

Chen Xu, PhD

Department of Marine Sciences; Texas A&M University at Galveston
1001 Texas Clipper Rd.

Tel: (409)-740-4530; Email: xuchen66@tamu.edu

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
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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 $^{239,240}\text{Pu}$ 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.; Otsuka, 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.; Otsuka, 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.