# Chen Xu, PhD

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## PROFESSIONAL EXPERIENCE

**09/2011-11/2012** **Post-Doc., Marine Sciences, Texas A&M University at Galveston**
**Supervisor: Dr. Peter H. Santschi**
**12/2012-present** **Assistant research scientist, Texas A&M University at Galveston**

## EDUCATION

**Ph.D** **Chemical oceanography, Texas A&M University, 01/2009-08/2011** (Dr. Peter H. Santschi, advisor)
**Thesis title:** Molecular Level Characterization and mobility of radionuclide-carrying natural organic matter in aquatic environments

**M.Sc.** **Chemical oceanography, Texas A&M University, 09/2004-12/2008** (Dr. Peter H. Santschi, advisor)
**Thesis title:** 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

**B.Sc.** **Environmental Sciences, Xiamen University, Xiamen, Fujian, Peoples Republic of China. 09/2000-06/2004 (**Dr. Minhan Dai and Dr. Pinghe Cai, Co-advisors)
**Thesis title:** Nutrient distribution and fluxes in the South China Sea

## AWARDS

- Welch Foundation Fellowship (Grant BD-0046; Spring, 2009)
- Erma Lee and Luke Mooney Graduate Student Excellence Research Award (2008)
- Student Travel Fellowship recognized by Department of Energy-Subsurface Biogeochemical Research (DOE-SBR) program to attend the annual PI meeting in Washing DC (April 26-28, 2011).
- Association of Former Students (AFS) Distinguished Graduate Student Award for Excellence in Research, Doctoral awarded by Texas A&M University, 2012.

## Peer-reviewed Publications

1. **Xu, C.**; Zhang, S.; Sugiyama, Y.; Ohte, N.; Ho, Y.-F.; Fujitake, N.; Kaplan, D. I.; Yeager, C. M.; Schwehr, K.; Santschi, P. H., Role of natural organic matter on iodine and $^{239,240}$Pu distribution and mobility in environmental samples from the northwestern Fukushima Prefecture, Japan. *Journal of Environmental Radioactivity* **2016**, 153, 156-166.

2. **Xu, C.**; S., Z.; kaplan, D.; Ho, Y.-F.; Schwehr, K.; Roberts, K. A.; Chen, H.; DiDonato, N.; Athon, M.; Hatcher, P.; Santschi, P., Evidence for hydroxamate siderophores and other N-containing organic compounds controlling $^{239,240}$Pu immobilization and re-mobilization in a wetland sediment. *Environmental Science & Technology* **2015**, 49, (19), 11458-11467.
3. **Xu, C.**; Zhang, S.; Athon, M.; Ho, Y.-F.; Li, H. P.; Yeager, C. M.; Schwehr, K. A.; Kaplan, D.; Russell, G.; Wellman, D.; Santschi, P. H., Radioiodine sorption/desorption and speciation transformation by subsurface sediments from the Hanford Site. *Journal of Environmental Radioactivity,* **2015**. 139, 43-55
4. **Xu, C.**; Athon, M.; Ho, Y.-F.; Chang, H.-S.; Zhang, S.; Kaplan, D.I., Schwehr, K.A.; DiDonato, N.; Hatcher, P.; Santschi, P.H. Plutonium Immobilization and Re-mobilization by Soil Mineral and Organic Matter in the Far-Field of the Savannah River Site, USA. *Environmental Science & Technology* **2014**, 48, 3186-3195.
5. **Xu, C.**, Athon, M., Ho, Y.-F., Schwehr, K.A., Kaplan, D.I., Roberts, K.A., DiDonato, N., Hatcher, P.G. & Santschi, P.H. Mineralogical Magazine, **2013**, 77(5) 2524
6. **Xu, C.**, Chen, H., Sugiyama, Y., Zhang, S., Li, H.-P., Ho, Y.-F., Chuang, C.-Y., Schwehr, K.A., Kaplan, D.I., Yeager, C., Roberts, K.A., Brinkmeyer, R., Hatcher, P.G., Santschi, P.H. Novel molecular-level evidence of iodine binding to natural organic matter from Fourier transform ion cyclotron resonance mass spectrometry. Science of the Total Environment. **2011,** 449, 244-252.
7. **Xu, C.**; Zhong, J. Y.; Hatcher, P. G.; Zhang, S.; Li, H. P.; Ho, Y.; Schwehr, K. A.; Kaplan, D. I.; Roberts, K. A.; Brinkmeyer, R.; Yeager, C. M.; Santschi, P. H., Molecular environment of stable iodine and radioiodine ($^{129}$I) in natural organic matter: Evidence inferred from NMR and binding experiments at environmentally relevant concentrations. *Geochimica Et Cosmochimica Acta* **2012,** *97*, 166-182.
8. **Xu, C.**; Miller, E. J.; Zhang, S. J.; Li, H. P.; Ho, Y. F.; Schwehr, K. A.; Kaplan, D. I.; Otosaka, S.; Roberts, K. A.; Brinkmeyer, R.; Yeager, C. M.; Santschi, P. H., Sequestration and Remobilization of Radioiodine (I-129) by Soil Organic Matter and Possible Consequences of the Remedial Action at Savannah River Site. *Environmental Science & Technology* **2011,** *45*, (23), 9975-9983.
9. **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., Is soil natural organic matter a sink or source for mobile radioiodine (I-129) at the Savannah River Site? *Geochimica Et Cosmochimica Acta* **2011,** *75*, (19), 5716-5735.
10. **Xu, C.**; Zhang, S. J.; Chuang, C. Y.; Miller, E. J.; Schwehr, K. A.; Santschi, P. H., Chemical composition and relative hydrophobicity of microbial exopolymeric substances (EPS) isolated by anion exchange chromatography and their actinide-binding affinities. *Marine Chemistry* **2011,** *126*, (1-4), 27-36.
11. **Xu, C.**; Santschi, P. H.; Hung, C. C.; Zhang, S. J.; Schwehr, K. A.; Roberts, K. A.; Guo, L. D.; Gong, G. C.; Quigg, A.; Long, R. A.; Pinckney, J. L.; Duan, S. W.; Amon, R.; Wei, C. L., Controls of (234)Th removal from the oligotrophic ocean by polyuronic acids and modification by microbial activity. *Marine Chemistry* **2011,** *123*, (1-4), 111-126.
12. **Xu, C.**; Santschi, P. H.; Schwehr, K. A.; Hung, C. C., Optimized isolation procedure for obtaining strongly actinide binding exopolymeric substances (EPS) from two bacteria (Sagittula stellata and Pseudomonas fluorescens Biovar II). *Bioresource Technology* **2009,** *100*, (23), 6010-6021.
13. **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., Colloidal Cutin-Like Substances Cross-Linked to Siderophore

Decomposition Products Mobilizing Plutonium from Contaminated Soils. *Environmental Science & Technology* **2008,** *42*, (22), 8211-8217.

## Invited seminars

1. Molecular level characterization and mobility of radionuclide-carrying natural organic matter in aquatic environments. Departmental Seminar, Department of Oceanography, College Station, TX. Sept. 5th, 2011.

2. Molecular level characterization and mobility of radionuclide-carrying natural organic matter in aquatic environments. Seminar, College of Oceanography and Environmental Science, Xiamen University, Oct 7, 2011.