., Santschi, P.H. **2021**. Molecular-level characterization of diatom- and coccolithophore-associated organic biopolymers that strongly bind particle-reactive radionuclides ( $^{234}\text{Th}$ ,  $^{233}\text{Pa}$ ,  $^{210}\text{Pb}$ ,  $^{210}\text{Po}$  and  $^7\text{Be}$ ) in the ocean. *Front. Mar. Sci.*, | <https://doi.org/10.3389/fmars.2021.703503>
292. Kamalanathan M, Schwehr KA, Labonté JM, Taylor C, Bergen C, Patterson N, Claflin N, Santschi PH and Quigg A (**2021**) The Interplay of Phototrophic and Heterotrophic Microbes Under Oil Exposure: A Microcosm Study. *Front. Microbiol.* 12:675328. doi: 10.3389/fmicb.2021.675328
293. Kaplan, D.I., Nichols, R., Xu, C., Lin, P., Yeager, C.M., Santschi, P.H. **2021**. Large seasonal fluctuations of groundwater radioiodine speciation and concentrations in a riparian wetland in South Carolina. STOTEN, in press, <https://doi.org/10.1016/j.scitotenv.2021.151548>.
294. Xu, C., Lin, P., Garimella, R., Li, D., Xing, W., Patterson, N., Kaplan, D.I., Yeager, C.M., Hatcher, P.G., Santschi, P.H. 2021.  $^1\text{H}$ - $^{13}\text{C}$  heteronuclear single quantum coherence NMR evidence for iodination of natural organic matter influencing organo-iodine mobility in the environment. STOTEN, in press, <https://doi.org/10.1016/j.scitotenv.2021.152546>.
- 295.

*Manuscripts, in submission*

Grandbois, R., Yeager, C.M., Santschi, P.H. 2020. Carbon-source-dependent microbially produced Reactive Oxygen Species from Japanese soils and their relation to iodide uptake. In preparation.

Grandbois, R., Yeager, C.M., Santschi, P.H. 2020. Role of Microbially-produced Enzymes in Soil Uptake of Iodide. In preparation.

***B2. Peer reviewed ISI cited review articles in professional journals (13)***

1. Santschi, P.H., and Honeyman, B.D. 1989. Radionuclides in Aquatic Environments. *Int. J. Radiat. Appl. Instrum., Part C, Radiat. Phys. Chem.*, 34, 213-240.
2. Santschi, P.H., Hoehener, P., Benoit, G., and Buchholtz-ten Brink, M. 1990. Chemical processes at the sediment-water interface, *Mar. Chem.*, 30, 269-315.
3. Santschi, P.H., Lenhart, J., and Honeyman, B.D. 1997. Heterogeneous processes affecting trace contaminant distribution in estuaries: The role of natural organic matter. *Marine Chemistry*, 58, 99-125.
4. Verdugo, P., Alldredge, A.L., Azam, F., Kirchman, D.L., Passow, U., and Santschi, P.H. 2004. The oceanic gel phase: a bridge in the DOM-POM continuum. *Mar. Chem.*, 92, 67-85.
5. Santschi, P.H., Murray, J.W., Baskaran, M., Benitez-Nelson, C.R., Guo, L., Hung, C.-C., Lamborg, C., Moran, S.B., Passow, U., and Roy-Barman, M. 2006. Thorium speciation in seawater. *Mar. Chem.*, 100, 250-268.
6. Buesseler, K.O., Benitez-Nelson, C.R., Moran, S.B., Burd, A., Charette, M., Cochran, J.K., Coppola, L., Fisher, N.S., Fowler, S.W., Gardner, W.D., Guo, L.D., Gustafsson, O., Lamborg, C., Masque, P., Miquel, J.C., Passow, U., Santschi, P.H., Savoye, N., Stewart, G., and Trull,

- T. 2006. An assessment of particulate organic carbon to thorium-234 ratios in the ocean and their impact on the application of  $^{234}\text{Th}$  as a POC flux proxy. *Mar. Chem.*, 100, 213-233.
7. Navarro, E., Miao, A.J., Baun, A., Behra, R., Bloch Hartmann, N.I., Filser, J., Quigg, A., Santschi, P.H., Sigg, L. 2008. Ecotoxicity of nanomaterials on photosynthetic organisms and fungi: state of the art and future needs. *Ecotoxicology*, 17, 372–386.
  8. Verdugo, P., Santschi, P.H. 2010. Polymer dynamics of DOC networks and gel formation in seawater. *Deep Sea Research II*, 57, 1486-1493.
  9. Quigg, A., Chin, W.-C., Chen, C.-S., Zhang, S., Jiang, Y., Miao, A.-J., Schwehr, K.A., Xu, C., and Santschi, P.H. 2013. Direct and indirect toxic effects of engineered nanoparticles on algae: role of natural organic matter. In: Special Issue on Sustainable Nanotechnology in *ACS Sustainable Chemistry & Engineering*, 1, 686–702; dx.doi.org/10.1021/sc400103x
  10. Quigg, A., Passow, U., Chin, W.-C., Bretherton, L., Kamalanathan, M., Xu, C., Schwehr, K.A., Zhang, S., Sun, L., Wade, T.L., Finkel, Z.V., Doyle, S., Sylvan, J.B., Williams, A.K., Obeid, W., Hatcher, P.G., Knap, A.H., Santschi, P.H. 2016. Chemical and microbial Controls of Aggregation and Degradation of Oil and Dispersants by Microbial Exopolymers., *L&O Letters*, 1, 2016, 3–26.
  11. Santschi, P.H., Xu, C., Zhang, S., Schwehr, K.A., Grandbois, R., Kaplan, D., Yeager, C. 2017. Iodine and Plutonium Association with Natural Organic Matter: A Review of Recent Advances. *Applied Geochemistry*, 85, 121-127; doi: 10.1016/j.apgeochem.2016.11.009.
  12. Santschi, P.H., Xu, C., Zhang, S., Schwehr, Lin, P., K.A., Yeager, C.M., and Kaplan, D.I. 2017. Recent advances in the detection of specific natural organic compounds as carriers for radionuclides in soil and water environments, with examples of radioiodine and plutonium. *Journal of Environmental Radioactivity*, 171, 226-233. <https://doi.org/10.1016/bs.aambs.2017.07.002>
  13. Santschi, P.H. 2018. Marine colloids, agents of the self-cleansing capacity of aquatic systems: Historical perspective and new discoveries. *Marine Chemistry* 207, 124–135. <https://doi.org/10.1016/j.marchem.2018.11.003>
  14. Quigg, A., Xu, C., Chin, W.-C., Kamalanathan, M., Sylvan, J.B., Finkel, Z.V., Irwin, A.J., Ziervogel, K., Wade, T.L., Knap, A.H., Hatcher, P.G., and Santschi, P.H. 2020. Marine snow formation and fluxes after crude oil spills: Review of findings from the Deepwater Horizon oil spill study. *Proceedings of the International Oil Spill Conference*, May 2020. Accepted. # 689531 preprint
  15. Quigg, A., Xu, Chin, W.-C., Kamalanathan, M., Sylvan, J., Finkel, Z.V., Irwin, A.J., Ziervogel, K., Wade, T.L., Knap, T., Hatcher, P.G., Santschi, P.H.. 2021. Crude oil and particulate fluxes including marine oil snow sedimentation and flocculant accumulation: Deepwater Horizon oil spill study. *International Oil Spill Conference Proceedings (2021)* 2021 (1): 689531; <https://doi.org/10.7901/2169-3358-2021.1.689531>.
  16. Santschi, P.H., Chin, W.C., Quigg, A., Xu, C., Kamalanathan, M., Lin, P. 2021. Marine gel interactions with hydrophilic and hydrophobic pollutants. *Gels; Special Issue on Marine Gels, Gels 2021*, 7, 83. <https://doi.org/10.3390/gels7030083>.
  17. Quigg A, Santschi PH, Xu C, Ziervogel K, Kamalanathan M, Chin W-C, Burd AB, Wozniak A and Hatcher PG. 2021 Aggregation and Degradation of Dispersants and Oil by Microbial Exopolymers (ADDOMEx): Toward a Synthesis of Processes and Pathways of Marine Oil Snow Formation in Determining the Fate of Hydrocarbons. *Front. Mar. Sci.* 8:642160. doi: [10.3389/fmars.2021.642160](https://doi.org/10.3389/fmars.2021.642160).
  18. Quigg, A.; Santschi, P.H.; Burd, A.; Chin, W.-C.; Kamalanathan, M.; Xu, C.; Ziervogel, K. 2021 From Nano-Gels to Marine Snow: A Synthesis of Gel Formation Processes and Modeling

Efforts Involved with Particle Flux in the Ocean. *Gels* 2021, 7,114. <https://doi.org/10.3390/gels7030114>.

### ***B3. Peer-reviewed Book Chapters (45)***

1. Santschi, P.H., W.S. Broecker, Y.-H. Li, J. Bell, S. Carson, G. Morrison and E. Davie. 1980. Radioactive and stable trace metals in Narragansett Bay, Rhode Island. In: *Natural Radiation Environment III*, T.F. Gesell, W.M. Lowder, eds., NTIS, U.S. Dept. of Energy, CONF-780422, 514-528.
2. Santschi, P.H. 1982. Application of enclosures to studies of Ocean chemistry. In: *Marine Mesocosms: Biological and Chemical Research in Experimental ecosystems*, G.D. Grice, ed., Springer Verlag, 63-80.
3. Santschi, P.H., S. Carson, and Y.-H. Li. 1982. Natural radionuclides as tracers for geochemical processes in MERL mesocosms and Narragansett Bay. In: *Marine Mesocosms: Biological and Chemical Research in Experimental Ecosystems*, G.D. Grice, ed., Springer Verlag, 97-109.
4. Amdurer, M., D. Adler, and P.H. Santschi. 1982. The use of radiotracers in studies of trace metal behavior in mesocosms: Advantages and limitations. In: *Marine Mesocosms: Biological and Chemical Research in experimental ecosystems*, G.D. Grice, ed. Springer Verlag, 81-95.
5. Santschi, P.H., and Y.-H. Li, 1983. Removal pathways of Th and Pu isotopes in coastal marine environments. In: *Natural Radiation Environment*, K.G. Vohra, K.C. Pillai, U.C. Mishra, S. Sadasivan, eds., Wiley Eastern Ltd., Bombay, India, 643-650.
6. Santschi, P.H., D. Adler and M. Amdurer. 1983. The fate of particles and particle-reactive trace metals in Sea Water, In: *Trace Metals in Sea Water*, C.S. Wong, E. Boyle, K. Bruland, J.D. Burton and E.D. Goldberg, eds., Plenum Press, 331-350.
7. Amdurer, M., D. Adler, and P.H. Santschi. 1983. Studies of the chemical forms of trace elements in sea water using radiotracers. In: *Trace Metals in Sea Water*, C.S. Wong, E. Boyle, K. Bruland, J.D. Burton and E.D. Goldberg, eds., Plenum Press, 537-562.
8. Santschi, P.H., U.P. Nyffeler, R. Anderson and S. Schiff. 1984. The enclosure as a tool for the assessment of transport and effects of pollutants in lakes. In: H. White, ed., *Concepts in Marine Pollution Measurements*. Maryland Seagrant College Publications, pp. 541-562.
9. Santschi, P.H., U.P. Nyffeler, Y.-H. Li and P. O'Hara. 1986. Radionuclide cycling in natural waters: relevance of scavenging kinetics. In: *Sediments and Water Interactions*, P.G. Sly, ed., Springer Verlag, 183-191.
10. Santschi, P.H. 1986. Radionuclides as tracers for sedimentation and remobilization processes in the ocean and in lakes. In: *Sediments and Water Interactions*, P.G. Sly, ed., Springer Verlag, 435-447.
11. Buchholtz, M., P.H. Santschi, W.S. Broecker. 1986. Comparison of  $K_D$ -Values by batch equilibration with in-situ determinations in the deep-sea using the MANOP Lander: The importance of geochemical mechanisms in controlling ion uptake and migration, In: Sibley, T.H., and Myttenaire, C., eds., *Application of Distribution Coefficients to Radiological Assessment Models*, Elsevier Applied Science Publ., New York, 192-205.
12. Santschi, P.H., Bollhalder, S., Camani, M., Farrenkothen, K., Goerlich, W., Haesler, S., Heinz, H., Lueck, A., Schuler, Ch., Sturm, M., Voelkle, H., Weber, C., and Zingg, S. 1987. Radionuklide des Tschernobyl-Fallouts in natürlichen Gewässern: Auswasch-, Verdünnungs-, Eliminierungs- und Anreicherungsprozesse. Proc. Symp. "Radioaktivitätsmessungen in der

- Schweiz nach Tschernobyl und ihre wissenschaftliche Interpretation", Bern, Schweiz, Bundesamt für Gesundheitswesen, 323-338.
13. Santschi, P.H., Bollhalder, S., Farrenkothen, K., Hermann, A., Lueck, A., Schuepbach, M.R., Weber, C. 1987. Chemische Speziierung und Mobilität der Nuklide des Tschernobyl Fallouts in der Umwelt. Proc. Symp. "Radioaktivitätsmessungen in der Schweiz nach Tschernobyl und ihre wissenschaftliche Interpretation", Bern, Schweiz, Bundesamt für Gesundheitswesen, 132-141.
  14. Santschi, P.H., Bollhalder, S., Farrenkothen, K., Lueck, A., Weber, C., Zingg, S. 1987. Messung der atmosphärischen Deposition von Tschernobyl- Radionukliden (Gesamt- und Trockendeposition) im Raume Dübendorf ZH. Proc. Symp. "Radioaktivitätsmessungen in der Schweiz nach Tschernobyl und ihre wissenschaftliche Interpretation", Bern, Schweiz, Bundesamt für Gesundheitswesen, 176-187.
  15. Santschi, P.H., Bollhalder, S., Farrenkothen, K., Lueck, A., Weber, C., Zingg, S. 1987. Transportraten von Tschernobyl-Radionukliden in Gras und Kuhmilch im Raume Dübendorf. Proc. Symp. "Radioaktivitätsmessungen in der Schweiz nach Tschernobyl und ihre wissenschaftliche Interpretation", Bern, Schweiz, Bundesamt für Gesundheitswesen, 467-476.
  16. Santschi, P.H., Bollhalder, S., Farrenkothen, K., Lueck, A., Weber, C. 1987. Exakte Bestimmung des  $^{133}\text{I}/^{131}\text{I}$ -Verhältnisses in Niederschlagsproben zur Berechnung des Zeitpunktes des "Shutdowns" des Reaktors von Tschernobyl. Proc. Symp. "Radioaktivitätsmessungen in der Schweiz nach Tschernobyl und ihre wissenschaftliche Interpretation", Bern, Schweiz, Bundesamt für Gesundheitswesen, 188-190.
  17. Voelkle, H., Murith, C., Surbeck, H., Nowak, St., Baeriswyl, L., Ferreri, C., Gobet, M., Gurtner, A., Ribordy, L., Wicht, F., Santschi, P.H., Farrenkothen, K., Lueck, A., Bollhalder, S., Weber, C. 1987. Radioaktivitätsmessungen in Luftfilter und Niederschlagsproben und Ablagerungen auf Gras und Erdboden. Proc. Symp. "Radioaktivitätsmessungen in der Schweiz nach Tschernobyl und ihre wissenschaftliche Interpretation", Bern, Schweiz, Bundesamt für Gesundheitswesen, 72-83.
  18. Gehring, J.-J., Bollhalder, S., Farrenkothen, K., Friedli, R., Hermann, A., Lerch, P., Lueck, A., Santschi, P.H., Schuepbach, M.R., Weber, C. 1987. Mesure de Sr-89 et de Sr-90 dans l'environnement en Suisse après l'accident de Tschernobyl. Proc. Symp. "Radioaktivitätsmessungen in der Schweiz nach Tschernobyl und ihre wissenschaftliche Interpretation", Bern, Schweiz, Bundesamt für Gesundheitswesen, 458-466.
  19. Williams, R.T., et al. 1987. USC GEOSECS  $^{228}\text{Ra}$  and  $^{222}\text{Rn}$  Data. In: GEOSECS Atlantic, Pacific and Indian Ocean Expeditions, v. 7, Shorebased Data and Graphics. U.S. Govt. Printing Office, Washington, D.C.
  20. Hoehn, E. and P.H. Santschi. 1987. Traced river water as a basis for protection schemes of ground water recharged by the river, Proc. Symp. on Groundwater Protection Areas, Karlovy Vary Congress Czechoslovakia 1986, Vol XIX-Part 2, Novinar Publishing House, 199-206.
  21. Santschi, P.H. 1988. Radionuklide in der aquat. Umwelt als Tracer für geochemische Prozesse. In: Symp. Swiss Soc. Radiation Biology and Radiation Physics, Bellinzona, Verlag Max Huber, Kerzers, Switzerland, 95-117.
  22. Santschi, P.H., Bajo, C., Mantovani, M., Orcinolo, D., Cranston, R., and Bruno, J. 1989. Uranium in pore waters from North Atlantic (GME and southern Nares Abyssal Plain) sediments, In: Geoscience Investigations of two North Atlantic Abyssal Plains-The ESOPE International Expedition, R.T.E. Schuttenhelm et al., CEC Joint Research Center Report EUR 12330 EN, 949-962.

23. Santschi, P.H., and Honeyman, B.D. 1990. The role of colloids in oceanic scavenging processes: evidence from Th nuclides. In: *Isotopic Tracers*, Bacon, M.P., and Anderson, R.F., eds., U.S. JGOFS Planning Report Number 12, July 1990, WHOI, Woods Hole, MA02543, 68 - 83.
24. Santschi, P.H., and Honeyman, B.D. 1991. Are thorium scavenging and particle fluxes in the ocean regulated by coagulation? In: *Radionuclides in the Study of Marine Processes*, P.J. Kershaw, and Woodhead, D.S., eds., Elsevier Applied Science, New York, 107-115.
25. Wan Guojang, and P.H. Santschi, 1991. A comparison of vertical profiles of  $^{210}\text{Pb}$  and  $^{137}\text{Cs}$  in sediment cores from two lakes: Lake Greifen (Switzerland) and Lake Hongfeng (China). In: *Quaternary Geology and Environment in China*, Liu Tungsheng, ed., Science Press, Beijing, China, pp.309-317.
26. Santschi, P.H., and Honeyman, B.D. 1991. Radioisotopes as tracers for the interactions between trace elements, colloids and particles in natural waters. In: *Heavy Metals in the Environment*, Vernet, J.-P., ed., Elsevier, New York, 229-246.
27. Honeyman, B.D., and Santschi, P.H. 1992. The role of particles and colloids in the transport of radionuclides and trace metals in the oceans, in: *Environmental Particles*, J. Buffle, H.P. van Leeuwen, eds., IUPAC Environmental Analytical Chemistry Monograph Series, Lewis Publ., CRC Press, Inc., Boca Raton, Fla., chapter 10, pp. 379-423.
28. Buchholtz ten Brink, M.R., and Santschi, P.H. 1993. Mobility of radioisotopes in marine surface sediments. In: *Proc. Conf. on Radioactivity and Environmental Security in the Oceans: New Research and Policy Priorities in the Arctic and North Atlantic*, Woods Hole Oceanographic Institution, Woods, Hole, Mass., p.311-324.
29. Santschi, P.H. 1996. Book Review, C.P. Huang, C.R. O'Melia, and J.J. Morgan (eds.), *Aquatic Chemistry. Interfacial and Interspecies Processes*, Advances in Chemistry Series 244, American Chemical Society, Washington, D.C., 1995. In: *Aquatic Geochemistry*, 2, 107-109.
30. Moran, J.E., Oktay, S., Santschi, P.H., and Schink, D.R. 1997. Surface  $^{129}\text{Iodine}/^{127}\text{Iodine}$  ratios: Marine vs. terrestrial, *Applications of Accelerators in Research and Industry*, J.L. Duggan and I.L. Morgan, eds, AIP Press, New York, 807-810.
31. Guo, L., Santschi, P.H., and Bianchi, T.S. 1999. Dissolved organic matter in estuaries of the Gulf of Mexico. In: *Biogeochemistry of Gulf of Mexico Estuaries*, T.S. Bianchi, J.R. Pennock, and R. Twilley, eds., John Wiley & Sons, pp. 269-299.
32. Santschi, P.H., Guo, L., Means, J.C., and Ravichandran, M. 1999. Natural organic matter binding of trace metal and trace organic contaminants in estuaries. In: *Biogeochemistry of Gulf of Mexico Estuaries*, T.S. Bianchi, J.R. Pennock, and R. Twilley, eds., John Wiley & Sons, pp. 347-380.
33. Wen, L.S., Shiller, A., Santschi, P.H., and Gill, G. 1999. Trace metal behavior in Gulf of Mexico estuaries. In: *Biogeochemistry of Gulf of Mexico Estuaries*, T.S. Bianchi, J.R. Pennock, and R. Twilley, eds., John Wiley & Sons, pp. 303-346.
34. Santschi, P.H., Moran, J.E., Oktay, S., Hoehn, E., and Sharma, P. 1999.  $^{129}\text{Iodine}$ : A new tracer for surface water/groundwater interaction. IAEA-SM-361/10.
35. Moran, J.E., Oktay, S., Santschi, P.H., Schink, D.R., Fehn, U., and Snyder, G. 1999. World-wide redistribution of  $^{129}\text{Iodine}$  from nuclear fuel reprocessing facilities: Results from meteoric, river, and seawater tracer studies. IAEA-SM-354/101.
36. Luoma, S.N., Hogstrand, C., Bell, R.A., Bielmyer, G.K., Galvez, G., LeBlanc, G.A., Lee, B.-G., Purcell, T.W., Santore, R.C., Santschi, P.H., and Shaw, J.R. 2002. Biological Processes.

- In: Silver in the Environment, Fate, and Effects. Andren, A.W., and Bober, T.W., eds., Soc. Environ. Toxicol. and Chem. (SETAC), ISBN-1-880611-44-9, p. 65-95.
37. Santschi, P.H., Burd, A.B., Gaillard, J.-F., Lazarides, A.A. 2005. Transport of materials and chemicals by nano-scale colloids and micro to macro-scale flocs in marine, freshwater and engineered systems. In: Flocculation in Natural and Engineered Environmental Systems, Droppo, I.G., Leppard, G.G., Liss, S.N., and Milligan, T.G., eds., CRC Press, Boca Raton, FL, chapter 9, pp. 191-210.
  38. Santschi, P.H. 2005. Marine Colloids. In: Water Encyclopedia: Oceanography; Meteorology; Physics and Chemistry; Water Law; and Water History, Art, and Culture. Jay H. Lehr (Editor), Jack Keeley (Editor). pp. 27-32. John Wiley & Sons, Inc., New York, 832pp.
  39. Guo, L. and Santschi, P.H. 2007. Ultrafiltration and its applications to sampling and characterization of aquatic colloids. In "Environmental Colloids and Particles: Behaviour, Separation and Characterization," Wilkinson, K. and Lead, J. (Eds), Chapter 4, International Union of Pure and Applied Chemistry (IUPAC) Series on Analytical and Physical Chemistry of Environmental Systems, John Wiley, pp.159-221.
  40. Doucet, F.J., Lead, J.R., and Santschi, P.H. 2007. Colloid-Trace Element Interactions in Aquatic Systems. In "Environmental Colloids and Particles: Behaviour, Separation and Characterization," Wilkinson, K. and Lead, J. (Eds), Chapter 3, International Union of Pure and Applied Chemistry (IUPAC) Series on Analytical and Physical Chemistry of Environmental Systems, John Wiley, pp. 95-158.
  41. Baskaran, M., Hong, G.-H., and Santschi, P.H. 2009. Radionuclide analysis in seawater. In: "Practical Guidelines for the Analysis of Seawater", O. Wurl, editor, CRC Press, Taylor and Francis Group, Chapter 13, p. 259-304.
  42. Hung, C.C., , G-C., Lee, M.-A., Liao, C.-H., Chang, Y., Shih, Y.-Y., Chen, K.-S., Chen, M.-H., Santschi, P.H. 2014. Impacts of Typhoons on Nutrient Supply and Potential Fish Production in the Southern East China Sea. In: Typhoon Impact and Crisis Management, Springer Verlag, Berlin and Heidelberg, pp.267-282.
  43. Hayes, C.T., Wen, L.-S., Lee, C.-P., Santschi, P.H. Johannesson, K.H. 2019. Trace Metals in the Gulf of Mexico: Synthesis and Future Directions. Chapter 4 in *Gulf of Mexico origin, waters and biota, vol. 5, Chemical Oceanography*. (Ed.) T. S. Bianchi. Texas A&M University Press. ISBN-13 978-1-62349-774-3. <https://www.tamupress.com/book/9781623497743/gulf-of-mexico-origin-waters-and-biota/>
  44. Corbett, D.R., Walsh, J.P., Santschi, P.H. 2019. Chapter 6. Radioactive Nuclides – In: *Gulf of Mexico origin, waters and biota, vol. 5 Chemical Oceanography*. (Ed.) T. S. Bianchi. Texas A&M University Press. ISBN-13 978-1-62349-774-3. <https://www.tamupress.com/book/9781623497743/gulf-of-mexico-origin-waters-and-biota/>
  45. Santschi, P.H. 2019. Colloids and Nanoparticles in Aquatic Systems. In: Encyclopedia of Water: Science, Technology, and Society– Wiley, Encyclopedia of Water: Science, Technology, and Society, 5 Volume Set; Patricia Maurice (Editor). ISBN: 978-1-119-30075-5 April 2020 2976 Pages. Chapter 34. p383. <https://www.wiley.com/en-gb/Encyclopedia+of+Water%3A+Science%2C+Technology%2C+and+Society%2C+5+Volume+Set-p-9781119300755>

#### ***B4. Non-peer-reviewed overview articles in journals and magazines (13)***

1. Santschi, P.H. 1983. Radioisotopes In Aquatic Sciences. EAWAG News 14/15, 1-6.
2. Santschi, P.H., K. Farrenkothen, A. Lueck, H.J. Hueppi, E. Werth and E. Hoehn. 1984. The movement of a tritium pulse through surface and groundwaters in the Glatt Valley, Switzerland, EAWAG News 16/17, 7-11.
3. Santschi, P.H. 1985. Radionuklidmigration in den Problemkreisen Radioaktiver Abfall - Chemodynamik - Sedimentologie, EIR Bulletin, 54, 65-72.
4. Santschi, P.H., and Hoehn, E. 1986. Tritium im Grundwasser. Die Auswirkung von unbeabsichtigt freigesetztem Tritium auf das Grundwasser im untern Glattal (Kanton Zürich). EIR Bulletin, 59, 13-15.
5. Santschi, P.H. 1987. Tschernobyl Radionuklide in der Umwelt: Tracer für die enge Kopplung zwischen atmosphärischen, terrestrischen und aquatischen Systemen. EAWAG Mitteilungen 23, 2-9.
6. Santschi, P.H. 1987. Chernobyl radionuclides in the environment: tracers for the tight coupling between atmospheric, terrestrial and aquatic geochemical processes. EAWAG News, 22/23, 1-6.
7. Santschi, P.H. 2017. American Exopolymeric. Science & Technology 25 feature article, pp. 262-265. <http://edition.pagesuite-professional.co.uk/html5/reader/production/default.aspx?pnun=262&edid=c780812e-ef43-4ea4-bf5a-7c8f0cfe1e7d&isshared=true;> <https://www.scitecheuropa.eu/american-exopolymeric/80733/>
8. Santschi, P.H. 2017. Cleaning Up a Catastrophe. Scientia. Shifting Paradigms in Physics and Engineering, 115, 74-77; <http://www.scipod.global/cleaning-up-a-catastrophe-professor-peter-h-santschi-texas-am-university/>
9. Santschi, P.H. 2018. Radioiodine in the environment: Importance of Natural Organic Matter. Special Report, <https://www.openaccessgovernment.org/radioiodine-environment/47933/>
10. Santschi, P.H., Kaplan, D.I. 2018. Why should we care about radioiodine in the environment? digital e-book, <http://edition.pagesuite-professional.co.uk/html5/reader/production/default.aspx?pubname=&edid=6fd5c7f8-905e-4ac4-b798-0c3547f19065>
11. Santschi, P.H. 2018. How do we dispose Iodine-129 long-term? <https://www.openaccessgovernment.org/iodine-129-disposal/53932/>
12. Santschi, P.H. 2019. Containing iodine in a solid phase for radioactive waste disposal. <http://edition.pagesuite-professional.co.uk/html5/reader/production/default.aspx?pubname=&edid=dce4c2dd-32b9-41fa-9c60-11aeb915efce&pnum=290>
13. Santschi, P.H. 2019. Mobility of Iodine Species in environment and in solid waste. Open Access Government edition 24 (October 2019). i <https://www.openaccessgovernment.org/iodine-species-in-the-environment/74628/>
14. Santschi, P.H., Chin, W.C., Quigg, A., Xu, C., Kamalanathan, M., Lin P. **2021**. How does natural organic matter (NOM) affect micro- and nano-plastic pollution in the environment? - The biophysical mechanisms leading to the formation of 'Marine Plastic Snow'. Universal Journal of Engineering Mechanics 9 (2021), 32-42; *PaperSciences Research Publisher* (Journal of European Union Academy of Sciences, EUAS).



**PUBLISHED ABSTRACTS** underlined are Master/PhD students whose research was part of the publication; **double underlined** are past Master/PhD students; \* at the end of the last name for undergraduate students who participated in the published research)

- Santschi, P.H., M. Amdurer, Y.-H. Li, D. Adler and J. Bell. 1979. The removal of some "particle-reactive" elements in experimental microcosms and in Narragansett Bay, EOS 60(46), 853.
- Santschi, P.H., and W.S. Broecker. 1980. <sup>228</sup>Ra in the Central Indian and Wharton Basins of the Indian Ocean, EOS 61(46), 987.
- Azevedo, A., P.H. Santschi, W.S. Broecker, T. Takahashi, J. Goddard, E. Azevedo and D. Thurber. 1980. Calibration of the MANOP flux chamber, EOS 61(46), 1007.
- Santschi, P.H., U.P. Nyffeler, W.S. Broecker. 1981. The MANOP flux chamber experiments: Fluxes of radioactive trace metals on the sea floor. 182nd ACS National Meeting, New York, N.Y. August 23-28, 1981, American Chemical Society, ISBN 0-8412-0647-32, GEOG. 8.
- Santschi, P.H., U.P. Nyffeler, P. Bower, and W.S. Broecker. 1981. Direct measurements of tracer fluxes on the sea floor: the active MANOP chamber experiments. EOS 62(45), 906.
- Nyffeler, U.P., Y.-H. Li, and P.H. Santschi. 1981. A kinetic approach to describe trace metal uptake by sediments and manganese nodules in the MANOP flux chamber. EOS 62(45), 906.
- Nyffeler, U.P., P.H. Santschi, R.F. Anderson, S.L. Schiff. 1982. Trace metal removal in freshwater lakes. EOS 63(3), 67.
- Santschi, P.H., S. Nixon, M. Pilson, and C. Hunt. 1982. The accumulation of sediments, trace elements and hydrocarbons in Narragansett Bay. EOS 63(18), 351.
- Anderson, R.F., P.H. Santschi, U.P. Nyffeler, S.L. Schiff. 1982. Comparing the geochemical behaviors of stable metals and radiotracers. EOS 63(45), 1009.
- Santschi, P.H., U.P. Nyffeler, R.F. Anderson, S.L. Schiff, P. O'Hara, and R.H. Hesslein. 1984. Radionuclide transport in lakes: Comparison of results from radiotracer additions to enclosures and whole lakes. Proc. Int. Conf. on Nucl. and Radiochemistry.
- Santschi, P.H., A. Lueck, K. Farrenkothen, H.J. Hueppi, and E. Werth. 1984. The movement of a tritium pulse through surface and ground waters in the Glatt Valley, Switzerland: field determination of aquifer flow parameters. EOS 65(45), 889.
- Wan, G.J., P.H. Santschi, K. Farrenkothen, M. Sturm, and C. Schuler. 1984. Postdepositional remobilization of <sup>210</sup>Pb in freshwater sediments. EOS 65(45), 941.
- Buchholtz, M., P.H. Santschi and W.S. Broecker. 1984. Mobility of trace elements in marine sediments. EOS 65(45), 937.
- Buchholtz, M.R., Santschi, P.H., Broecker, W.S. 1985. Radiotracer partitioning at the sediment-water interface: Laboratory and field experiments, EOS 66(46), 939.
- Schuler, Ch., Santschi, P.H., Farrenkothen, F., Lueck, A., and Sturm, M. 1985. Natural Radionuclides in Lake Zürich, Switzerland, EOS 66(46), 939.
- Santschi, P.H., Nyffeler, U.P., Li, Y.-H., and Buchholtz, M. 1986. Relevance of the slow sorption kinetics of Th isotopes on particles in natural waters. Poster abstract at Workshop on Aquatic Surface Chemistry: Chemical Processes at the Particle-Water Interface, Wolfsberg Conf. Centre, Ermatingen, Switzerland, Jan. 22-25, 1986.
- Santschi, P.H. 1986. Migration of radionuclides in natural systems. Extended abstract for "3ème Cycle romand, Le stockage des Déchets Ménagers-Industriels, Nucléaires", Université de Neuchâtel, Switzerland, March 12-20, 1986.

- Santschi, P.H. Li, Y.-H., O'Hara, P., Amdurer, M., Adler, D., and Doering, P. 1986. The relative mobility of radioactive trace elements across the sediment-water interface in the MERL model ecosystems of Narragansett Bay. Proc. of ASLO/PSA meeting, Kingston, R.K., June 23-26, 1986, 113.
- Li, Y.-H., Santschi, P.H., O'Hara, P., Doering, P., and Amdurer, M. 1986. The importance of benthic macrofauna to the removal of trace elements from coastal waters. Proc. of ASLO/PSA meeting, Kingston, R.I., June 23-26, 1986, 78.
- Hoehn, E., and Santschi, P.H. 1986. Traced river water as a basis for protection schemes of groundwater recharged by the river. XIX Congress of the int. Assoc. of Hydrogeol., IAH Internat. Symp. on Groundwater Protection Areas, Karlovy Vary, CSSR, Sept. 9-11, 1986, 56.
- Santschi, P.H., Wan, G.J., Sturm, M., Farrenkothen, K., Lueck, A., Werth, E., and Schuler, Ch. 1986. Natural ( $^{210}\text{Pb}$ ,  $^7\text{Be}$ ) and fallout ( $^{137}\text{Cs}$ ,  $^{239,240}\text{Pu}$ ,  $^{90}\text{Sr}$ ) radionuclides as geochemical tracers of sedimentation in Greifensee, Switzerland: The apparent failure of the  $^{210}\text{Pb}$  dating method. Proc. Meeting der Ges. Deutscher Chemiker, Fachgruppe Nuklearchemie, Regensburg, Sept. 29-Oct. 2. 1986, 213.
- Santschi, P.H., Schuler, Ch., and Sturm, M. 1987. Natural and Chernobyl radionuclides as tracers of particle settling and resuspension in Lake Zürich, Switzerland. *Terra Cognita*, 7(2-3), 185.
- Schuler, Ch., Santschi, P.H., and Sturm, M. 1987. Kinetics of  $^7\text{Be}$  and  $^{210}\text{Pb}$  cycling in Lake Zürich, Switzerland. *Terra Cognita* 7(2-3), 184.
- Santschi, P.H. 1987. Use of radionuclides in the study of contaminant cycling processes. In: Proc. 4th Symp. on the Interaction between sediments and Water, Feb. 16-20, 1987, Melbourne, Australia.
- Schuler, Ch., Dominik, J., Lueck, A., Losher, A. and Santschi, P.H. 1987. Fluxes of particle-reactive radionuclides from the water column of Lake Geneva to the sediments. Symp. on Functional and Structural Properties of Large Lakes, Konstanz, FRG, 13-18 Sept. 1987, p. 113
- Schuler, Ch., Santschi, P.H., and Sturm, M. 1987. Natural radionuclides as tracers for geochemical transport processes in Lake Zurich, Switzerland. Symp. on Functional and Structural Properties of Large Lakes, Konstanz, FRG, Sept. 13-18, 1987 p.,114.
- Santschi, P.H. 1987. EUG IV Symposium Report: S13 Radionuclides in the Environment. *Terra Cognita* 7 (4), 679.
- Santschi, P.H., Bajo, C., Orciuolo, D., Cranston, R., Bruno, J. 1987. Uranium in pore waters from North Atlantic (GME and Southern Nares Abyssal Plain) sediments. *EOS* 68(50), 1693.
- Honeyman, B.D., Santschi, P.H. 1987. A Brownian-pumping model for slow metal adsorption kinetics: Evidence from Th isotopes. *EOS* 68(50), 1716.
- Buchholtz-ten Brink, M.R., Santschi, P.H. 1987. Diffusion of radiotracers in marine surface sediments. *EOS* 68(50), 1780.
- Honeyman, B.D., and Santschi, P.H. 1987. The effect of particle concentration on the rate and extent of thorium adsorption. Invited paper presented at the American Chemical Society National Meeting, Denver, CO. Abstract published.
- Honeyman, B.D., and Santschi, P.H. 1988. A Brownian-pumping model for slow metal sorption kinetics. Presented at the Fall Meeting of the Swiss Chemical Society, Bern, Switzerland. Abstract published.
- Dominik, J., Santschi, P.H. 1988. L'utilite du  $^{234}\text{Th}$  comme traceur dans le milieu lacustre. Proc. 2-ieme conference internationale des limnologues d'expression francaise, CILEF 88, Aussois, France, 24-28 May 1988.

- Santschi, P.H. 1988. A need to study interactive effects, *Applied Geochemistry* 3, 81.
- Santschi, P.H., Schuler, Ch., Sturm, M., Lueck, A., Farrenkothen, K., Bollhalder, S., Wieland, E. 1988. Natural radionuclides in Lake Zuerich: Tracers for particle and trace element Dynamics. *EOS* 69 (44), 1085.
- Hoehener, P., Schurter, M., Santschi, P., and Gaechter, R. 1988. Flusskammern: Eine Methode zum Studium von Prozessen an der Sediment-Wasser Grenze von Seen (Benthic flux chambers: A method for studying processes occurring at the lacustrine sediment-water interface), Swiss Soc. for Limnology, Lausanne, Switzerland, Oct. 6-9, 1988.
- Santschi, P.H. 1989. Studies in Radionuclide Geochemistry, 92nd Annual Meeting of the Texas Acad. Sciences, Beaumont, March 2-4, 1989.
- Santschi, P.H. 1989. The self-cleaning capacity of surface waters after radioactive fallout. Evidence from European waters after Chernoby, 1986-1988, Scientific Committee on Problems of the Environment. International Council of Scientific Unions, Subcommittee on Radionuclide Pathways in the Environment (SCOPE-RADPATH), Workshop, University of Essex, U.K., 29 May-2 June, 1989.
- Santschi, P.H. 1989. Chemical Processes at the Sediment-Water Interface, 32nd International Union of Pure and Applied Chemistry (IUPAC) Congress, Section on Marine and Atmospheric Chemistry, Stockholm, Sweden, Aug. 2-7, 1989, 35.
- Santschi, P.H. and Honeyman, B.D. 1989. Radioisotopes as tracers for the interactions between trace metals, colloids and particles in natural waters. Invited Conference Paper. In: Proc. 7th Int. Conf. on Heavy Metals in the Environment, Sept. 12-17, 1989, Geneva, Switzerland, CEC Consultants, Ltd, Edinburgh, U.K., 243 - 252.
- Wieland, E., Sturm, M., Bollhalder, S., Lueck, A., Farrenkothen, K., and Santschi, P.H. 1989. Accumulation and focussing of Radionuclides and sediments in Lake Sempach: Evidence from Chernobyl <sup>137</sup>Cs and natural <sup>210</sup>Pb. In: Proc. 7th Int. Conf. on Heavy Metals in the Environment, Sept. 12-17, 1989, Geneva, Switzerland, CEC Consultants, Ltd, Edinburgh, U.K., 346 - 349.
- Griffin, L., Baskaran, M., Cantu, A.\*, and Santschi, P.H. 1989. Determination of Uranium in natural waters by ICP-MS. *Proc. ACS Symp.*
- Benoit, G. Coleman, Ch., Cantu, A.\*, Griffin, L., and Santschi, P.H. 1990. Trace metals in Texas estuaries. *EOS* 71/2, 112.
- Anderson, R., Fleisher, M., and Santschi, P.H. 1990. Measurements of diffusive sublayer thicknesses in the ocean by alabaster dissolution, and their implications for the measurements of benthic fluxes. *EOS* 71/2, 124.
- Santschi, P.H., Baskaran, M., and Benoit, G. 1990. Coagulation control of radionuclide and trace metal removal from coastal waters. *EOS* 71/2, 71.
- Baskaran, M., Coleman, Ch., Benoit, G., and Santschi, P.H. 1990. Natural radionuclides in Texas estuaries. *EOS* 71/2, 71.
- Santschi, P.H., Santschi, R., and Stone, H. 1990. Nutrient cycling in Galveston Bay. II. Factors regulating their concentrations in the water column. *Proc. Texas Acad. Science 93rd Meeting*, March 2-3, 1990, 89.
- Santschi, P.H., Santschi, R., and Benoit, G. 1990. Nutrient cycling in Galveston Bay. I. Trinity River to Gulf of Mexico transects. *Proc. Texas Acad. Science 93rd Meeting*, March 2-3, 1990, 90.
- Cantu, A.\*, Coleman, C., Benoit, G., and Santschi, P.H. 1990. Trace metals in Texas estuaries. *Proc. Texas Acad. Science 93rd Meeting*, March 2-3, 1990, 90.

- Santschi, P.H. 1990. Global Change: Challenge for Environmental Chemistry, Proc. Congress of the Italian Chemical Society, CISCI'90 ATTI, San Benedetto del Trento, Italy, p.673.
- Santschi, P.H., and Honeyman, B.D. 1990. Brownian coagulation control of the scavenging rate of Th isotopes and the mass flux of particles. EOS 71/43, 1418.
- Baskaran, M., Santschi, P.H., and Benoit, G. 1990. Th isotope measurements on colloids in surface seawater. EOS 71/43, 1418.
- Honeyman, B.D., and Santschi, P.H. 1990. Coupling of trace metal adsorption and particle aggregation: kinetic and equilibrium studies using <sup>59</sup>Fe-labeled hematite, EOS 71/43, 1418.
- Santschi, P.H., and Samuell, J.O. 1991. The cycling of nutrients and trace elements in Galveston Bay: Factors regulating their concentrations in the water column. In: Proc. Galveston Bay Characterization Workshop, Houston, Feb. 21-23, 1991, Shipley, F.S., and Kiesling, R.W., eds., The Galveston Bay Estuary Program Publication GBNEP-6, pp.105-108.
- Benoit, G., Hood, M.\*, Oktay, S., Coleman, C., Cantu, A.\*, and Santschi, P.H. 1991. Dissolved and particulate trace metals in the Galveston Bay water column. In: Proc. Galveston Bay Characterization Workshop, Houston, Feb. 21-23, 1991, Shipley, F.S., and Kiesling, R.W., eds., The Galveston Bay Estuary Program Publication GBNEP-6, pp.57-58.
- Baskaran, M., Coleman, Ch, and Santschi, P.H. 1991. Natural radionuclides as tracers of the self-cleaning capacity of Galveston Bay. In: Proc. Galveston Bay Characterization Workshop, Houston, Feb. 21-23, 1991, Shipley, F.S., and Kiesling, R.W., eds., The Galveston Bay Estuary Program Publication GBNEP-6, pp.109-111.
- Hood, M.\*, S. Oktay, A. Cantu\*, P. Santschi and G. Benoit. 1991. Trace metals in Texas estuaries. Presented at the Texas Academy of Science, 94th Annual Meeting, S.F. Austin State University, Nacogdoches, TX, March 1-2, 1991.
- Santschi, P.H., Baskaran, M., Benoit, G., Coleman, Ch., Asbill, S.\*, Cantu\*, A., Hood, M.\*, Okta, y, S., Shannon, P. 1991. The role of colloids in removing trace metals from estuarine waters. Presented at the Texas Academy of Science, 94th Annual Meeting, S.F. Austin State University, Nacogdoches, TX, March 1-2, 1991.
- Shannon, S.P.\*, Baskaran, M., and Santschi, P.H. 1991. Radioactive isotopes as tracers of sediment erosion. Presented at the Texas Academy of Science, 94th Annual Meeting, S.F. Austin State University, Nacogdoches, TX, March 1-2, 1991.
- Santschi, P.H., and M. Baskaran. 1991. The role of particles and colloids in the transport of radionuclides and trace metals in estuarine and coastal environments, in Proc. Second Internat. Symp on the Biogeochemistry of Model Estuaries: Estuarine Processes and Global Change, Jeckyll Island, Georgia, USA, April 14-20, 1991.
- Santschi, P.H., and Honeyman, B.D. 1991. Are Thorium scavenging and particle fluxes in the ocean regulated by coagulation?, Int. Symp. on Radionuclides in the Study of Marine Processes, RADSTOMP'91, Norwich, UK, Sept. 9-14, 1991.
- Santschi, P.H., Baskaran, M., and Coleman, C.H. 1991. The coupling of interactions between ions, particles and sediments in estuaries as revealed by natural radioisotopes such as those of Th, Be, and Pb. Proc. 11th Biennial Internat. Estuarine Research Conference, San Francisco, Nov. 10-14, 1991, p.124
- Santschi, P.H., Baskaran, M., and Coleman, C. 1991. Interfacial processes in estuarine and coastal marine environments, Ocean Sciences Meeting, American Geophysical Union, New Orleans, Jan. 27-31, 1992, EOS, 72/51, 26.

- Baskaran, M., and Santschi, P.H. 1991. Residence times of colloidal material in the surface ocean, Ocean Sciences Meeting, American Geophysical Union, New Orleans, Jan. 27-31, 1992, EOS, 72/51, 61.
- Baskaran, M., and Santschi, P.H. 1992. Atmospheric depositional fluxes of  $^7\text{Be}$  and  $^{210}\text{Pb}$  at Galveston and College Station, Texas. American Geophysical Union, San Francisco, Dec. 7-11, 1992. EOS, 73(4) Suppl., 271.
- Santschi, P.H., Oktay-Marshall, S.D., Wen, L.-S., and Corapcioglu, O. 1993. Processes which control the cycling of toxicants in Galveston Bay. In: Proceedings of the Second State of the Bay Symposium, Feb. 4-6, 1993, Galveston Bay National Estuary Program, GBNEP-23, Clear Lake, 115-123.
- Santschi, P.H., Honeyman, B.D., and Quigley, M.S. 1993. The "zero-order model" revisited: Prof. Schindler's influence on our understanding of trace metal scavenging, 205th ACS National Meeting, Div. of Geochemistry, Symposium Honoring Paul W. Schindler: Mineral/Water Interface Geochemistry, Paper 33, Denver, CO, March 29, 1993.
- Lawrence, J.R., Baskaran, M., Santschi, P.H., and Gedzelman, S.D. 1993.  $\text{d}^{18}\text{O}$  -  $^7\text{Be}$  -  $^{210}\text{Pb}$  Relationships in Southeast Texas precipitation. EOS 74/16, 74.
- Wen, L.S., Oktay-Marshall, S., Corapcioglu, O., and Santschi, P.H. 1993. Processes which regulate dissolved and colloidal Pb and Zn concentrations from the Trinity River to the open Gulf of Mexico. Proc. 12th Biennial Estuarine Res. Fed. Conf., Nov.14-18, 1993, Hilton Head Island, S.C., p.73.
- Guo, L., Coleman, C., and Santschi, P.H. 1993. Processes which regulate dissolved and colloidal organic carbon (DOC and COC) concentrations from the Trinity River to the open Gulf of Mexico. Proc. 12th Biennial Estuarine Res. Fed. Conf., Nov.14-18, 1993, Hilton Head Island, S.C., p. 46.
- Ravichandran, M., Baskaran, M., Santschi, P.H., and Bianchi, T.S. 1994. Accumulation rate of sediments and trace metals in Sabine-Neches Estuary, Beaumont, Texas. EOS, 75/3, 144.
- Baskaran, M., and Santschi, P.H. 1994. The distribution of  $^{228}\text{Ra}/^{226}\text{Ra}$  activity ratio in the Gulf of Mexico waters. EOS, 75/3, 65.
- Santschi, P.H., Guo L., and Baskaran, M. 1994. Association of  $^{234}\text{Th}$  with suspended particles and colloids in the Gulf of Mexico and the Atlantic Ocean. EOS, 75/3, 235.
- Guo, L., Santschi, P.H., and Warnken, K.W. 1994. Dynamics of dissolved organic carbon from the shelf and slope areas in the Gulf of Mexico and off Cape Hatteras. EOS, 75/3, 105.
- Schink, D.R., Santschi, P.H., Corapcioglu, O., Sharma, P., and Fehn, U. 1994. Iodine-129 in waters of the Gulf of Mexico. EOS, 75/3,78.
- Wen, L.S., Santschi, P.H., and Paternostro, C. 1994. Trace metal speciation in the waters of the Trinity River Estuary. EOS, 75/3, 122.
- Santschi, P.H., Guo, L., Trumbore, S., Southon, J., Bianchi, T.S., and Cifuentes, L. 1994. Isotopic and biochemical evidence for the recent origin of colloidal organic matter in the ocean: I. Carbon partitioning. Proc. 207th ACS National Meeting., American Chemical Society, San Diego, CA, March 13-17, 1994, GEOC. 146.
- Santschi, P.H., Guo, L., Baskaran, M., and Honeyman, B. 1994. Isotopic and biochemical evidence for the recent origin of colloidal organic matter in the ocean: II.  $^{234}\text{Th}$  partitioning. Proc. 207th ACS National Meeting., American Chemical Society, San Diego, CA, March 13-17, 1994, GEOC. 162.
- Santschi, P.H., Guo, L., Baskaran, M., and Zindler, A. 1994. Comparison of Th and Pb cycling in the Atlantic Ocean off Cape Hatteras and in the Gulf of Mexico. EOS, 75 (No.44), 327.

- Baskaran, M., and Santschi, P.H. 1994. Particulate and dissolved  $^{210}\text{Pb}$  activities in the Gulf of Mexico waters. EOS, 75 (No.44), 312.
- Guo, L., Santschi, P.H., Baskaran, M., Trumbore, S., Southon, J. 1994. Organic carbon cycling in the Atlantic Ocean off Cape Hatteras. EOS, 75 (No.44), 327.
- Schink, D., Santschi, P.H., Corapcioglu, O., and Oktay-Marshall, S. 1994.  $^{129}\text{I}$  concentrations in the Atlantic Ocean: Comparison of a profile in the Gulf of Mexico with one at a deep site off Cape Hatteras. EOS, 75 (No.44), 344.
- Santschi, P.H., L.-S. Wen, B.D. Honeyman, and J. Lenhart. 1995. Heterogeneous Processes Affecting Trace Element Distribution in Estuaries. Proc. 4th Int. Symp. on Model Estuaries, March 21-24, 1995, Nantes, France.
- Santschi, P.H. 1995. Colloids in the ocean: Isotopic, elemental, and biomarker evidence for their origin and turnover times, Proc. Int. Symp. on Colloids in Aquatic Environments, COL/Module 2, Oct. 19-20, 1995, University of Geneva, Switzerland.
- Carvalho, R., Santschi, P.H., and Benfield, M. 1995. Bioavailability of Colloidal Forms of Trace Metals to Penaeid Shrimp. Proc. 13<sup>th</sup> International Estuarine Research Federation Meeting, Corpus Christi, TX, November 12-16, 1995.
- Guo, L., and Santschi, P.H. 1995. A critical evaluation of the cross-flow ultrafiltration technique for sampling of colloidal organic carbon in seawater. Proc. 13<sup>th</sup> International Estuarine Research Federation Meeting, Corpus Christi, TX, November 12-16, 1995.
- Stordal, M.C., Wen, L.-S., Santschi, P., and Gill, G. A. 1995. Phase Speciation Of As, Hg, Sb, and Se In Galveston Bay And Corpus Christi Bay: Significance Of Colloidal Forms. Proc. 13<sup>th</sup> International Estuarine Research Federation Meeting, Corpus Christi, TX, November 12-16, 1995.
- Stordal, M.C., L.-S. Wen, P. Santschi and G.A. Gill .1995. Colloidal Mercury in Texas Estuaries. Proc. American Chemical Society Annual meeting, Anaheim, CA, April 1995.
- Wen, L.S., M. C. Stordal, Degui Tang, G. A. Gill and P. H. Santschi .1995. An Ultra clean Cross-Flow Ultrafiltration Technique for the Study of Trace Metal Phase Speciation in Seawater. Proc. 13<sup>th</sup> International Estuarine Research Federation Meeting, Corpus Christi, TX, November 12-16, 1995.
- Santschi, P.H., Wen, L.-S., Paternostro, C.\*, and G. Gill. 1995. Phase partitioning of silver in river and estuarine waters of Texas. Proc. 3rd International Argentum Conference, Washington, D.C.
- Santschi, P.H. 1996. Colloids in marine environments: Composition, origin and apparent turnover times. EOS 76/3, OS166.
- Wen, L.-S., Stordal, M.C., Tang, D., Gill, G.A., and Santschi, P.H. 1996. Application of an ultraclean crossflow filtration technique for the study of colloidal trace metals in seawater. EOS 76/3, OS165.
- Guo., L., and Santschi, P.H. 1996. A critical evaluation of the cross-flow ultrafiltration technique for sampling of colloidal organic carbon in seawater. EOS 76/3, OS173.
- Stordal, M.C., Gill, G.A., Wen, L.-S., and Santschi, P.H. 1996. Filter-passing and colloidal arsenic, antimony and selenium within three Texas estuaries. EOS 76/3, OS174.
- Moran, J.E., Santschi, P.H., Schink, D.R., Oktay, S., Fehn, U., and Rao, U. 1996. Surface  $^{129}\text{I}$ / $^{127}\text{I}$  ratios - Marine vs. terrestrial. Radiocarbon, 38, 88-89
- Moran, J.E., Schink, D.R., Santschi, P.H., and Oktay, S. 1996. Preparation of anthropogenic  $^{129}\text{I}$  samples using carrier iodine - potential problems. Radiocarbon, 38, 89-90.

- Oktay, S.D., Santschi, P.H., Moran, J., Sharma, P. 1996. Anthropogenic  $^{129}\text{I}$  measurements to reconstruct the input function of  $^{129}\text{I}$  in the Gulf of Mexico. EOS 77/46, 321.
- Wen, L.-S., Santschi, P.H., and Gill, G. 1996. Interaction and transport of trace elements in estuarine environments via colloidal organic materials. EOS 77/46, 292.
- Guo, L., Santschi, and P.H. 1996. Cycling of high molecular weight dissolved organic matter in Galveston Bay and the Chesapeake Bay. EOS 77/46, 281.
- Santschi, P.H. 1997. Colloids in oceanic environments. Composition and importance for trace element cycles. Invited paper presented at 214th ACS National Meeting, Paper ENVR.002, Las Vegas, Sept. 7-11, 1997.
- Tang, D., Wen, L.-S., and Santschi, P.H. 1997. Calibration of cross-flow ultrafiltration for phase speciation studies for trace elements. Paper presented at ACS Symposium, Paper ENVR.003, Las Vegas, Sept. 7-11, 1997.
- Wen, L.-S., D. Tang, R. Lehman, G. Gill and P. Santschi (1997). Dissolved and colloidal Ag in natural waters - analytical aspects. Proc. 5th International Argentum Conference on the Transport, Fate, and Effects of Silver in the Environment. Hamilton, Ontario, Canada, September 28 to October 1, 1997. A.W. Andren and T.W. Bober, eds., pp.415-420.
- Santschi, P., Tang, D., Wen, L.-S., and Gill, G. 1997. Macromolecular organic sulfur complexes of silver in estuarine environments of Galveston Bay. Proc. of the 5th International Argentum Conference on the Transport, Fate, and Effects of Silver in the Environment. Hamilton, Ontario, Canada, September 28 to October 1, 1997. (invited paper). A.W. Andren and T.W. Bober, eds., pp.41-49.
- Gill, G. A., L.-S. Wen, R. Lehman, D. Tang and P. Santschi (1997). Silver in Colorado Watersheds. Proc. 5th International Argentum Conference on the Transport, Fate, and Effects of Silver in the Environment. Hamilton, Ontario, Canada, September 28 to October 2, 1997. A.W. Andren and T.W. Bober, eds., pp.155-162.
- Santschi, P.H., Balnois, E., Wilkinson, K., Zhang, J., Buffle, J., and Guo, L. 1998. Fibrillar polysaccharides in marine macromolecular organic matter, as imaged by Atomic Force Microscopy and Transmission Electron Microscopy, AGU/ASLO meeting in San Diego, CA. EOS 79(1), Jan. 6, 1998, p. OS13.
- Santschi, P.H., Guo, L., Walsh, I.D., Quigley, M., and Baskaran, M. 1998. Boundary exchange and scavenging of radionuclides in continental margin waters of the Middle Atlantic Bight: Implications for organic carbon fluxes, AGU/ASLO meeting in San Diego, CA. EOS 79(1), Jan. 6, 1998, p. OS183.
- Guo, L., Santschi, P.H., Boland, G.W., and Lehman, R. 1998. Organic carbon cycling in ocean margin benthic nepheloid layers, AGU/ASLO meeting in San Diego, CA. EOS 79(1), Jan. 6, 1998, p. OS13
- Schwantes, J.M., Baskaran, M., Santschi, P.H., Champ, M.A., Brooks, J.M., and Johnson, L. 1998. Distributions of  $^{137}\text{Cs}$  and Pu concentrations and activity ratios of Pu ( $^{238}\text{Pu}/^{239,240}\text{Pu}$ ) in waters over the Siberian Shelf, AGU/ASLO meeting in San Diego, CA. EOS 79(1), Jan. 6, 1998, p. OS81.
- Baskaran, M., Presley, B.J., and Santschi, P.H. 1998. Reconstruction of historical contamination of trace metals in Mississippi River Delta, Tampa Bay, and Galveston Bay sediments, AGU/ASLO meeting in San Diego, CA. EOS 79(1), Jan. 6, 1998, p. OS123.
- Warnken, K.W., Gill, G.A., Santschi, P.H., and Griffin, L.L. 1998. Benthic fluxes of trace metals in Galveston Bay, Texas, AGU/ASLO meeting in San Diego, CA. EOS 79(1), Jan. 6, 1998, p. OS189.

- Santschi, P.H., Wen, L.-S., Quigley, M., and Tang, D. 1998. Phase and chemical speciation studies of surface-bound trace metals in estuarine environments. Invited Paper. Proc. 8th Int. Symp. of SETAC, Bordeaux, France, April 14-18, 1998, pp. 28.
- Santschi, P.H., Moran, J.E., Oktay, S., Hoehn, E., and Sharma, P. 1999. <sup>129</sup>Iodine: A new tracer for surface water/groundwater interaction. Proc. Int. Symp. On Isotope Techniques in Water Resources Development and Management, Vienna, Austria, May 10-14, 1999.
- Quigley, M.S., Santschi, P.H., Guo, L., Murphy, R.J. 1999. The importance of polysaccharide molecular components of natural organic matter in the complexation of Th(IV), Proc. 15th Biennial Int. Conf. Estuar. Res. Fed. '99, New Orleans, Sept. 25-30, 1999, p.83.
- Oktay, S.D., Santschi, P.H., and Moran, J. 1999. Evidence of anthropogenic <sup>129</sup>I in Mississippi delta sediments. Proc. 15th Biennial Int. Conf. Estuar. Res. Fed. '99, New Orleans, Sept. 25-30, 1999, p.76.
- Santschi, P.H., Tang, D., Quigley, M., Guo, L., and Wen, L.-S. 1999. Trace metal complexation to macromolecular organic matter in surface waters. Proc. 26th Annual Conference of the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), and 45th International Conference on Analytical Sciences and Spectroscopy (ICASS), Vancouver, Canada, Oct. 24-29, 1999, p. 101.
- Oktay, S.D., Santschi, P.H., Moran, J.E., and Sharma, P. 2000. The <sup>129</sup>I/<sup>127</sup>I levels in Mississippi River water and delta sediments. The discharge and deposition record. 2000 Ocean Sciences Meeting, Jan. 24-28, San Antonio, Texas. EOS 80(49), 254.
- Quigley, M., Santschi, P.H., Guo, L., Hung, C.-C., Murphy, R.J. 2000. The importance of the acid polysaccharide fraction for Th (IV) complexation and organic carbon flux. 2000 Ocean Sciences Meeting, Jan. 24-28, San Antonio, Texas. EOS 80(49), 192.
- Guo, L., Wen, L.-S., and Santschi, P.H. 2000. Re-examination of cross-flow ultrafiltration for isolating colloidal macromolecular organic matter in seawater. 2000 Ocean Sciences Meeting, Jan. 24-28, San Antonio, Texas. EOS 80(49), 144.
- Tang, D., Wen, L.-S., and Santschi, P.H. 2000. Analysis of biogenic thiols in natural water samples by HPLC separation and fluorescence detection with ammonium 7-fluorobenzo-2-oxa-1,3-diazole-4-sulfonate (SBD-F). 2000 Ocean Sciences Meeting, Jan. 24-28, San Antonio, Texas. EOS 80(49), 47.
- Santschi, P.H. Tang, D., Hung, C.-C., and Quigley, M. 2000. Trace Metal Interactions with Thiols and Acid Polysaccharides in Galveston Bay. Proc. 46<sup>th</sup> International Conference on Analytical Sciences and Spectroscopy, Winnipeg, Manitoba, Canada, August 13-16, 2000. #092, p.60.
- Wilkinson, K.J., and Santschi, P.H. 2000. Role of Aquatic Colloids in the Speciation, Bioavailability and Fate of Trace Elements, Nutrients and Contaminants" Invited tutorial lecture at the ASLO 2000 Aquatic Science Meeting, Copenhagen, Denmark, June 5-9, 2000.
- Santschi, P.H., Oktay, S.D., Moran, J.E., and Schwehr, K. 2000. <sup>129</sup>I as an Environmental Tracer. Proc. 5<sup>th</sup> International Conference on Nuclear and Radiochemistry (NRC5), Pontresina, Switzerland, Sept. 3-8, 2000, Vol. 2, p. 376-378.
- Guo, L., Hunt, B., Santschi, P. H., Ray, S. M. 2000. "Effect of dissolved organic matter on the uptake of trace metals by American oysters" SETAC 21st Annual Meeting, 12-16 November 2000, Nashville, Tennessee. Society of Environmental Toxicology and Chemistry, PMP003, p136.
- Wade, T.L., Santschi, P.H., Presley B.J., Garcia-Romero, B., and Baskaran, M. 2001. Environmental trends of contaminants from the Mississippi River Delta, Tampa Bay and



- Galveston Bay sediment cores. Symp. Am. Chem Soc., San Diego, CA, April 1-5, 2001, Vo. 41, No. 1, 890-893.
- Santschi, P.H. 2001. Are biomolecules regulating trace metal concentrations and bioavailability in Galveston Bay, Texas? A Review. In: Proc. Galveston Bay National Estuary Symposium V "State of the Bay", Jan. 31 – Feb. 2, 2001, Galveston, TX, 76-81.
- Hung, C.-C., Guo, L., and Santschi, P.H. 2001. Dissolved and particulate polysaccharides in the Gulf of Mexico. ASLO Aquatic Sciences 2001 Meeting, Section CS07, Albuquerque NM. ([www.aslo.org](http://www.aslo.org)).
- Santschi, P.H., Hung, C., Guo, L., Schultz, G., Alvarado-Quiroz, N.G., Haye, J., Pinckney, J.L. 2002. Role of acid polysaccharides in the Th-234 scavenging. 2002 AGU/ASLO Ocean Sciences Meeting, Honolulu, Hawaii, Feb. 11-15, 2002. Paper OS51I-06.
- Alvarado-Quiroz, N.G., Hung, C., Santschi, P.H. 2002. Characterization of marine polysaccharides responsible for binding Th Isotopes. 2002 AGU/ASLO Ocean Sciences Meeting, Honolulu, Hawaii, Feb. 11-15, 2002. Paper OS22D-226.
- Schwehr, K.A., Santschi, P.H. 2002. A sensitive determination of iodide species in fresh or saline matrices using High Performance Liquid Chromatography and UV/Visible Detection. 2002 AGU/ASLO Ocean Sciences Meeting, Honolulu, Hawaii, Feb. 11-15, 2002. Paper OS21B-20.
- Guo, L., Tanaka, N., Schell, D.M., Santschi, P.H. 2002. Nitrogen and carbon isotopic composition of dissolved organic matter in marine environments. 2002 AGU/ASLO Ocean Sciences Meeting, Honolulu, Hawaii, Feb. 11-15, 2002. Paper OS32S-10.
- Hung, C., Guo, L., Schultz, G., Alvarado-Quiroz, N., Haye, J., Santschi, P.H., and Pinckney, J. 2002. Abundance and origin of acid polysaccharides in the marine environment. 2002 AGU/ASLO Ocean Sciences Meeting, Honolulu, Hawaii, Feb. 11-15, 2002. Paper OS51I-10.
- Santschi, P.H., Hung, C.-C., and Guo, L. 2003. Comparison of upper ocean carbon export measurement by POC/<sup>234</sup>Th and sediment traps. EGS-AGU-EUG Joint Assembly, Nice, April 6-11, 2003, Europ. Geophys. Soc Geophys. Res. Abstracts, 5, 08868.
- Schwehr, K.A., Santschi, P.H., Moran, J.E. 2003. <sup>129</sup>Iodine: A new hydrologic tracer for aquifer recharge conditions influenced by river flow rate and evapotranspiration. EGS-AGU-EUG Joint Assembly, Nice, April 6-11, 2003, Europ. Geophys. Soc Geophys. Res. Abstracts, 5, 12823.
- Santschi, P.H. 2003. Workshop on Flocculation in Natural and Engineered Environmental Processes, Canada Center for Inland Waters, Burlington, Ontario, Canada.
- Santschi, P.H. 2003. Gel Workshop, Centennial FHL Symposium on Global Biogeochemical Cycles: A tribute to Prof. John I. Hedges, Friday Harbor Laboratory, University of Washington.
- Santschi, P.H., Burd, A.B., Gaillard, J.-F., and Lazarides, A.A. 2003. The Role of Nano-Scale Colloids in Particle Aggregation and Trace Metal Scavenging in Aquatic Systems. NSF Nanoscale Science and Engineering Grantees Conference. Dec. 16-18, 2003. National Science foundation, Arlington, Virginia.
- Roberts, K.A., Santschi, P.H., and Quigley, M. 2004. Importance of acid polysaccharides (APS) to the adsorption of <sup>234</sup>Th(IV), <sup>233</sup>Pa(V,IV) and <sup>240</sup>Pu(V,IV) onto SiO<sub>2</sub> particles. 12<sup>th</sup> Ocean Sciences Meeting, Portland, Oregon, 26-30 January, 2004.
- Yeager, K.M., Santschi, P.H., and Rowe, G.T. Sediment accumulation and radionuclide inventories (<sup>239,240</sup>Pu, <sup>210</sup>Pb and <sup>234</sup>Th) in the northern Gulf of Mexico, as influenced by organic

- matter and macrofaunal density. 12<sup>th</sup> Ocean Sciences Meeting, Portland, Oregon, 26-30 January, 2004.
- Schwehr, K.A., Santschi, P.H., and Elmore, D. 2004. <sup>129</sup>I/<sup>127</sup>I of dissolved organic iodine: A novel tool for tracing terrestrial organic matter in estuarine surface waters of Galveston Bay, Texas. ASLO 2004 Ocean Research Conference, Honolulu, Hawaii, Feb. 15-19, 2004.
- Hung, C.-C., Santschi, P.H. 2004. Acid polysaccharides in marine colloidal organic matter and marine microorganisms. ASLO 2004 Ocean Research Conference, Honolulu, Hawaii, Feb. 15-19, 2004.
- Hung, C.-C., Warnken, K., and Santschi, P.H. 2004. Degradation of carbohydrates and persistence of uronic acids in the Trinity River, Texas. 227<sup>th</sup> ACS National Meeting, Anaheim, CA, March 28-April 1, 2004.
- Santschi, P.H., Roberts, K.A., and Honeyman, B.D. 2004. Interactions between actinides and environmental matrices, with special emphasis on Pu. 227<sup>th</sup> ACS National Meeting, Anaheim, CA, March 28-April 1, 2004.
- Olivier, S., Gaeggeler, H.W., Schwikowski, M., Bajo, S., Schotterer, U., Fifield, K., Santschi, P. H., Wacker, L., and Papina, T. 2004. Plutonium from global fallout recorded in an ice core from the Belukha glacier, Siberian Altai. Sixth International Conference on Nuclear and Radiochemistry, 29 August to 3 September 2004 in Aachen, Germany.
- Roberts, K.A., Santschi, P.H., Leppard, G.G., and West, M.M. 2004. Characterization of organic-rich <sup>239,240</sup>Pu-containing colloids from surface and ground waters from a contaminated site in Colorado, USA. International Goldschmidt 2004 Conference, Processes in Geochemistry. Forces, Fluxes and Structure. June 5-11, 2004, Copenhagen, Denmark, abstract and poster presentation 4.64.PO2.
- Santschi, P.H. 2005. The oceanic gel phase as part of the continuum between dissolved, colloidal and particulate organic carbon. ASLO 2005 Aquatic Sciences Meeting, Salt Lake City, Utah, USA, February 20-25, 2005, p. 97.
- Hung, C.-C. and Peter H. Santschi, P.H. 2005. Composition of exopolymeric substances produced by marine microorganisms. ASLO 2005 Aquatic Sciences Meeting, Salt Lake City, Utah, USA, February 20-25, 2005, p. 50-51.
- Alvarado Quiroz, N.G., Hung, C.-C., Santschi, P.H. 2006. Binding of Thorium(IV) to Carboxylate, Phosphate and Sulfate Functional Groups from Marine Exopolymeric Substances (EPS). *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS16M-03.
- Ding, Y., Rodriguez, A., Chin, W-C., Hung, C., Santschi, P. H., Verdugo, P., 2005. Dynamics of bacterial exopolymer networks and their role in biofilm and marine microgels formation. ASLO 2005 Aquatic Sciences Meeting, Salt Lake City, Utah, USA, February 20-25, 2005, p. 28.
- Schwehr, K.A., Santschi, P.H., Moran, J.E., and Elmore, D. 2005. Near-conservative behavior of <sup>129</sup>Iodine in the Orange County Aquifer System, California. Proc. 15<sup>th</sup> Annual Goldschmidt Conference: A voyage of discovery, Moscow, Idaho, USA, 20-25 May, 2005.
- Hung, C.-C., Roberts, K.A., Schwehr, K.A., and Santschi, P.H. 2005. Microbially produced extracellular polysaccharidic Pu(IV)-binding ligands. Proc. Migration'05, the 10<sup>th</sup> International Conference on Chemistry and Migration Behaviour of Actinides and Fission Products in the Geosphere, in Avignon, France, Sept. 18-23, 2005.
- Alvarado Quiroz, N.G., Hung, C.-C., Santschi, P.H. 2006. Binding of Thorium(IV) to Carboxylate, Phosphate and Sulfate Functional Groups from Marine Exopolymeric Substances (EPS). *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS16M-03.

- Ding, Y., W., Rodriguez, A., Hung, C.-C., Santschi, P.H., Verdugo, P. 2006. Marine Bacteria Exopolymers Induce Microgel Assembly Through Hydrophobic Interactions: Implications for Biofilm Formation and Substrate Scavenging. *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS46K-01.
- Hung, C., Xu, C., Schwehr, K., Roberts, K., Santschi, P.H., Cai, Y., Guo, L., Tsai, J., Wei, C. 2006. Re-examination of POC/Th-234 ratios in size-fractionated particles. *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS15B-11.
- Santschi, P.H., Hung, C.-C., and Wen, L.-S. 2006. An improved filtration system for measuring ratios of POC/Th-234 in size-fractionated particles, *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS15B-10.
- Schwehr, K.A., Truxal, L.\*, Hung, C.-C., Santschi, P.H. 2006. Molecular Weight and Relative Hydrophobicity Distributions of Selected Exopolymeric Substances (EPS) Harvested From Cultures. *Eos Trans. AGU*, 87(36), Ocean Sci. Meet. Suppl., Abstract OS46K-10.
- Long, R. A., Meyer, S. L., Rips, J.J., Hung, C.C., Santschi, P.H. 2006. Sargassum enhancement of the microbial loop. Abstract, ASLO Summer Meeting in Victoria, British Columbia, Canada.
- Yeager, K.M., P.H. Santschi, K.J. Schindler\*, M.J. Andres and E.A. Weaver, 2006. The Relative Importance of Terrestrial Versus Marine Sediment Sources to the Nueces-Corpus Christi Estuary, Texas: An Isotopic Approach. *EOS Transactions AGU*, 87(36), Joint Assembly Supplement, Abstract OS01-841.
- Roberts, K.A., Santschi, P.H., Schwehr, K.A. 2006. The effect of extracellular polymeric substances (EPS) on adsorption of Pu(IV) and (V) on silica particles. International Plutonium Futures Conference, The Science 2006, July 9–13, 2006, in Asilomar Conference Grounds, Pacific Grove, California, USA, Abstract.
- Hung, C.-C., Schwehr, K.A., Xu C., Zhang, S., Roberts, K., Santschi, P.H. 2007. Enigma of assessing losses from filtration of POC and associated species such as Th-234 in the ocean. SLO 2007 Aquatic Sciences Meeting February 4-9, 2007, Santa Fe, New Mexico.
- Schwehr, K.A., Truxal, L., Hung, C.-C., Xu C., Santschi, P.H. 2007. Importance of relative hydrophobicity and molecular weight distributions of selected exopolymeric substances for their physico-chemical properties. SLO 2007 Aquatic Sciences Meeting February 4-9, 2007, Santa Fe, New Mexico.
- Yeager, K. M., P. H. Santschi, H. Rifai, M. Suarez, R. Brinkmeyer, C. C. Hung, K. J. Schindler, M. Andres and E. Weaver\*, 2007. Dioxin chronology and fluxes in sediments of the Houston Ship Channel, Texas: influences of non-steady state sediment transport and total organic carbon. *EOS Transactions AGU*, 88(23), Joint Assembly Supplement, Abstract H33C-04.
- Hieke, Anne-Sophie C., Santschi, Peter H., Yeager Kevin M., Brinkmeyer Robin. 2007. Diversity and Distribution of Bacterial Communities in Dioxin-Contaminated Sediments from the Houston Ship Channel. ERF 2007, Annual Estuarine Research Federation Annual Meeting, Nov. 4-8, 2007. Published Abstract.
- Roberts, K.A., Santschi, P.H., and Honeyman, B.D. 2007. Pu(V) Reduction and Enhancement of Particle-Water Partitioning by Exopolymeric Substances. Migration '07, 11<sup>th</sup> International Conference on the Chemistry and Migration of Actinides and Fission Products in the Geosphere. Munich, Germany, Aug. 26 – Aug. 31, 2007. Session 17, B4-1. Published Abstract.
- Miao, A., Quigg, A., Xu, C., Schwehr, K.A., and Santschi, P.H. 2007. Engineered silver nanoparticles (ESNs) in coastal marine environments: Bioavailability and toxic effects to phytoplankton (*Thalassiosira weissflogi*). Published Abstract, Second Conference on

- Environmental Effects of Nanoparticles and Nanomaterials (24<sup>th</sup> - 25<sup>th</sup> September 2007) at the Natural History Museum, London, UK.
- Guo, L., Roberts, K.A., Santschi, P.H. 2007. Role of macromolecular organic matter in regulating the partitioning of Th(IV) and Pa(IV, V) on aquatic nanoparticles. Published abstract (B33C), Fall Meeting of the American Geophysical Union, San Francisco (10–14 December 2007).
- Schwehr, K.A.; Miao, A; Xu, C; Zhang, S.; Santschi, P H; 2008. IN SEARCH OF AN ELUSIVE SCALE FOR THE RELATIVE HYDROPHOBICITY OF EXOPOLYMERIC GEL-FORMING SUBSTANCES (Abstract ID:3141), 2008 Ocean Sciences Meeting, March 2-7, 2008 · Orlando, Florida.
- Miao, A; Quigg, A; Schwehr, K.; Xu, C.; Santschi, P; 2008. POTENTIAL EFFECTS OF EXOPOLYMERIC SUBSTANCES ON ENGINEERED SILVER NANOPARTICLES' (ESNS) BIOAVAILABILITY AND TOXICITY TO A COASTAL MARINE PHYTOPLANKTON (Abstract ID:835) ) 2008 Ocean Sciences Meeting, March 2-7, 2008 · Orlando, Florida.
- Xu, C.; Santschi, P H; 2008. ISOLATION AND CHARACTERIZATION OF EXOPOLYMERIC SUBSTANCES FROM MARINE BACTERIUM SAGITTULA STELLATA AND SOIL BACTERIUM PSEUDOMONAS FLUORESCENS BIOVAR II (Abstract ID:1330), 2008 Ocean Sciences Meeting, March 2-7, 2008 · Orlando, Florida.
- Zhang, S.; Santschi, P; 2008. APPLICATION OF CROSS FLOW ULTRAFILTRATION FOR ISOLATING EXOPOLYMERIC SUBSTANCES (EPS) FROM MARINE DIATOMS (Abstract ID:1451), 2008 Ocean Sciences Meeting, March 2-7, 2008 · Orlando, Florida.
- Santschi, P.H., Miao, A.J., Schwehr, K.A., Xu, C., Zhang, S.J., Quigg, A. 2008. The Toxicity of Engineered Nanoparticles of Silver to a Marine Diatom, and Potential Detoxification by Exopolymeric Substances. SETAC Europe 18th Annual Meeting Extended Abstr. no.: 521 (SS06B-1), SETAC Europe annual meeting in Warsaw, 25-29 May 2008.
- Miao et al., 2008. Toxicity of zinc oxide and silver engineered nanoparticles to marine phytoplankton, Abstract, SETAC North America Annual Meeting in Tampa, FL, Nov. 16-21, 2008.
- Schwehr, K.A., Santschi, P.H., and Kaplan, D.I. 2009. Organo-iodine formation in aquifer sediments at ambient concentrations. Goldschmidt 2009 - "Challenges to Our Volatile Planet". International Conference, June 21 - 26 in Davos, Switzerland.
- Johnson, B.E., Santschi, P.H., Schwantes, J.M., Douglas, M., and Addleman, R.S. 2009. Chemosorbents for Natural and Artificial Radionuclides Detection by in situ Gamma Counting in Natural Waters. Goldschmidt 2009 - "Challenges to Our Volatile Planet". International Conference, June 21 - 26 in Davos, Switzerland.
- Xu, C., P.H. Santschi, J.Y. Zhong, P.G. Hatcher, A.J. Francis, C.J. Dodge, K.A. Roberts, C.-C. Hung, B.D. Honeyman 2009. Mobilization of plutonium by organic matter decomposition products and microbial metabolites. MIGRATION'09, 12<sup>th</sup> International Conference on the Chemistry and Migration Behavior of Actinides and Fission Products in the Geosphere, Sept. 20-25, 2009, Three Rivers Convention Center, Kennewick, WA., USA.
- Schwantes, J.M., and Santschi, P.H. 2009. Mechanics of Pu colloid-enhanced migration within symmetric and asymmetric groundwater systems. MIGRATION'09, 12<sup>th</sup> International Conference on the Chemistry and Migration Behaviour of Actinides and Fission Products in the Geosphere, Sept. 20-25, 2009, Three Rivers Convention Center, Kennewick, WA., USA.

- Zhang, S., Santschi, P.H., Brinkmeyer, R. 2010. Substrata effects on the chemical characterization of EPS in biofilm formed in White Oak Bayou and Buffalo Bayou (Houston TX). 2010 Ocean Sciences Meeting, Feb. 22-26, Portland, Oregon, Abstract CO25A-02.
- Xu, C., Zhang, S., Chuang, C., Schwehr, K. A., Santschi, P. H. 2010. Chemical characterization of strongly actinide binding exopolymeric substances (EPS) from two bacteria (*Sagittula stellata* and *Pseudomonas fluorescens* Biovar II). 2010 Ocean Sciences Meeting, Feb. 22-26, Portland, Oregon, Abstract CO25A-26.
- Verdugo, V., Chin, W., Santschi, P. H. 2010. Marine polymer self assembly: Implications for marine carbon cycling. 2010 Ocean Sciences Meeting, Feb. 22-26, Portland, Oregon, Abstract CO25A-34.
- Chen, C., Xu, C., Miao, A., Brignoli, M., Farr, E., Quigg, A.S., Santschi, P.H., Chin, W. 2010. Effects of engineered nanoparticles on the assembly of exopolymeric substances from marine phytoplankton. 2010 Ocean Sciences Meeting, Feb. 22-26, Portland, Oregon, Abstract CO25A-37.
- Maiti, K., Buessler, K., Benitez-Nelson, C.R., Cochran, J.K., Dai, M.; Dehairs, F., Masque, P., Miller, L.A., Moran, B., Morris, P.J., Miquel, J., Peine, F., Planchon, F., Rutgers van der Loeff, M. P. H. Santschi, P.H., Turnewitsch, R., Waples, J.T. 2010. Total and Particulate Thorium-234 Results From GEOTRACES Intercalibration Cruises. 2010 Ocean Sciences Meeting, Feb. 22-26, Portland, Oregon, Abstract CO23A-02.
- Quigg, A.S., Alvarez, F., Ammerman, J.W., Chapman, P., Dimarco, S.F., Kurtz, J.C., Rowe, G.T., Santschi, P.H., Sylvan, J.B. 2010. SPATIAL AND TEMPORAL TRENDS IN FORCING FACTORS CONTROLLING PRIMARY PRODUCTIVITY IN THE NORTHERN GULF OF MEXICO. 2010 Ocean Sciences Meeting, Feb. 22-26, Portland, Oregon, Abstract BO25C-11.
- Zhang, S., Du, J., Xu, C., Schwehr, K.A., Ho, Y., Santschi, P.H., and Kaplan, D.I. 2010. Mobility of iodine ( $^{129}\text{I}$  and  $^{127}\text{I}$ ) species in sediment columns from the Savannah River Site. Goldschmidt 2010 Conference.
- Santschi, P.H., Xu, C., Hung, C.-C., Zhang, S., Schwehr, K.A., Guo, L.D., Gong, G.-C., Quigg, A., Long, R. Pinckney, J., Amon, R., Duan, S., Wei, C.-L. 2010. Controls of Th-234 removal from the oligotrophic ocean by polyuronic acids and modified by microbial activity. Western Pacific Geophysical Meeting, Taipei, Taiwan, June 22-25, 2011.
- Hung, C.-C., Xu, C., Santschi, P.H., Zhang, S., Schwehr, K.A., Quigg, A., Pinckney, J., Long, R., Guo, L., Gong, G.-C., and Wei, C.-L. 2010. Evaluation of the POC and  $^{234}\text{Th}$  fluxes in the Gulf of Mexico from sediment traps and size-fractionated POC/ $^{234}\text{Th}$  ratios in suspended particles. Western Pacific Geophysical Meeting, Taipei, Taiwan, June 22-25, 2011.
- Brinkmeyer R., Hieke-Rambo, A.S.C., Zhang, S., Xu, C., Schindler K., Louchouart P., Yeager, K.M., Santschi, P.H. 2010. FACTORS 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, in San Antonio, Texas.
- Yeager, K.M., Louchouart, P., Brinkmeyer, R., Santschi, P.H., Schindler, K.J. 2010. RECONSTRUCTING HISTORICAL DIOXIN CONTAMINATION IN THE HOUSTON SHIP CHANNEL AND GALVESTON BAY, TEXAS BY SEDIMENT RADIODATING. Dioxin 2010: 30th International Symposium on Halogenated Persistent Organic Pollutants, September 12-17, in San Antonio, Texas.
- Louchouart, P., Seward, S., Brinkmeyer, R., Cornelissen, G., Yeager, K.M., and Santschi, P.H. 2010. ROLE OF BLACK CARBON AND AMORPHOUS ORGANIC CARBON ON THE

PARTITION OF DIOXINA AND OTHER HYDROPHOBIC ORGANIC CONTAMINANTS IN SEDIMENTS OF THE SAN JACINTO SUPER FUND SITE, HOUSTON SHIP CHANNEL. Dioxin 2010: 30th International Symposium on Halogenated Persistent Organic Pollutants, September 12-17, in San Antonio, Texas.

- Chen, C.-S., Xu, C., Miao, A.-J., Brignoli, M., Farr, E., Quigg, A., Santschi, P.H., and Chin, W.-C. 2010. Effects of engineered nanoparticles on the assembly of exopolymeric substances from marine phytoplankton. Annual Meeting of the American Institute of Chemical Engineers, AIChE, Salt Lake, Nov. 7-12, 2010.
- Zhang, S., Santschi, P.H., Spurgin, J., Schwehr, K.A., Quigg, A., Chin, W.-C. 2011. The role of exopolymeric substances (EPS) in modifying transport of engineered nanoparticles in marine environments. ASLO Aquatic Sciences Meeting 2011, San Juan, Puerto Rico, Feb. 13-18, 2011.
- Zhang, S., Santschi, P.H., Spurgin, J.\*, Schwehr, K.A., Chin, W.-C. 2011. Exopolymeric Substances (EPS): a potential detoxification agent for toxicity of engineered nanoparticles to marine phytoplankton. Invited lecture at the BIT's 1st Annual World Congress of Marine Biotechnology (WCMB-2011) April 25-29, 2011 in Dalian China (<http://www.bitlifesciences.com/wcmb2011/>).
- Santschi, P.H., Brinkmeyer, R., Schwehr, K.A., Zhang, S., Xu, C., Hsiu-Ping Li, H.-P., Kaplan, D.I., Yeager, C., and Roberts, K.A. 2011. Biogeochemical and Microbial Controls of I-129 Mobility in Groundwater. Goldschmidt 2011 International Conference in Prague, Czech Republic, August 14-19, 2011 (<http://www.goldschmidt2011.org/>).
- Xu, C., Miller, E.J., Zhang, S., Li, H.-P., Ho, Y.-F., Schwehr, K.A., Kaplan, D.I., Ootaka, S., Roberts, K.A., Brinkmeyer, R., Yeager, C.M., Santschi, P.H. 2011. Sequestration and remobilization of radioiodine ( $^{129}\text{I}$ ) by soil organic matter at the Savannah River Site, USA. Migration 2011, 13<sup>th</sup> International Conference on the Chemistry and Migration Behavior of Actinides and Fission Products in the Geosphere, Sept. 18-23, Beijing, China.
- Kaplan, D.I., Zhang, S., Ootaka, S., Du, J., Xu, C., Schwehr, K.A., Ho, Y.-F., Roberts, K.A., Brinkmeyer, R., Yeager, C.M., Santschi, P.H. 2011. Influence of organic carbon on groundwater radioiodine speciation at the Savannah River Site. 13<sup>th</sup> International Conference on the Chemistry and Migration Behavior of Actinides and Fission Products in the Geosphere, Sept. 18-23, Beijing, China.
- Quigg, A., Miao, A.J., Chen, C.-S., Schwehr, K.A., Jiang, Y., Zhang, S., Chin, W.-C., Santschi, P.H. 2011. Role of exopolymeric substances in protecting phytoplankton from the potentially toxic effect of engineered nanoparticles. 6th International Conference on the Environmental Effects of Nanoparticles and Nanomaterials, The Royal Society, London, Monday 19<sup>th</sup>-Wednesday 21<sup>st</sup> September 2011.
- Xu, C., Sugiyama, Y., Hatcher, P.G., Zhang, S., Li, H.-P., Ho, Y.-F., Schwehr, K.A., Kaplan, D.I., Roberts, K.A., Santschi, P.H. 2012. Investigation of the radioiodine binding environment in terrestrial aquatic natural organic matter by FT-ICR-MS. 20-24 February 2012 Salt Lake City · Utah · USA.
- Guo, L.D., Yang, W.-F., Chuang, C.-Y., Santschi, P.H. 2012. Effects of natural organic matter on the partitioning and fractionation of  $^{210}\text{Pb}$ ,  $^{210}\text{Po}$  and  $^7\text{Be}$  in seawater. 20-24 February 2012 Salt Lake City · Utah · USA.
- Chuang, C.-Y., Xu, C., Zhang, S., Jiang, Y., Ho, Y.-F., Wen, L.-S., Hung, C.-C., Schwehr, K.A., Quigg, A., and Santschi, P.H. 2012. Binding of Marine Biopolymers (e.g., siderophores) to

- Natural Isotopes ((Th, Pa, Be, Po and Pb) aided by redox transformations. ACS National Meeting and Exposition 2012, San Diego, California, Mar 25-29, 2012.
- Zhang, S., Jiang, Y., Chen, C.-S., Creeley, D.\* , Chin, W.-C., Quigg, A., Santschi, P.H. 2012. A study on the mechanisms responsible for bioaccumulation of amine-functionalized CdSe quantum dots by *Dunaliella tertiolecta*. ACS National Meeting and Exposition 2012, San Diego, California, Mar 25-29, 2012.
- Jiang, Y., Saijin Zhang, Chi-Shuo Chen, Danielle Creeley\*, Kathy A. Schwehr, Wei-Chun Chin, Peter H. Santschi, Antonietta Quigg. Effects of extracellular polymeric substances of *Thalassiosira pseudonana* and nitrogen-depletion on the fate of Cd/Se Quantum Dots. ACS National Meeting and Exposition 2012, San Diego, California, Mar 25-29, 2012.
- Chen Xu, Yi-Fang Ho, Camden J Skinner\*, Kathleen A. Schwehr, Kimberly A. Roberts, Nicole Didonato, Daniel I. Kaplan, Patrick G. Hatcher, Peter H. Santschi. 2012. The Role of Natural Organic Matter in Immobilizing or Re-mobilizing Plutonium in the Far Field of the Savannah River Site, USA. Plutonium Futures. The Science 2012. Sunday, 15 July 2012 - Friday, 20 July 2012. Cambridge United Kingdom.
- Santschi, P.H., Chuang, C.-Y., Schwehr, K.A., and Xu, C. 2012. "Biopolymers as carriers of radionuclides in marine aggregates", International Workshop on Marine Aggregates (IWOMA) - From Molecular principles to Biogeochemical Impacts (August 15-17, 2012), in Bremen, Germany.
- Xu, C., Athon, M., Ho, Y.-F., Schwehr, K.A., Kaplan, D.I., Kimberly, R.A., Didonato, N., Hatcher, P.G., Santschi, P.H. 2013. Plutonium Immobilization and Re-mobilization by soil mineral-organic matter matrix compounds in the Far-field of the Savannah River Site (SRS), USA. Goldschmidt 2013 Conference, Florence, Italy, 25/08/13 to 30/08/13, abstract Gold2013:abs:1805.
- Li H.-P., Creeley D.\*, Daniel B.\*, Grandbois R., Zhang S., Xu C., Schwehr K., Kaplan D., Santschi P. & Yeager C. 2013. Iodine Speciation Change by a Mn-Oxidizing Marine Bacteria, *Roseobacter sp.* Azw-3 k, Through the Production of Reactive Oxygen Species. Goldschmidt 2013 Conference, Florence, Italy, 25/08/13 to 30/08/13.
- Santschi, P.H.; Chuang, C.-Y.; Xu, C.; Zhang, S.; Schwehr, K.A. 2014. BIOPOLYMERS AS CARRIERS OF NATURAL AND ANTHROPOGENIC RADIONUCLIDES IN THE ENVIRONMENT (Abstract ID:13436), Invited paper in session 037 "Dynamics of Coupled Processes in the Ocean: A tribute to the career of Dr. James Murray", 2014 Ocean Sciences Meeting, February 23-28, 2014, Honolulu, HI.
- Chuang, C.-Y., Santschi, P.H., Xu, C., Jiang, Y., Quigg, A., Guo, L.D., Hatcher, P.G. 2014. ROLE OF DIATOMS IN SCAVENGING OF PARTICLE REACTIVE RADIONUCLIDES, TH, PA, PB, PO AND BE, IN THE OCEAN: A CASE STUDY FOR PHAEODACTYLUM TRICORNUTUM (Poster Abstract ID: 55, of Session #:08055), 2014 Ocean Sciences Meeting, February 23-28, 2014, Honolulu, HI.
- Quigg, A., Chin, W.-C., Chen, C.-S., Zhang, S., Jiang, Y., Miao, A.-J., Schwehr, K.A., Xu, C., and Santschi, P.H. 2014. Direct and Indirect Toxic Effects of Engineered Nanoparticles on Micoalgae: The Role of Natural Organic Matter. 248th ACS National Meeting, San Francisco, CA.
- Xu, C., Zhang, S.J., Ho, Y.-F., Athon, M., Johnston, I., Schwehr, K.A., Kaplan, D.I., Didonato, N., Hatcher, P.G., Santschi, P.H. 2014. Hydroxamate Siderophores in soil mineral-organic matter matrix Responsible for Binding <sup>239,240</sup>Pu in the Far-field of the Savannah River Site, USA. Invited Abstract Goldschmidt 2014 Sacramento, California, June 8-13, 2014.

- Xu, C., Zhang, S.J., Ho, Y.-F., Athon, M., Johnston, I., Schwehr, K.A., Kaplan, D.I., Didonato, N., Hatcher, P.G., Santschi, P.H. 2014. Hydroxamate siderophores in soil mineral-organic matter matrix responsible for binding  $^{239,240}\text{Pu}$  at the Savannah River Site, USA and Fukushima Prefecture, Japan. Invited Abstract 10822, Plutonium Futures, The Science 2014 American Nuclear Society, Las Vegas, Nevada, September 7 - 12, 2014.
- Chang, H., Xu, C., Seaman, J.C., Santschi, P.H., and Kaplan, D.I. 2014. Modeling of Plutonium Speciation and Partitioning in Organic-rich and Organic-poor Soils from the Savannah River Site. SSSA 2014 meeting at Long beach, CA, Nov. 3-7, 2014.
- Kaplan, D.I., Roberts, K.A., Zhang, S., Xu, C., Schwehr, K.A., Yeager, C.M., Santschi, P.H. 2014. Scientific Understanding Aids  $^{129}\text{I}$  Disposal at the Savannah River Site. International High-Level Radioactive Waste Management, Charleston, SC, April 12-16, 2015.
- Chuang, C.-Y., Santschi, P.H. 2015. Binding Of Particle-Reactive Radionuclides ( $^{234}\text{Th}$ ,  $^{233}\text{Pa}$ ,  $^{210}\text{Pb}$ , And  $^7\text{Be}$ ) In The Ocean By Biopolymers Associated with Biominerals (Silica,  $\text{CaCO}_3$ ). 2015 Aquatic Sciences Meeting, 22-27 Feb, 2015, Granada, Spain.
- Santschi, P.H., Chuang, C.-Y., and Xu, C. 2015. Bio- and geopolymeric ligand molecules as binding agents for natural and fallout radionuclides in terrestrial and marine environments. The International Conference on Contaminated Sediments, Environmental Chemistry, Ecotoxicology and Engineering, ContaSed 2015, 8–13 March 2015, Congressi Stefano Franscini in Monte Verità, Switzerland.
- Grandbois, R.A., Santschi, P.H., and Yeager, C.M. 2015. The Influence of Bacteria and Fungi on Iodide and Manganese (II) Oxidation at Savannah River Site, South Carolina. 115<sup>th</sup> ASM 2015 General Meeting. American Society for Microbiology, May 30 – June 1, 2015, New Orleans, Louisiana.
- Xu, C., Saijin Zhang, Kathleen A. Schwehr, Yi-Fang Ho, Peter H. Santschi, Yuko Sugiyama; Nobuhito Ohte; Nobuhide Fujitake; Daniel I. Kaplan, Chris M. Yeager. 2015. Role of natural organic matter on iodine and Pu-239,240 distribution and mobility in environmental samples from the Northwestern Fukushima Prefecture, Japan. Poster Presentation. Fall Meeting of the American Geophysical Union, San Francisco, CA, December 14-18, 2015.
- Santschi, P.H., Xu, C., Zhang, S., Schwehr, K.A., Kaplan, D.I., Yeager, C.M. 2016. Collaborative Research: Natural Organic matter and microbial controls on mobilization/immobilization of I and Pu in soils and waters affected by radionuclide releases in USA and Japan. Abstract, Environmental System Science (ESS) PI Meeting, Sponsored by the U.S. Department of Energy, Office of Biological and Environmental Research, Bolger Conference Center, Potomac, MD 30854, April 26 – 27, 2016.
- Passow U.; Sweet J., Schwehr K.A.; Xu C.; Zhang, S.; Lin Y.; Santschi P.H.; Quigg A. 2016. Oil, Diatom Exudation and Marine Oil Snow. The Gulf of Mexico Oil Spill and Ecosystem Science Conference, Tampa, FL, Feb. 1-4, 2016.
- Santschi, P.H., Chin, W.-C., Chiu, J., Doyle, S., Finkel, Z., Gold, G., Hatcher, P.G., Irwin, I., Knap, T., Li, X.-X., Lin, Y.M., Obeid, W., Passow, U., Quigg, A., Schwehr, K.A., Shi, D., Sylvan, J., Wade, T., Xu, C., Zhang, S. 2016. Role of microbial exopolymers in aggregation of Oil and dispersants. The Gulf of Mexico Oil Spill and Ecosystem Science Conference, Tampa, FL, Feb. 1-4, 2016.
- Santschi, P.H., Xu, C., Kaplan, D., Yeager, C., Zhang, S., Schwehr, K.A. 2016. Unexpected behaviour of radionuclides associated with natural organic matter in the environment. International Goldschmidt Conference in Yokohama, Japan, June 26 - July 1, 2016.



- Xu, C., Zhang, S., Sugiyama, Y., Ohte, N., Ho, Y.-F., Fujitake, N., Kaplan, D.I., Yeager, C.M., Schwehr, K.A., Santschi, P.H. 2016. Role of natural organic matter on iodine and Pu distribution and mobility in environmental samples from the northwestern Fukushima Prefecture. International Goldschmidt Conference in Yokohama, Japan, June 26 - July 1, 2016.
- Santschi, P.H., Xu, C., Zhang, S., Schwehr, K.A., Kaplan, D.I., and Yeager, C.M. 2016. Detection and assessment of specific natural organic compounds as carriers for radionuclides (e.g., I, Pu) in soil and water environments at ambient concentrations. International Committee for Radionuclide Metrology – Low Level Radioactivity Measurements Techniques (ICRM-LLRMT) conference, Seattle (WA, USA) September 26-30, 2016.
- Morales-McDevitt, M.E., Wade, T.L., Knap, A., Gold-Bouchot, G., Shi, D., Sweet, S.T., Santschi, P.H., Quigg, A. 2016. Degradation of WAF, CEWAF, and DCEWAF in biologically enriched mesocosms. Texas Bays and Estuaries Conference, University of Texas Marine Science Institute Education Center, 855 E. Cotter Street, Port Aransas, TX 78373.
- Xu, C., Zhang, S., Beaver, M.\*, Lin, Y., Lin, P., Sun, L., Schwehr, K.A., Wade, T.L., Kopp, K., Quigg, A., Passow, U., Chin, W.-C., Chiu, M.-H., Hatcher, P.G., Knap, A.H., Santschi, P.H. 2016. Microbially-mediated exopolymeric substances (EPS) production, composition and their role in regulating Macondo oil transport in a coastal phytoplankton-seeded mesocosm experiment. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium on “Chemical and Biological Processes Regulating Transport of Pollutants in the Gulf of Mexico and Its Estuaries”, Galveston, TX, November 10-13, 2016.
- Saijin Zhang, Chen Xu, Morgan Beaver\*, Peng Lin, Luni Sun, Kathleen A. Schwehr, Terry L. Wade<sup>3</sup>, Kendra Kopp<sup>1</sup>, Antonietta Quigg<sup>2,3</sup>, Uta Passow<sup>4</sup>, Wei-Chun Chin<sup>5</sup>, Patrick G. Hatcher<sup>6</sup>, Anthony H. Knap<sup>3</sup>, Peter H. Santschi, P.H. 2016. Effects of Water-Accommodated Fraction (WAF) of Macondo Oil and Corexit on Formation of Marine Snow and Their Fate in Mesocosm Experiments. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium on “Chemical and Biological Processes Regulating Transport of Pollutants in the Gulf of Mexico and Its Estuaries”, Galveston, TX, November 10-13, 2016.
- Sun, L., Xu, C., Zhang, S., Lin, P., Schwehr, K.A., Quigg, A., Chiu, M.-H., Chin, W.-C., Santschi, P.H. 2016. Light-induced aggregation of bacterial exopolymeric substances. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium on “Chemical and Biological Processes Regulating Transport of Pollutants in the Gulf of Mexico and Its Estuaries”, Galveston, TX, November 10-13, 2016.
- Chiu, M.-H., Khan, Z., Garcia, S. G., Drobenaire, H. W., Santschi, P.H., Quigg, A., Chin, W.-C. 2016. Effect of Engineered Nanoparticles on Marine Phytoplankton Exopolymeric Substances Release. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium “Chemical and Biological Processes Regulating Transport of Pollutants in the Gulf of Mexico and Its Estuaries”, Galveston, TX, November 2016. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium, Galveston, TX, November 2016.
- Kamalanathan, M., Schwehr, K.A., Bretherton, L., Genzer, J., Hillhouse, J., Simmons, J., Santschi, P.H., Quigg, A. 2016. Prediction of marine aggregate’s exposure to chemically enhanced (COREXIT) water accommodated fraction of oil using Fourier Transform Infrared (FTIR) spectroscopy. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium “Chemical and Biological Processes Regulating Transport of Pollutants in the Gulf of Mexico and Its Estuaries”, Galveston, TX, November 2016. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium, Galveston, TX, November 2016.

- Bretherton, L., Genzer, J., Hillhouse, J., Santschi, P.H., Quigg, A. 2016. Multi-parameter assessment of fast repetition rate (FRR) fluorescence signals in natural phytoplankton communities exposed to surrogate Macando Oil and the dispersant Corexit using during the DwH oil spill. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium “Chemical and Biological Processes Regulating Transport of Pollutants in the Gulf of Mexico and Its Estuaries”, Galveston, TX, November 2016. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium, Galveston, TX, November 2016.
- Hatcher, P.G., Obeid, W., Wozniak, A.S., Xu, C., Zhang, S., Santschi, P.H., Quigg, A. 2016. Identifying oil/marine snow associations in mesocosm simulations of the Deep Water Horizon Oil Spill event using solid-state <sup>13</sup>C NMR spectroscopy. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium “Chemical and Biological Processes Regulating Transport of Pollutants in the Gulf of Mexico and Its Estuaries”, Galveston, TX, November 2016. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium, Galveston, TX, November 2016.
- Wade, T.L., Knap, A., Morales-McDevitt, M.E., Gold-Bouchot, G., Shi, D., Sweet, S.T., Quigg, A., Santschi, P.H. 2016. Preparation of Water Accommodated Fraction (WAF) and Chemical Enhanced Water Accommodated Fraction (CWAF) for Dosing of ADDOMEx Mesocosms Experiments. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium “Chemical and Biological Processes Regulating Transport of Pollutants in the Gulf of Mexico and Its Estuaries”, Galveston, TX, November 2016. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium, Galveston, TX, November 2016.
- Beaver, M.\* , Xu, C., Zhang, S., Lin, P., Schwehr, K.A., Wade, T.L., Quigg, A., Santschi, P.H. 2016. Production and composition of exopolymeric substances (EPS) in the presence of water accommodated fraction (WAF) and Corexit in two contrasting environments: open ocean versus coastal ocean. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium “Chemical and Biological Processes Regulating Transport of Pollutants in the Gulf of Mexico and Its Estuaries”, Galveston, TX, November 2016. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium, Galveston, TX, November 2016.
- Agueda, O.\* , Beaver, M.\* , Xu, C., Zhang, S., Lin, P., Schwehr, K.A., Wade, T.L., Quigg, A., Santschi, P.H., Sylvan, J., Passow, U., Chin, W.-C., Hatcher, P.G. 2016. Relationships between surface tension and chemical composition of exopolymeric substances (EPS) in the presence of water accommodated fraction (WAF) and Corexit in two contrasting environments: open ocean versus coastal ocean. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium “Chemical and Biological Processes Regulating Transport of Pollutants in the Gulf of Mexico and Its Estuaries”, Galveston, TX, November 2016. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium, Galveston, TX, November 2016.
- Lin, P., Xu, C., Zhang, S., Sun, L., Schwehr, K.A., Bretherton, L., Quigg, A., Santschi, P.H. 2016. Partitioning of natural radionuclide analogues for particle cycling in the ocean (<sup>234</sup>Th, <sup>233</sup>Pa, <sup>210</sup>Pb, <sup>210</sup>Po and <sup>7</sup>Be) with biopolymers associated with coccolithophores, one of the dominant phytoplankton species in the Gulf of Mexico: A case study with *Emiliana huxleyi*. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium “Chemical and Biological Processes Regulating Transport of Pollutants in the Gulf of Mexico and Its Estuaries”, Galveston, TX, November 2016. 72nd Annual Southwest Regional Meeting (SWRM), ACS Symposium, Galveston, TX, November 2016.
- Morales-McDevitt, M.E., Wade, T.L. Knap, A.H., Gold-Bouchot, G., Shi, D., Sweet, S.T., Santschi, P.H., Quigg, A. 2017. Water Accommodated Fraction (WAF) and Chemical

- Enhanced Water Accommodated Fraction (CWAF) production using BP surrogate oil and COREXIT 9500 for Dosing of ADDOMEX Mesocosms: Experiment 1. Gulf of Mexico Oil Spill and Ecosystem Science Conference 2017, New Orleans, LA. February 6-9, 2017.
- Gold-Bouchot, G., Shi, D., Sweet, S.T., Morales-McDevitt, M.E., Ramirez-Miss, N., Passow, U., Quigg, A., Santschi, P.H., Knap, T.H., and Wade, T.L. 2017. Analysis of Hydrocarbons in WAF and CWAF by Fluorescence. Results of an intercalibration exercise. Gulf of Mexico Oil Spill and Ecosystem Science Conference 2017, New Orleans, LA. February 6-9, 2017.
- Chiu, M.-H., Chin, W.-C., Santschi, P.H., Doyle, S., Finkel, Z., Gold, G., Hatcher, P.G., Irwin, I., Knap, T., Li, X.-X., Lin, Y.M., Obeid, W., Passow, U., Quigg, A., Schwehr, K.A., Shi, D., Sylvan, J., Wade, T., Xu, C., Zhang, S. 2017. Impact of Oil Spill and Corexit on Marine Microgel Formation. Gulf of Mexico Oil Spill and Ecosystem Science Conference 2017, New Orleans, LA. February 6-9, 2017.
- Santschi, P.H., Chin, W.-C., Chiu, J., Doyle, S., Finkel, Z., Gold, G., Hatcher, P.G., Irwin, I., Knap, T.H., Li, X.-X., Lin, Y.M., Obeid, W., Passow, U., Quigg, A., Schwehr, K.A., Shi, D., Sylvan, J., Wade, T.L., Xu, C., Zhang, S. 2017. Role of Microbial Exopolymers in Aggregation of Oil and Dispersants. Gulf of Mexico Oil Spill and Ecosystem Science Conference 2017, New Orleans, LA. February 6-9, 2017.
- Xu, C., Zhang, S., Beaver, M.\*, Lin, P., Sun, L., Schwehr, K.A., Quigg, A., Hatcher, P.G., Wozniak, A., Santschi, P.H. 2017. Microbially-mediated exopolymeric substances production, composition and regulation of Macondo oil transport in two contrasting environments. Gulf of Mexico Oil Spill and Ecosystem Science Conference 2017, New Orleans, LA. February 6-9, 2017.
- Grandbois, R., Yeager, C.M., Tani, Y., Xu, C., Zhang, S., Beaver, M.\*, Schwehr, K.A., Kaplan, D.I., Santschi, P.H. 2017. Biogenic manganese oxides facilitate iodide oxidation at pH  $\leq 5$ . Goldschmidt 2017, Paris, August 13-18, 2017.
- Santschi, P.H., Xu, C., Zhang, S., Schwehr, K.A., Lin, P., Yeager, C.M., and Kaplan, D.I. 2017. Recent advances in the detection of specific natural organic compounds as carriers for radionuclides in soil and water environments, with examples of radioiodine and plutonium. Goldschmidt 2017, Paris, August 13-18, 2017.
- Sun, L., Xu, C., Chin, W.C., Zhang, S., Lin, P., Schwehr, K.A., Quigg, A., Chiu, M.-H., Chin, W.-C., Santschi, P.H. 2017. Light-induced aggregation of microbial exopolymeric substances. Goldschmidt 2017, Paris, August 13-18, 2017.
- Santschi, P.H., Passow, U., Chin, W.-C., Chiu, M.-H., Xu, C., Lin, P., Sun, L., Schwehr, K.A., Quigg, A. 2018. Comparison of Exopolymeric Substances (EPS) with Transparent Exopolymeric Particles (TEP) and Microgels in Mesocosms. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA, February 5-8, 2018.
- Knap, A., Windham, R., Sweet, S., Morales, M., Bera, G., Santschi, P.H., Passow, U., Quigg, A., and Terry Wade, T. 2018. A simple system for the oxygenation of mesocosms without stirring or bubbling. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA, February 5-8, 2018.
- Sun, L., Chiu, M.-H., Xu, C., Lin, P., Schwehr, K.A., Bacosa, H., Kamalanathan, M., Quigg, A., Chin, W.-C., Santschi, P.H. 2018. The effects of sunlight on the composition of exopolymeric substances affecting aggregate formation during oil spills. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA, February 5-8, 2018.
- Schwehr, K.A.; Chiu, M.-H.; Kamalanathan, M.; Xu, C.; Sun, L.; Lin, P.; Bacosa, H., Bergen, C.; Yard\*, A.; Beaver\*, M., Chin, W.-C.; Quigg, A.; Santschi, P.H. 2018. Does oil aggregate or

- emulsify with added dispersant? Results from measurements of surface tension, FTIR, and microscopy of colloidal EPS protein-polysaccharide interactions when oil and/or dispersants were added. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA, February 5-8, 2018.
- Wozniak, A. S., Obeid, W., Xu, C., Zhang, S., Santschi, P.H., Quigg, A., Prem, P., Hatcher, P.G. 2018. Rapid degradation of marine snow-associated oil during mesocosm simulations of the Deepwater Horizon Oil Spill event revealed by FTICR MS. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA, February 5-8, 2018.
- White, A.R., Jalali, M., Bacosa, H., Kamalanathan, M., Sun, L., Xu, C., Chiu, M.-H., Chin, W.-C., Schwehr, K.A., Santschi, P.H., Quigg, A., Sheng, J. 2018. The effect of EPS composition on the aggregate formation on a crude oil drop interface. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA, February 5-8, 2018.
- Lin, P., Xu, C., Sun, L., Schwehr, K.A., Xing, W., Yard, A.\*, Wade, T.L., Knap, A.H., Hatcher, P.G., Quigg, A., Santschi, P.H. 2018. Production of Exopolymeric Substances (EPS) in Oil Water-Accommodated Fraction and Corexit Contaminated Mesocosm and Their Roles in Oil Transport. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA, February 5-8, 2018.
- Xu, C., Lin, P., Sun, L., Schwehr, K.A., Xing, W., Yard, A.\*, Wade, T.L., Knap, A.H., Quigg, A., Santschi, P.H. 2018. Effects of Water-Accommodated Fraction of Macondo Oil and Corexit on Oil Transport in Mesocosm Experiments. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA, February 5-8, 2018.
- Kaplan, D.I., Price, K.A., Seaman, J.C., Li, D., Lin, P., Xu, C., Schwehr, K.A., Tanaka, K., Ohnuki, T., Santschi, P.H. 2018. Radioiodine Speciation Impact on Ag-Activated Carbon Immobilization in Cementitious Environments. Goldschmidt 2018 International Conference, Boston, August 12-17, 2018.
- Kaplan, D.I., Xu, C., Lin, P., Li, D., Schwehr, K.A., Tanaka, K., Ohnuki, T., Santschi, P.H. 2018. Radioiodine Speciation in Cementitious Environments. Goldschmidt 2018 International Conference, Boston, August 12-17, 2018.
- Lin, P., Xu, C., Kaplan, D.I., Yeager, C.M., Schwehr, K.A., Santschi, P.H. 2018. Molecular Characterization of Organic Compounds Binding <sup>239,240</sup>Pu in Nagasaki Soils. Goldschmidt 2018 International Conference, Boston, August 12-17, 2018.
- Ohnuki, T., Kozai, N., Tanaka, K., Tokunaga, K., Utsunomiya, S., Ikehara, R., Komiya, T., Takeda, A., Kaplan, D.I., Santschi, P.H. 2018. Alkaline-activated metakaolin solidification of iodine sorbed by layered double hydroxides. Goldschmidt 2018 International Conference, Boston, August 12-17, 2018.
- Kaplan, D.I., Xu, C., Lin, P., Schwehr, K.A., Fujitake, N., Yeager, C.M., Santschi, P.H. 2018. Soil Organic Matter and Plutonium Interactions. ACS Symposium, Boston, MA,
- Kaplan, D. I., P. Santschi, T. Ohnuki, K. Roberts, D. Li, K. Price, C. Xu, P. Lin, K. Tanaka, J. Seaman. 2018. Influence of Aqueous Radioiodine Speciation on Uptake by Silver-Granulated Activated Carbon. 19<sup>th</sup> International Conference on Heavy Metals in the Environment – 2018, Athens, GA, July 21 – 25, 2018.
- Ohnuki, T., N. Kozai, K. Tanaka, K. Tokunaga, S. Utsunomiya, D. I. Kaplan, P. Santschi. Sorption and Solidification of Iodate. RadChem 2018. Marianske Lazne, Czech Republic, May 13 – 18, 2018.
- Kaplan, D. I.; Santschi, P.; Ohnuki, T.; Li, D.; Nichols, R.; Price, K.; Xu, C.; Lin, P.; Xing, W.; Schwehr, K.; Tanaka, K.; Seaman, J., 2018. Radioiodine Speciation in Cementitious

- Environments. In *19th International Conference on Heavy Metals in the Environment*, Athens, GA, July 22 – 25, 2018.
- Bretherton, L., Kamalanathan, M., Genzer, J., Hillhouse, J., Setta, S., Liang, Y., Brown, C.M., Bradet-Legrís, M., Xu, C., Julia Sweet, J., Passow, U., Finkel, Z.V., Irwin, A.J., Santschi, P.H., Quigg, A. 2019. Response of natural phytoplankton communities exposed to crude oil and chemical dispersants during a mesocosm experiment. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA, February 4-7, 2019.
- White, A.R., Jalali, M., Bacosa, H.P., Xu, C., Chin, W.-C., Schwehr, K.A., Santschi, P.H., Quigg, A., Sheng, J. 2019. Drastic differences in aggregation on a rising oil droplet caused by unique EPS characteristics. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA, February 4-7, 2019.
- Xu, C., Passow, U., Chin, W.-C., Chen, H.M., Chiu, M.-H., Waggoner, D.C., Lin, P., Wei Xing, W., Sun, L., Schwehr, K.A., Hatcher, P.G., Quigg, A., Santschi, P.H. 2019. Comparison of Exopolymeric Substances (EPS), Transparent Exopolymeric Particles (TEP) and Microgels in Mesocosms and batch experiments with without the surrogate Macondo oil water accommodated fraction. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA, February 4-7, 2019.
- Waggoner, D.C., Hughey, M., Yard, A., Wozniak, A.S., Schwehr, K.A., Doyle, S., Chen, X., Wade, T.L., Quigg, A., Santschi, P.H., Hatcher, P.G. 2019. An investigation into the Effects of Biodegradation vs. Photodegradation During Mesocosm Experiments. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA, February 4-7, 2019.
- Schwehr, K.A., Kamalanathan, M., Xu, C., Lin, P., Sun, L., Doyle, S., Sylvan, J., Quigg, A., Santschi, P.H. 2019. Using radiolabels as an indicator to understand the interplay of phytoplankton and their associated bacteria in the presence and absence of oil. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA, February 4-7, 2019.
- Sun, L., Chin, W.-C., Chiu, M.-H., Xu, C., Lin, P., Schwehr, K.A., Quigg, A., Santschi, P.H. 2019. Sunlight induced aggregation of dissolved organic matter in seawater: role of proteins in a biologically mediated processes. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA, February 4-7, 2019.
- Lin, P., Xu, C., Kaplan, D.I., Yeager, C.M., Xing, W., Schwehr, K.A., Santschi, P.H. 2019. Molecular Characterization of Natural Organic Matter Binding  $^{239,240}\text{Pu}$  in the northwestern Fukushima Prefecture, Japan. Goldschmidt 2019 Conference, Barcelona, Spain, Aug. 18-23, 2019.
- Grandbois, R.H., Xu, C., Santschi, P.H., Kaplan, D.I., Chris M. Yeager, C.M. 2019. Binding of iodide to forest soils is principally related to the activity of extracellular oxidases. Goldschmidt 2019 Conference, Barcelona, Spain, Aug. 18-23, 2019.
- Santschi, P.H., Xu, C., Schwehr, K.A., Lin, P., Sun, L., Chin, W.-C., Kamalanathan, M., Bacosa, H.P., Quigg, A. 2020. Can the protein/carbohydrate (P/C) ratio of exopolymeric substances (EPS) be used as a proxy for its ‘stickiness’ and other biophysical properties? Abstract # 642136 at the Ocean Sciences Meeting, 16-21 February 2020, San Diego, CA, USA.
- Sun, L., et al., 2020. Photo-oxidation facilitating the preservation of dissolved organic nitrogen in the ocean; Abstract 647727 at the Ocean Sciences Meeting, 16-21 February 2020, San Diego, CA, USA.
- Lin, P., et al. 2020. Incorporation of hydroxamate siderophore and associated Fe into marine particles in natural seawater, Abstract 646643 at the Ocean Sciences Meeting, 16-21 February 2020, San Diego, CA, USA.

- Santschi, P.H., 2020. Reconstruction of pollutant input into sediments and assessment of ecosystem recovery. Keynote speaker at the **ContaSed 2020 - 2nd International Conference on Contaminated Sediments**, 14 – 18 June 2020, University of Bern, Switzerland. Conference postponed to 2021 due to Covid19.
- Santschi, P.H. 2020. Reconstruction of pollutant input into sediments and ecosystem recovery depend on post-depositional immobility. Invited talk at the Geological Society of America Meeting, 20-22 March 2020 | Reston, Virginia. Talk canceled due to Covid19.
- Santschi, P.H., **2021**. Reconstruction of pollutant input into sediments and assessment of ecosystem recovery. Keynote speaker at the ContaSed 2021 - 2nd International Conference on Contaminated Sediments, 9 – 12 June 2021, University of Bern, Switzerland.
- Santschi, P.H., Chin, W.-C., Xu, C., Quigg, A., Kamalanathan, M., Lin, P. **2021**. Review: Effects of micro- and nano-plastics on EPS aggregate formation. 3rd Annual TX Plastic Pollution Symposium, March 4, 2021, South Padre Island, TX.
- Santschi, P.H., Chin, W.-C., Xu, C., Quigg, A., Kamalanathan, M., Lin, P. **2021**. Formation of marine plastic snow from micro- and nano-plastics and exopolymeric substances (EPS). ASLO 2021 Aquatic Sciences Meeting, 22–27 June 2021, Virtual Meeting.
- Kamalanathan, M., Meng-Hsuen Chiu, Hernando Bacosa, Kathy Schwehr, Shih-Ming Tsai, Shawn Doyle, Alexandra Yard, Savannah Mapes, Carlos Vasequez, Laura Bretherton, Jason B. Sylvan, Peter H. Santschi, Wei-Chun Chin, and Antonietta Quigg. 2021. Polysaccharide and its role during an oil spill. ASLO **2021** Aquatic Sciences Meeting, 22–27 June 2021, Virtual Meeting.
- Santschi, P.H., Chin, W.-C., Xu, C., Quigg, A., Kamalanathan, M., Lin, P. **2021**. Biophysical Mechanisms of How Natural Organic Matter (NOM) Affects Micro- and Nano-Plastics Pollution in the Marine Environment: The Formation of ‘Marine Plastic Snow’. 15 & 16 July 2021, Virtual EUAS e-Conference.
- Santschi, P.H. **2021**. ROS mediated chemical crosslinking reactions of proteinaceous compounds in the Ocean. Invited (virtual) lecture at the Alfred-Wegener-Institute Bremerhaven, Germany.

### **LECTURES AT NATIONAL AND INTERNATIONAL CONFERENCES OR WORKSHOPS:**

- 1980: Invited lecture at the Int. Conference on Biological and Chemical Research in Marine Mesocosms, Victoria, B.C., Canada.
- 1981: Invited lecture at the Gordon Research Conference in Chemical Oceanography, Plymouth, N.H., USA.
- 1984: Invited lecture at the Int. Conference on Interactions between Sediments and Water, Geneva, Switzerland, Int. Assoc. of Sediment-Water Science.
- 1985: Invited lecture at the UNESCO Symposium on Comparative Ecology of Fresh Water and Coastal Marine Ecosystems, Nairobi, Kenya.
- 1986: Invited lecture at the 3ème Cycle Romand: Workshop on the Storage and Disposal of Domestic, Industrial and Nuclear Wastes, Neuchâtel, Switzerland.
- 1986: Invited lecture at the Annual ASLO/PSA Meeting in Kingston, R.I., USA.
- 1986: Invited lecture at the DOE Workshop on the Role of Colloids in the Transport of Trace Substances in Subsurface Waters, Manteo, N.C., USA.

- 1986: Invited lecture at the Conference on "Radioactivity Measurements in Switzerland after Chernobyl and their Scientific Interpretation", Berne, Switzerland.
- 1987: Invited lecture at the 4th Internat. Symp. on the Interaction between Sediments and Water, Melbourne, Australia, Int. Assoc. of Sediment-Water Science.
- 1987: Invited lecture at the Chemrawn IV, Internat. IUPAC Symp. and Workshop on Modern Chemistry and Chemical Technology Applied to the Ocean and its Resources, Denver, Colorado, USA.
- 1987: Invited lecture at the Swiss Conference on Radiation Physics and Biology, Bellinzona, Switzerland.
- 1988: Invited participant at the Radiochemistry within GOFS, Workshop organized by GOFS at WHOI, Woods Hole Oceanographic Institution, Massachusetts, USA.
- 1989: Invited lecture at the Texas Academy of Sciences, Annual Meeting, Beaumont, Texas, USA.
- 1989: Invited participant at the Workshop on Biogeochemical Pathways of Artificial Radionuclides in the Environment, Scientific Committee on Problems of the Environment, International Council of Scientific Unions, SCOPE-RADPATH, University of Essex, Colchester, U.K.
- 1989: Invited lecture at the 32nd IUPAC Congress, Section II, Atmospheric and Marine Chemistry, Stockholm, Sweden.
- 1989: Invited lecture at the 7th Internat. Conf. on Heavy Metals in the Environment, Geneva, Switzerland.
- 1990: Invited participant at the U.S. - Hungarian - Soviet Trilateral Science Summit, Budapest, Hungary.
- 1990: Invited participant at the DOE sponsored Workshop on Ocean Margins in Virginia Beach, VA.
- 1990: Keynote lecture in Environmental Chemistry, Italian Chemical Society Meeting in San Benedetto del Trento, Italy.
- 1990: Invited participant at the Workshop on Characterization and Fate of Particles in the Environment, IUPAC International Commission on Environmental Analytical Chemistry, in Wageningen, Holland.
- 1991: Invited participant at the Workshop on the "The Ocean Option for Future Waste Management", WHOI, Woods Hole, Mass., USA.
- 1991: Invited lecture at the Second International Symposium on the Biogeochemistry of Model Estuaries: Estuarine Processes and Global Change, Jeckyll Island, Georgia, USA.
- 1991: Invited lecture at the 11th Biennial Internat. Estuarine Research Conference, San Francisco, CA, USA.
- 1992: Invited lecture at the International Workshop on Benthic Chambers: State of the Art and New Approaches, CISE - Milan.
- 1993: Invited lecture at the 205th ACS National Meeting, Div. of Geochemistry, Symposium Honoring Paul W. Schindler: Mineral/Water Interface Geochemistry, Paper 33, Denver, CO.
- 1993: Invited lecture at the 12th Biennial International Estuarine Research Conference, Hilton Head, South Carolin.
- 1994: Invited lectures at the 207th ACS National Meeting., American Chemical Society, San Diego, CA.
- 1995: Invited plenary lecture at the 4th International Symposium on Model Estuaries, Nantes, France.

1995: Invited plenary lecture at the 3rd International Argentum Conference, Washington, D.C.

1996: Invited lecture at the AGU/Ocean Sciences Meeting in San Diego, CA.

1996: Invited plenary lecture at the 4th International Conference on Nuclear and Radiochemistry, St. Malo, France.

1997: Invited lecture at the 214th ACS National Meeting, Las Vegas.

1997: Invited lecture at the 5th International Argentum Conference on the Transport, Fate, and Effects of Silver in the Environment. Hamilton, Ontario, Canada,

1998: Invited plenary lecture at the 8th Annual Meeting of the Society for Environmental Toxicology and Chemistry, SETAC-Europe, Bordeaux, France.

1998: Invited plenary lecture at the 44<sup>th</sup> International Conference on Analytical Sciences and Spectroscopy in Kingston, Ontario, Canada.

1999: Invited lectures at University of Geneva, Switzerland, on “Environmental Radiochemistry”.

1999: Invited lecture at the International Symposium on Isotope Techniques in Water Resources Development and Management, IAEA-SM-361, Vienna, Austria.

1999: Invited participant at the International Argentum VI Conference and Workshop in Madison, Wisconsin.

1999: Invited lecture at the International Conference of the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS) and 45th International Conference on Analytical Sciences and Spectroscopy (ICASS) in Vancouver, Canada.

2000: Invited lecture, chairman, and convenor of session, American Society of Limnology and Oceanography, ASLO-2000, Copenhagen, Denmark.

2000: Invited lecture, International Conference on Analytical Sciences and Spectroscopy (ICASS) in Winnipeg, Canada.

2000: Invited lecture, 5<sup>th</sup> International Conference on Nuclear and Radiochemistry, Pontresina, Switzerland.

2001. Invited lecture, Galveston Bay National Estuary Symposium V “State of the Bay”, Jan. Galveston, TX.

2001. International Symposium on Actinides-2001 in Hayama, Japan.

2002: AGU/ASLO Aquatic Sciences meeting in Honolulu, Hawaii.

2002: Invited seminar at Tulane University, New Orleans, LA.

2002: Invited lecture at the EURESCO – Natural Waters and Water Technology Conference on Aquatic Colloids in Spa, Belgium.

2003: EGS-AGU-EUG Joint Assembly, Nice, France.

2003: Invited participant and chairman of “WG8 – Tracers of particle dynamics and carbon flux” working group at the GEOSECS - II – International GEOTRACES planning workshop, Toulouse, France (13-16 April, 2003).

2003: Invited seminars at University of Bern, Dept. of Chemistry, Bern, Switzerland.

2003: Invited seminar at University of Geneva, Dept. of Chemistry, Geneva, Switzerland.

2003: Invited seminar at EAWAG, Swiss Institute of Technology, Zurich, Switzerland.

2003: Invited seminar at Southwest Research Institute, San Antonio, Texas.

2003: Invited lecture, Workshop on Flocculation in Natural and Engineered Environmental Processes, Canada Center for Inland Waters, Burlington, Ontario, Canada.

2003: Invited talk at Gel Workshop, Centennial FHL Symposium on Global Biogeochemical Cycles: A tribute to Prof. John I. Hedges, Friday Harbor Laboratory, University of Washington.



- 2003: Invited lecture, NSF Nanoscale Science and Engineering Grantees Conference. National Science Foundation, Arlington, Virginia.
- 2004: Lecture at ASLO 2004 Ocean Research Conference, Honolulu, Hawaii.
- 2004: Invited lecture and chairman of session, ACS National Meeting, Anaheim, CA.
- 2004: Invited plenary lecture at 8<sup>th</sup> International Estuarine biogeochemistry Symposium in Solomons, MD.
- 2004: Convenor, chairman of session, and presenter, at the International Goldschmidt 2004 Conference in Copenhagen, Denmark.
- 2004: Invited participant at the International Conference on Aquatic Colloids, University of Birmingham, UK.
- 2004: Invited lecture at University of Lancaster, UK.
- 2005: Session chairman, and invited presentation at the ASLO 2005 Aquatic Sciences Meeting, Salt Lake City, Utah, USA.
- 2005: Invited presentation at the Chemical Oceanography Gordon Conference, Tilton, NH, USA.
- 2005: Presentation at Migration '05, the 10<sup>th</sup> International Conference on Chemistry and Migration Behavior of Actinides and Fission Products in the Geosphere, in Avignon, France.
- 2006: Invited member to the International Audit Team for the Laboratory for Radiochemistry and Environmental Chemistry of the Paul Scherrer Institute and the University of Bern, Switzerland.
- 2006: Invited Presentation at the Second International Conference on Natural Aquatic Colloids and Nanoparticles, at the University of Plymouth, U.K.
- 2007: Session co-chairman and presentation at the SLO 2007 Aquatic Sciences Meeting, Santa Fe, New Mexico, USA.
- 2007: Invited Presentation and participant for the workshop "Basic Research Needs for Geosciences: Facilitating 21st Century Energy Systems," BRN Geosciences Nuclear Panel "Scientific Challenges for Stewardship of Nuclear Wastes from Present and Future Generation Technologies", organized by the Office of Basic Energy Sciences of the Department of Energy, Washington, DC.
- 2008: Ocean Sciences Meeting in Orlando, Florida, where P.H. Santschi was co-chairing a session (018) 'The Aquatic Gel Phase, Its Role in Biogeochemical Cycles':
- 2007: Presentation at the Migration '07, 11<sup>th</sup> International Conference on the Chemistry and Migration of Actinides and Fission Products in the Geosphere. Munich, Germany, Aug. 26 – Aug. 31, 2007.
- 2008: Presentation at the SETAC Europe 18th Annual Meeting in Warsaw, Poland, 25-29 May 2008.
- 2008: Presentation at the Seagrant Symposium on "Geochemical Factors Regulating Microbial Degradation of Dioxins in Estuarine Sediments: Houston Ship Channel and Galveston Bay, Texas".
- 2008: Presentation at Pacific Northwest Laboratory on "'Interactions of Pu with natural organic matter in the environment".
- 2008: Presentation on "Toxicity of zinc oxide and silver engineered nanoparticles to marine phytoplankton" at the SETAC North America Annual Meeting in Tampa, FL, Nov. 16-21, 2008.
- 2008: Presentation on "Radiobiogeochemical Research, Working Across Boundaries" at the Swiss Institute for Water Research, ETH Zurich, Switzerland.

- 2008: Invited Plenary Talk at the International Conference ‘Chemodynamics of Ecosystems’, to honor the work of Dr. Jacques Buffle, 26-31 October 2008, at the Monte Verita Centre in Ascona, Switzerland.
- 2009: Session Convenor (Session 15, Geochemical Processes Controlling the Fate of Radionuclides in the Environment) and Presenter at Goldschmidt 2009 - "Challenges to Our Volatile Planet". International Conference, June 21 - 26 in Davos, Switzerland.
- 2010: Presentation at International “2010 Western Pacific Geophysics Meeting in Taipei, Taiwan, 22–25 June 2010.
- 2011: Invited Presentation “Biopolymers as carriers of natural (Th, Pa, Pb, Po, Be) radionuclides in aquatic systems” at the 2nd workshop on Exotic Radionuclides from Accelerator Waste for Science and Technology (ERAWAST II) August 29-Sept. 2, 2011, at the Paul Scherrer Institute in Villigen, Switzerland.
- 2011: Invited Presentation “The role of particulate and colloidal biopolymeric carriers in the biogeochemical cycle of for natural radioisotopic tracers (e.g., Th, Pa, Be, Pb, Po isotopes)” at the 3rd GEOTRACES Data-Model Synergy Workshop (November 14-17, 2011), at the Autonomous University of Barcelona, Spain).
- 2012: Invited Presentation “Biopolymers as carriers of radionuclides in marine aggregates” at the International Workshop on Marine Aggregates (IWOMA) - From Molecular principles to Biogeochemical Impacts (August 15-17, 2012), in Bremen, Germany.
2013. Presentation at the International Goldschmidt 2013 Conference (August 25-30, 2013) in Florence, Italy.
- 2014: Invited Presentation at the Ocean Sciences Meeting (February 23-28) in Honolulu, HI.
- 2014: Invited Presentation at the International Goldschmidt 2014 Conference (June 8-13, 2014) in Sacramento, CA.
- 2014: Invited Presentation at the International Plutonium Futures Conference (September 7-12) in Las Vegas Nevada.
- 2015: Invited Keynote Speaker at The International Conference on Contaminated Sediments, Environmental Chemistry, Ecotoxicology and Engineering, ContaSed 2015, 8–13 March 2015, Congressi Stefano Franscini in Monte Verità, Switzerland, organized by the Swiss Institute of Technology, ETH Zurich.
- 2016: Invited Keynote Speaker at the International Goldschmidt Conference in Yokohama, Japan, June 26 - July 1, 2016, in the Session "Biological Transformation and Fate of Natural and Anthropogenic Radionuclides in the Environments”.
- 2016: Presenter and Member of Scientific Committee of ICRM-LLRMT (International Committee for Radionuclide Metrology – Low Level Radioactivity Measurements Techniques) conference, Seattle (WA, USA) September 26-30, 2016.
- 2016: Organizer of special ACS Symposium on “Chemical and Biological Processes Regulating Transport of Pollutants in the Gulf of Mexico and Its Estuaries” at the 72nd Annual Southwest Regional Meeting (SWRM), Galveston, TX, November 10-13, 2016.
- 2017: Session Co-Organizer, Co-Chair and presenter at the Gulf of Mexico Oil Spill and Ecosystem Science Conference 2017, New Orleans, LA. February 6-9, 2017.
- 2018: Co-Organizer and Co-Chair of Session "Processes Controlling the Mobility of Contaminant Radionuclides in Natural and Engineered System” at Goldschmidt 2018 International Conference, Boston, August 12-17, 2018.
- 2019: Session Co-Organizer and Co-Chair at the Gulf of Mexico Oil Spill and Ecosystem Science Conference 2017, New Orleans, LA. February 4-7, 2019.

- 2019: Co-Organizer and Co-Chair of Session "Radionuclides in the Environment: modeling, experimental, scaling, controlling chemical/microbial/hydrological processes" at Goldschmidt 2019 International Conference, Barcelona, Spain, August 18-23, 2019.
- 2019: Invited presentation "Purposeful Experimental Additions of Radioactive Tracers to Natural Aquatic Systems" in honor of Wallace Broecker at the "The Wally Broecker Symposium" at LDEO of Columbia University, Oct. 24-26, Palisades, NY.
- 2020: Invited keynote speaker at 2nd International Conference on Contaminated Sediments (ContaSed), Oeschger Centre, title: "Sediment dating for pollutant input reconstruction and ecosystem recovery assessment", postponed to 2021 due to Covid-19.
- 2020: Invited speaker at 2020 GSA Southeast/Northeast Joint Section Meeting. Title "Reconstruction of pollutant input into sediments and ecosystem recovery depend on post-depositional immobility", canceled due to Covid-19.
- 2021: Invited (virtual) lecture at the Alfred-Wegener-Institute Bremerhaven, Germany on "ROS mediated chemical crosslinking reactions of proteinaceous compounds in the Ocean", June 8, 2021.
- 2021: Invited keynote speaker at 2nd International Conference on Contaminated Sediments (ContaSed), title: "Sediment dating for pollutant input reconstruction and ecosystem recovery assessment", Oeschger Centre for Climate Change Research (OCCR), University of Bern, Switzerland, 9 – 11/12 June 2021, hybrid and in-person meeting.
- 2021: Chair person for SS55 session, "Let it snow! Towards understanding the drivers of marine snow in a changing global ocean", and presentation "Formation of marine plastic snow from micro- and nano-plastics and exopolymeric substances (EPS)", 22–27 June 2021, Virtual Meeting.
- 2021: Invited speaker at the Virtual EUAS e-Conference. Title "Biophysical Mechanisms of How Natural Organic Matter (NOM) Affects Micro- and Nano-Plastics Pollution in the Marine Environment: The Formation of 'Marine Plastic Snow'". 15 & 16 July 2021.

### **FUNDING HISTORY:**

Principal and co-principal investigator of the following projects:

#### **AT LAMONT-DOHERTY GEOLOGICAL OBSERVATORY:**

- EPA - Experiments with radioactive tracers in the facility for the experimental analysis of coastal marine ecosystems, 1976-1981, P.H. Santschi, co-PI, with W.S. Broecker and Y.-H. Li.
- NSF - Bottom chamber and benthic flux experiment, 1978-1984, P.H. Santschi, co-PI, with W.S. Broecker.
- NSF - Collection and analysis of GEOSECS samples collected in the Indian Ocean for Radium-228, 1978-1979, P.H. Santschi, co-PI, with W.S. Broecker, T.H. Peng.
- NSF - Experimental Acidification of Lakes, 1980 - 1983, P.H. Santschi, co-PI, with W.S. Broecker, H.J. Simpson, R.H. Hesslein and R. Anderson.
- NSF - Removal and fate of Pollutant Trace Metals in Coastal Waters, 1981-1983, P.H. Santschi, co-PI, with Y.-H. Li.

NOAA - Removal and Fate of Pollutant Trace Metals in Coastal Waters, 1981-1983, P.H. Santschi, co-PI, with Y.-H. Li.

NSF - Lander Science: Active Experiments, 1984-1986, P.H. Santschi, co-PI, with W.S. Broecker and R. Anderson (\$250,000).

AT EAWAG (Swiss Institute for Water Resources and Water Pollution Control)

EAWAG-Research Enhancement Fund: - Metals and particulates cycling in Lake Zurich, 1984, P.H. Santschi, co-PI, with L. Sigg, M. Sturm, J. Davis, and W. Stumm (\$15,000).

EAWAG-Research Enhancement Fund: - Natural radionuclides in the sediments of Lake Greifen, 1984-1987, P.H. Santschi, co-PI, with Wan Guojang, M. Sturm and Ch. Schuler (\$20,000).

EAWAG-Research Enhancement Fund: - Geochemical flux balance at the sediment-water interface, 1985, P.H. Santschi, co-PI, with R. Gächter (\$30,000).

EAWAG-Research Enhancement Fund: - Production and decomposition of sedimenting particles in Lake Lucerne, 1985, P.H. Santschi, co-PI, with M. Sturm, R. Schwarzenbach, J. Schneider, C. Lee, S. Wakeham, and J. McKenzie (\$10,000).

EAWAG-Research Enhancement Fund: - Radionuclide and particle dynamics in Lake Zurich, 1985 - 1987, P.H. Santschi, PI, with M. Sturm and Ch. Schuler (\$10,000).

Swiss Atomic and Chemical Laboratory of Swiss Army (GRD, Spiez) and Swiss Dept. of Health - Contamination of drinking water supplies after radioactive fallout, P.H. Santschi, PI, 1986 - 1987 (\$15,000).

Swiss National Science Foundation - Relevance of the slow sorption kinetics of thorium isotopes in natural waters, 1986 - 1988, P.H. Santschi, PI, with B. Honeyman (\$100,000).

AT TEXAS A&M UNIVERSITY:

State of Texas Coordinating Board, Texas Advanced Research Program - Natural radionuclides in coastal waters, P.H. Santschi, PI, 1988 - 1990 (\$100,546).

Texas A&M University at Galveston - Start-up grant from the President, for Excellence in Research, P.H. Santschi, PI, 1988 - 1989 (\$125,000).

NSF - U.S. National Science Foundation, Transfer coefficients in the benthic boundary layer, P.H. Santschi, co-PI, with R. Anderson, Lamont-Doherty Geological Observatory, 1987 - 1989 (\$109,472).

Texas Chemical Council - Trace metals in coastal waters of Texas, and Chromium in Corpus Christi Bay, P.H. Santschi, PI, with G. Benoit, 1989-1992 (\$80,000).

Texas Institute of Oceanography - Radionuclides and trace metals in the Gulf of Mexico, P.H. Santschi, PI, 1990-1991 (\$50,000).

NSF - Physicochemical Processes Controlling Thorium Behavior in the Ocean, P.H. Santschi, PI, with B. Honeyman, M. Baskaran and G. Benoit, 1990 - 1993 (\$527,654).

NSF - Research Experience for Undergraduates Program Supplement to "Physicochemical Processes Controlling Thorium Behavior in the Ocean", P.H. Santschi, PI, with B. Honeyman, M. Baskaran and G. Benoit, 1990 - 1993 (\$4,000).

Sea Grant College Program, Processes which control the cycling of the toxicant lead in Galveston Bay, 1991 - 1993 (\$98,380).

Department of Energy, OHER, Ocean Margins Program, The Production of Colloids in the Benthic Boundary Layer and Particle-Particle Interactions, P.H. Santschi, PI, with M. Baskaran and B. Honeyman, 1992 - 1995 (\$1,027,192).

Texas Institute of Oceanography - Matching grant to: The Production of Colloids in the Benthic Boundary Layer and Particle-Particle Interactions, P.H. Santschi, PI, 1992-1993 (\$70,000).

National Science Foundation - United States/China Cooperative Science Program, Studies of the Effects of Pb Mobility on  $^{210}\text{Pb}$  Geochronology in Aquatic Environments, P.H. Santschi, PI, 1993-1994 (\$34,184.-).

National Science Foundation - Ocean Sciences,  $^{129}\text{I}$ : A New Tracer for Carbon Cycling, P.H. Santschi, co-PI, with D. Schink, 1992-1994 (\$250,904).

Office of Naval Research - Estuarine Colloids: Sorption Capacity, Colloid Facilitated Transport and Bioavailability, P.H. Santschi, PI, with G. Gill and M. Benfield, 1993 - 1995 (\$336,818).

Office of Naval Research - Characterization of Nuclear Contaminants Released to the Kara Sea by the Ob and Yenisey Rivers, P.H. Santschi, co-PI, with J. Brooks, M. Champ, T. Wade, M. Baskaran, 1993-1994 (\$185,000 to TAMUG).

Seagrant College Program - Speciation of selected Heavy Metal Ions and Radioactive Isotopes in Galveston Bay..., P.H. Santschi, PI, 1993-1995 (\$94,000.-).

National Oceanographic and Atmospheric Administration - Historical Contamination of Mississippi River Delta and Galveston Bay Sediments, P.H. Santschi, co-PI, 1994-1995 (\$55,000 to TAMUG).

Houston Lighting and Power, Environmental Program - Analysis of Metals and Metalloids in Tissue of Oysters from Shell and Coal Ash Pellet Cultches for an Artificial Reef Project, P.H. Santschi, PI, 1993-1995 (\$46,000.-).

Silver Coalition, KODAK Company - Silver measurements in watersheds of Texas, 1993 - 1995, P.H. Santschi, PI, (49,000).

Environmental Protection Agency, subcontract from Batelle Memorial Institute (EEAM) - Work/Quality Assurance Project Plan for Air Toxics Deposition Monitoring in Galveston Bay, Texas, 1994-1995, P.H. Santschi, co-PI, (\$20,300).

Coordinating Board - Texas Advanced Research Program -  $^{129}\text{I}$ : A new tracer for distinguishing terrestrial from marine organic matter, P.H. Santschi, PI, 1996-1997 (\$181,173).

Office of Naval Research - The importance of colloids to chemical speciation and metal cycling in aquatic systems, P.H. Santschi, PI, 1996-1998 (\$504,755).

Department of Energy, OHER, Ocean Margins Program - The Production of Colloids in the Benthic Boundary Layer and Particle-Particle Interactions, P.H. Santschi, PI, 1994-1995 (\$84,000).

Department of Energy, through Brookhaven National Laboratory, DOE-OMP-Organic Carbon Export, P.H. Santschi, PI, 1997-1998 (\$50,000.).

Department of Energy, OHER, Ocean Margins Program - Carbon Transport in the Bottom Boundary Layer, P. Santschi, PI, 1996 - 1997 (\$100,000).

National Association of Photographic Manufacturers, Organic Sulfur Complexes of Silver, P.H. Santschi, PI, 1996 - 1997 (\$40,000).

National Science Foundation, OCE, Relationship of Th(IV) speciation to scavenging in marine environments, P.H. Santschi, PI, 1996 - 1998 (\$125,000)

Aluminum Company of America, Radiochemical Investigations in Lavaca Bay, P.H. Santschi, PI, 1996 - 1997, (\$53,200.-).

Aluminum Company of America, Radiochemical Investigations in Lavaca Bay, P.H. Santschi, PI, 1997-1998 (\$75,000.-).

Kaiser-Hill/Dept. of Energy, Actinide Migration Studies at the Rocky Flats Environmental Technology Site, P. Santschi, co-PI, 1997 (\$43,392 to TAMUG).

Kaiser-Hill/Dept. of Energy, Actinide Migration Studies at the Rocky Flats Environmental Technology Site, P. Santschi, co-PI, 1997-1998 (\$49,200 to TAMUG).

Kaiser-Hill/Dept. of Energy, Actinide Migration Studies at the Rocky Flats Environmental Technology Site, P. Santschi, co-PI, 1998-1999 (\$98,000.- to TAMUG).

Coordinating Board, Texas Advanced Research Program - Reconstruction of Terrestrial <sup>129</sup>I Inputs into Marine Environments, P.H. Santschi, PI, 1998-1999 (\$96,358.-).

Texas Seagrant - Bioavailability of colloid-associated metals to estuarine bivalves, P.H. Santschi, PI, with Laodong Guo and Sammy Ray, co-PIs, 1998 - 2001 (174,312.-).

Office of Naval Research, Complexation reactions between trace metals and specific functional groups in natural organic matter from estuarine waters, P. Santschi, principal investigator, with Liang-Saw Wen, co-PI, 1998 – 2001 (\$350,000.-).

National Science Foundation, Ocean Sciences, A Collaborative Proposal on the Interaction of Th(IV) with Organic Compound Classes of Marine Organic Matter, P. Santschi, principal investigator, with Laodong Guo and Ian Walsh, co-principal investigators, 1999-2002 (\$394,430 to TAMUG).

Minerals Management Service, Gulf of Mexico OCS Region, Deepwater Program: Northern Gulf of Mexico Continental Slope Habitats and Benthic Ecology (HABEN), Gilbert Rowe, principal investigator, Kennicut, Morse, Presley, Wade, Bryant, Santschi, etc., co-PIs, 1999-2002 (\$66,855 to TAMUG).

Kaiser-Hill/Dept. of Energy, Actinide Migration Studies at the Rocky Flats Environmental Technology Site, P.H. Santschi, PI, 1999-2000 (\$120,000).

Kaiser-Hill/Dept. of Energy, Actinide Migration Studies at the Rocky Flats Environmental Technology Site, P.H. Santschi, PI, 2000-2001 (\$100,000).

Water Resources Research Institute (WRRI)/USGS, Test of a potential method to date recharge and surface waters/ground water interactions using anthropogenic <sup>129</sup>Iodine and <sup>127</sup>Iodine species, some of them chemical analogs for nitrate, P.H. Santschi, PI, 2000-2001 (\$25,000).

Kaiser-Hill/Dept. of Energy, Actinide Migration Studies at the Rocky Flats Environmental Technology Site, P.H. Santschi, PI, 2001-2002 (\$100,000).

Texas Seagrant - Role of natural organic matter in governing the bioavailability of potentially toxic metals to estuarine bivalves, P.H. Santschi, PI, with Laodong Guo and Sammy Ray, co-PIs, 2001 - 2004 (241,859).

Kaiser-Hill/Dept. of Energy, Actinide Migration Studies at the Rocky Flats Environmental Technology Site, P.H. Santschi, PI, 2001-2002 (\$100,000).

Dept. of Energy - NABIR program - Microbial stabilization of Plutonium in the subsurface environment, P.H. Santschi, co-PI, 2001 – 2004 (\$300,000).

NSF - Collaborative Research: NIRT: The Role of Nano-Scale Colloids in Particle Aggregation and Trace Metal Scavenging in Aquatic Systems, P.H. Santschi, lead-PI, 2002-2005 (\$520,276).

Texas Water Development Board – “Quantification of Terrestrial and Marine Sediment Sources to a Managed Fluvial, Deltaic and Estuarine System: The Nueces-Corpus Christi Estuary, Texas”, P.H. Santschi, PI, 2002 – 2004 (\$37,290).

NSF – OCE, “Collaborative Proposal: Th(IV) and Pa(IV,V) binding to exopolymeric acid

polysaccharides in marine environments”, P.H. Santschi, lead-PI, 2004 – 2009 (\$486,531).

State of Texas, “The Legacy question for Dioxins in Houston Ship Channel Sediments”, Subcontract from University of Houston, P.H. Santschi, PI, Kevin Yeager, co-PI, 2004-2005 (\$125,000).

Department of Energy - NABIR program – “Biogeochemical Cycling and Environmental Stability of Pu Relevant to Long-Term Stewardship of DOE Sites” P.H. Santschi, PI, 2004-2007 (\$300,000).

Anchor Environmental, L.L.C., “Radiochemical Sample Analysis for the Portland Harbor Superfund Site Round 2”, P.H. Santschi, PI, Kevin Yeager, co-PI, 2004-2005 (\$50,500).

State of Texas, CMP 9, “Quantification of sediment sources of the Nueces-Corpus Christi Estuary System”, P.H. Santschi, PI, Kevin Yeager, co-PI, 2005 (\$48,852).

State of Texas, CMP10, “Stage I: A Preliminary Evaluation of the Impacts of Dredging Activities on the Fate of Dioxin in the Houston Ship Channel”, P.H. Santschi, PI, Kevin Yeager and Robin Brinkmeyer, co-PIs, 2006 (\$49,995).

National Science Foundation, OCE, Chemical Oceanography Program, “Acquisition of additional radio-analytical capabilities, TAMUG’s Laboratory for Oceanographic and Environmental Research, Coastal Zone Laboratory and Coastal Geology Laboratory”, P.H. Santschi, PI, K. Yeager, and T. Dellapenna, co-PIs 2005-2006 (\$20,388).

National Science Foundation, DBI, Major Research Instrumentation, “Acquisition of Instruments to Facilitate and Enhance Research Projects and Undergraduate Education in Aquatic Environmental Biogeochemistry at TAMUG”, Rainer Amon, PI, A. Quigg, A. Anis, G. Gill, P.H. Santschi, co-PIs, 2005-2008 (\$72,842).

National Science Foundation – Hydrology, “ $^{129}\text{I}/^{127}\text{I}$  ratios and Iodine Speciation in Surface and Groundwaters: Link Between Speciation and Retardation”, P.H. Santschi, PI, 2006-2009 (\$210,000),

Texas Seagrant, “Factors regulating microbial degradation of dioxins in estuarine sediments: Houston Ship Channel and Galveston Bay, Texas”, P.H. Santschi, PI, K. Yeager and R. Brinkmeyer, co-PIs, 2006-2009 (\$250,505).

National Science Foundation - MRI “Acquisition of Instrumentation to Facilitate and Enhance Research Projects and Undergraduate and Graduate Education in Chemistry and Environmental Chemistry at TAMUG”, P.H. Santschi, PI, R. Amon and A. Balaban, co-PIs, 2006 (\$91,252).

Integral Consulting, Inc., Subcontract, “Sediment dating of Upstream Downstream Sediment samples, Lower Willamette Group (LWG) – Portland Harbor RI/FS”, Peter H. Santschi, PI, 2007 (\$87,780).

Defense Intelligence Agency - MASINT Consortium (NCOMR ID 06P07PNNLSchw), “Autonomous High-Resolution in-situ Gamma Counter for Monitoring Marine and Coastal Waters”, Peter H. Santschi, co-PI, Jon Schwantes (PNNL), Peter H. Santschi, Co-PI, 2007-2010 (\$168,000).

Dept. of Energy, ERSP Program, “COLLABORATIVE RESEARCH: BIOGEOCHEMICAL AND MICROBIAL CONTROLS OF IODINE-129 MOBILITY IN GROUNDWATER RELEVANT TO LONG-TERM STEWARDSHIP OF DOE SITES”, Peter H. Santschi, Robin Brinkmeyer and Kathleen Schwehr, co-PIs, 2008-2011 (\$721,248).

Penobscot River Mercury Study Panel - Radiochemical analyses of sediment cores from the Penobscot River and Estuary, Peter H. Santschi, PI, Bryce Johnson, Kathleen Schwehr, Patrick Louchouart, co-PIs, 2009-2011 (\$330,400).

National Geospatial Intelligence Agency, “ENHANCED “HOT SUSHI” Lowering target isotope limits of detection for an existing design of a compact, high-resolution, *in situ* gamma counter for aqueous environments by enhancing on-board filtration and chemisorption capabilities”, for Postdoctoral Fellowship to Bryce, Johnson, Peter H. Santschi, PI, 2008-2010 (\$240,000).

NSF-OCE, “Collaborative Research: Examining the Binding of Radionuclides with Marine Biopolymers, A Comparative Study on Th, Pa, Be, Po and Pb Isotopes”, Peter H. Santschi, PI, Kathy Schwehr, Laodong Guo, co-PIs, 2009-2012 (\$460,487).

NSF-CBET, “ Collaborative Research: Effects of exopolymeric substances (EPS) on engineered nanoparticle (EN) into marine phytoplankton cells”, Peter H. Santschi, PI, Kathleen A. Schwehr, and Antonietta Quigg, co-PIs, 2009-2012 (\$248,158).

NSF-MRI-R2, “Acquisition of instruments to facilitate and enhance education and research on marine ecosystems at TAMUG”, Jay Rooker, Peter H. Santschi, and Antonietta Quigg, co-PIs, 2010-2011 (\$383,127).

DOE, Office of Science, SBR, “Plutonium Speciation and Mobility through the Subsurface Environment: Nature of Organic Colloidal Carriers”, Santschi, P.H., PI, Schwehr, K.A., Hatcher, P.G., co-PIs, 2011-2016 (\$660,128.-).

DOE, Office of Science, SBR, “Collaborative Research: “The Importance of Organo-Iodine and Iodate In Iodine-127,129 Speciation, Mobility and Microbial Activity in Groundwater at DOE Sites”, Santschi, P.H., PI, Schwehr, K.A., Kaplan, D.I., and Yeager, C.M., co-PIs 2011-2015 (\$671,819.- to TAMUG).

Lawrence Berkeley National Laboratory, “Using Humic Acid to Immobilize Radioiodine (1-129) in Acidic Waste Plumes”, Santschi, P.H., PI, Sept. 1, 2011 – August 31, 2013 (\$25,000).

Pacific Northwest National Laboratory, “Subsurface Characteristics and Treatment of Iodine-129 Contaminated Groundwater for UP-1 Final Record of Decision”, Peter H. Santschi, PI, April 11 – September 30, 2012 (\$175,000).

Pacific Northwest National Laboratory, “Quantification of Iodine Speciation in Contaminated Groundwater and Sediment”, Peter H. Santschi, PI, June – September 30, 2013 (\$65,000).

National Consortium for Measurement and Signature Intelligence (MASINT) Research Program, Naval Postgraduate School - “Chemisorption Studies of Selected Radionuclides for Use in Autonomous Collection and In-Situ Detection Systems for Monitoring Marine and Coastal Waters”, Peter H. Santschi, PI, 2013-2014 (\$167,477).

National Science Foundation – Chemical Oceanography, “Biopolymers produced by diatoms and coccolithophores as carriers for selected natural radionuclides (of Th, Pa, Pb, Po, Be) in the ocean”, Peter H. Santschi, PI, Quigg, A., Schwehr, K.A., and Xu, C., co-PIs, Feb. 1, 2014 – Jan. 31, 2018 (\$506,849).

DOE, Office of Science, SBR, “Collaborative Research: The Importance of Organo-Iodine and Iodate In Iodine-127,129 Speciation, Mobility and Microbial Activity in Groundwater at DOE Sites”, Santschi, P.H., PI, 2014-2015 (\$60,000 supplement to TAMUG).

Gulf of Mexico Research Initiative (GoMRI), “Role of microbial exopolymers in aggregation and degradation of oil and dispersants”, Santschi, P.H. (Deputy Director and PI), with Quigg, A. (Consortium Director), and Knapp, T., Wade, T.L., Chin, W.-C., Passow, U., Hatcher, P.G., Silvan, J., and Finkel, Z. (co-PIs), Jan. 1, 2015 – Dec. 31, 2017 (\$7,245,432 total, \$3,209,495 to TAMUG).

DOE, Office of Science, SBR, “Collaborative Research: Natural Organic Matter and Microbial Controls on Mobilization/Immobilization of I and Pu in soils in USA and Japan”, Santschi,



P.H. PI, Xu, C., Schwehr, K.A., and Zhang, S., Kaplan, D.I., and Yeager, C.M., co-PIs, Aug. 1, 2015-July 31, 2019 (\$600,000 total, \$300,000 to TAMUG).

DOE, PNNL, “Post Detonation Maritime Collection and Analysis paper study”, subcontract from PNNL, Santschi, P.H., PI, 2016 (\$20,000 to TAMUG), March 28, 2016 through September 30, 2016.

DOE, NEUP, Office of Nuclear Energy “Using Radioiodine Speciation to Address Environmental Remediation and Waste Stream Sequestration Problems at the Fukushima Daiichi Nuclear Power Plant and a DOE Site”, Santschi, P.H., PI (\$420,000 to TAMUG), Oct.1, 2016-Sept. 30, 2019.

DOE, LDRD, “Silver-iodine Secondary Waste Stabilization: Multiscale Evaluation”, Santschi, P.H., PI (\$40,000 to TAMUG, subcontract from SRNL), January 1, 2017 - September 30, 2017.

DOE, subcontract from SRNS, “Radioiodine Speciation on G-SOW-A-01859 Waste Form Stabilization (SRNS RFP No.0000318991)”, Santschi, P.H., PI, (\$40,000 to TAMUG), 2017-2018 (\$40,000 to TAMUG, subcontract from SRNL).

Amec Foster Wheeler Environment & Infrastructure, Inc., fixed price contract for court-mandated study, “Radiochemical Analyses of sediments from the Penobscot River”, Santschi, P.H., PI, (\$177,600 to TAMUG), Sept. 30-Dec. 31, 2017.

Gulf of Mexico Research Initiative (GoMRI), “ADDOMEx 2: Towards a synthesis of processes and pathways of marine oil snow formation”, Santschi, P.H. (Deputy Director and PI), with Quigg, A. (Consortium Director), and Knapp, T., Wade, T.L., Chin, W.-C., Passow, U., Hatcher, P.G., Silvan, J., and Finkel, Z. (co-PIs), Jan. 1, 2018 – Dec. 31, 2019 (\$2.54 Million total, \$390,000 to PHS).

DOE, LDRD, “Silver-iodine Secondary Waste Stabilization: Multiscale Evaluation”, Santschi, P.H., PI (\$40,000 to TAMUG, subcontract from SRNL), January 1, 2018 - September 30, 2018.

DOE-PNNL, “*Evaluation of Adsorbent Performance for the Extraction of Uranium from Seawater*”, Santschi, P.H., PI (\$60,000 to TAMUG), June 28, 2019 – Nov. 22, 2020.

DOE-Office of Science, SBR program: “COLLABORATIVE RESEARCH: Natural Organic Matter and Microbial Controls on Mobilization/Immobilization of I and Pu in Soils and Waters Affected by Radionuclide Releases in USA and Japan: A Supplemental. Santschi, P.H., PI (\$80,000 to TAMUG), April 15, 2019 – Dec. 31, 2020.

DOE-SRNL, “Radioiodine Speciation in Aqueous Systems - Impact of Radioiodine Speciation on Waste Form Stabilization”, Santschi, P.H., PI (\$55,000 to TAMUG), July 1 – Sept. 30, 2019.

Exxon Corporation, Project Title: Assessment of impact and modeling of extracellular polymeric substance (EPS) aggregates/streamers over oil micro-droplets on their transport fates”, Jian Sheng (TAMUCC), PI, Santschi (TAMUG), co-PI. \$15,000, Sept. 1, 2019 – March. 31, 2020, funded; second year for \$50,000 (TAMUG) pending.

DEPARTMENT OF THE ARMY, FORT WORTH DISTRICT, CORPS OF ENGINEERS. “Measurements sedimentation within Addicks and Barker Reservoirs using 239+240 Pu Isotope Geochronology”, Timothy Dellapenna, PI, Santschi, P.H., co-PI, May 1, 2020-April 30, 2021, \$50,000, funded; \$200K per year for up to 4 additional option years, pending.

Department of Energy, Office of Science, Subsurface Biogeochemical Research Program, "WATERSHED CONTROLS ON URANIUM CONCENTRATIONS TIED INTO NATURAL ORGANIC MATTER AND IRON INTERACTIONS IN STREAMBEDS AND WETLANDS", Peter H. Santschi, PI, \$270,000 to TAMUG, August 2020-August 2022.

Department of Energy, Office of Science, Subsurface Biogeochemical Research Program,  
Supplemental grant for "WATERSHED CONTROLS ON URANIUM CONCENTRATIONS  
TIED INTO NATURAL ORGANIC MATTER AND IRON INTERACTIONS IN  
STREAMBEDS AND WETLANDS", Peter H. Santschi, PI, \$40,000 to TAMUG, Sept. 1  
2021-August 31, 2022.