

CURRICULUM VITAE

Tham C. Hoang, Ph.D.

Associate Professor
Department of Environmental Sciences
Institute of Environmental Sustainability
BVM Building 314

Loyola University Chicago
Lake Shore Campus
1032 W. Sheridan Road, Chicago, IL 60660
Phone: 773-508-8194, Fax : 773-508-8924
E-mail: thoang@luc.edu

Education:

- **Ph.D. (Environmental Toxicology) & Minor (Experimental Statistics)**, Clemson University.
- **MS (Environmental Toxicology)**, Clemson University.
- **BS (Physics)**, Hanoi National University.

Employment:

2017-Present: Associate Professor, Institute of Environmental Sustainability, Loyola University Chicago, Chicago, IL

2011- 2017: Assistant Professor, Institute of Environmental Sustainability, Loyola University Chicago, Chicago, IL

- Research interest:
 - Microplastic pollution and effects
 - Toxicity of metal mixtures in aquatic environments in support of the development of a Biotic Ligand Model (BLM) for metal mixtures and setting environmental quality guidelines
 - Effects of pesticides and insecticides in aquatic and terrestrial environments
 - Effects of microplastics in environments
 - Indoor and outdoor microcosm studies for emerging contaminants
 - Environmental risk assessments
 - Derivation of water quality criteria for contaminants
- Teaching:
 - Human Impact on the Environment
 - Principles of Ecotoxicology
 - Foundation of Environmental Science
 - Environmental Science Lab
 - Environmental Chemistry Lab
 - Environmental Research
 - Introduction to Research
 - Research
 - Methods in Aquatic Toxicology Testing (under development)
 - Ecological and Human Health Risk Assessments (under development)

2006 - 2011: Postdoctoral Research Associate, Laboratory Manager, Visiting Research Faculty, Ecotoxicology and Risk Assessment Laboratory, Southeast Environmental Research Center, Department of Environmental Studies, Florida International University, Miami, FL (Total funded amount: \$7,226,000)

- Managed and conducted research projects funded by the U.S. Fish and Wildlife Service in support of the Comprehensive Everglades Restoration Plan:
 - Fate (Dissipation), Uptake (Bioconcentration)/Depuration, Food Chain Transfer (Bioaccumulation) and Toxicity of Copper: Use of Apple Snails (*Pomacea paludosa*) and Fish as Model Organisms for Understanding Effects on Higher Trophic Levels (\$216,000 for 2 years)
 - Exposure and Biological Effects of the Adult Mosquito Control Agents Naled and Permethrin in the Key Deer National Wildlife Refuge, Long Pine Key: An Ecological Risk

Characterization for Beneficial Non-Target Organisms (larval and adult butterflies) (\$225,000 for 2 years)

- Managed and conducted a research project funded by International Zinc Association: Outdoor freshwater aquatic microcosm study with zinc (\$385,000 for 2 year)
- Conducted research to evaluate toxicity of sediment in the Everglades Ecosystem and the effect of the Deepwater Horizon Oil Spill in the Gulf of Mexico:
 - Contaminant Assessment & Risk Evaluation (CARE) for Everglades National Park, Biscayne National Park and Big Cypress National Preserve (\$2,200,000 for 3 years)
 - Effects of the Deepwater Horizon Oil Spill in the Gulf of Mexico (\$4,200,000 for 3 years)
- Taught and trained students in aquatic toxicity testing in good laboratory practice
- Operated and constructed automated flow-through toxicity test and sediment test systems
- Cultured aquatic organisms for ecotoxicology study: *Hyalella azteca*, *Chironomus tentans*, *Pomacea paludosa*, *Poecilia latipinna*, *Cyprinodon variegatus*, *Floridichthys carpio*, and *Gambusia holbrooki*
- Designed laboratory and microcosm toxicity and fate studies to study the effects of contaminants in aquatic ecosystems
- Designed and conducted toxicity studies with larval caterpillars, adult butterflies and insecticides
- Conducted ecological risk assessments for metals and organic contaminants
- Prepared toxicity test protocols based the U.S. EPA and ASTM test methods
- Modeled and analyzed toxicity data, prepared reports, and published research papers
- Maintained the laboratory with NELAP accreditation
- Teaching: Introduction to Environmental Science, Introduction to Environmental Toxicology

2000-2006: Graduate Research Assistant, Department of Environmental Toxicology, Clemson University, Pendleton, SC

- Conducted research to examine the toxicological effects of metals (Ni, Cu, Zn, As, and Se) in aquatic ecosystems
- Cultured aquatic organisms for toxicology research: fathead minnows and *Daphnia magna*
- Collected and analyzed field sediment and water samples for contaminants
- Trained new students to culture aquatic organisms, conduct aquatic toxicity test, and measure water quality
- Teaching: Aquatic Toxicology and Ecotoxicology courses

1998-2000: Research Associate, Institute of Nuclear Science and Technology, Hanoi, Vietnam

- Conducted research on air pollution in Hanoi
- Conducted research on anthropogenic Cesium-137 in the surface soil in Vietnam

Scientific Society and Association Committee Services:

- President of the Midwest Regional Chapter of the Society of Environmental Toxicology and Chemistry (SETAC) (2018 to present)
- Vice President of the Midwest Regional Chapter of the Society of Environmental Toxicology and Chemistry (SETAC) (2017 to 2018)
- Member of the Loyola Institutional Animal Care and Use Committee (2013 to 2017)
- Member of the Loyola Laboratory Safety Committee (2013 to present)
- Member of SETAC (2000 to present)
- Member of the Midwest Regional Chapter of the SETAC (2012 to present)
- Member of the Board of Director, Midwest SETAC (2014 to 2017)
- Member of the Editorial Board Committee, Journal of Environmental Toxicology and Chemistry (2013-2015)

- **Conference Organizer/Chair:**
 - 26th Annual Midwest SETAC Conference (Organizing Committee)
Loyola University Chicago, April 9-11, 2018
 - International Symposium on Risk Assessment for Environmental and Human Health in Support of Environmental Management
Quy Nhon, Vietnam, December 19-21, 2017 (Chair)
 - SETAC North America 38th Annual Conference, Minneapolis, MN, November 12-16, 2017 (Scientific Committee)
 - The 3rd International Conference on Environmental Pollution, Restoration, and Management, Quy Nhon, Vietnam, March 6-10, 2017 (Chair)
 - Society of Environmental Toxicology and Chemistry Asia Pacific Conference, Singapore, September 16-19, 2016 (Scientific Committee)
 - The 22nd Annual Meeting of the Midwest SETAC”, Loyola University Chicago, March 24-25, 2014 (co-Chair)
 - The 2nd International Conference on Environmental Pollution, Restoration, and Management, Hanoi, Vietnam, March 4-8, 2013 (Chair)
 - The 1st International Conference on Environmental Pollution, Restoration, and Management (SETAC Asia Pacific Joint Conference), Ho Chi Minh City, Vietnam, March 1-5, 2010 (Chair)
 - Annual Meeting of SETAC North America, Tampa, FL, November 16-20, 2008 (Organizing Committee)
- **Workshop Organizer:**
 - Biotic Ligand Model for Tropical Environment: Calibration and Application in Mekong Region, Quy Nhon, Vietnam, March 6-7, 2017
 - *The Biotic Ligand Model: Technical Basis and Application of the Biotic Ligand Model for Environmental Quality Guidelines for Copper*, Bangkok, Thailand, March 4, 2015.
 - *The Biotic Ligand Model: Technical Basis and Application for Environmental Quality Guidelines for Metals (Cu, Zn, Ni)*, Hanoi, Vietnam, March 4-5, 2013
 - *Training Workshop on “Ecological and Human Health Risk Assessments and Application of Environmental Quality Guidelines*, Ho Chi Minh City, Vietnam, March 1-2, 2010
 - *The 1st Vietnam-USA Workshop on Ecosystem Assessment, Management, and Restoration*, Hanoi, Vietnam, March 16-19, 2004
- **Session Chair:**
 - “*Evaluation of Fate and Effects of Field Contaminated Soils, Water, and Sediments*”, SETAC North America Annual Meeting, Portland, Oregon, November 7-11, 2010
 - “*Risk Assessment of Metals in Tropical Ecosystems*”, Society of Environmental Toxicology and Chemistry Asia Pacific Conference, Singapore, September 16-19, 2016

Student’s research advisor:

PhD:

- Matthew Reichert: (dissertation committee, 2016)
- Qian Wang: (dissertation committee, 2017)

Master of Science Degree

- Hung Vu, 2007 - 2009 (co-advisor)
- Natalie Lynch, 2011 - 2014 (advisor)
- Edgar Perez, 2014 - 2016 (advisor)
- Erik Reynolds, 2014 - 2016 (advisor)

Undergraduate/graduate students

- 2011-present: 50

Professional reviewer:

- Guest Editor: *Environmental Management*
- Editorial Board Committee: *Journal of Environmental Toxicology and Chemistry*
- Peer-reviewed journals: *Environmental Toxicology and Chemistry*, *Archives of Environmental Contamination and Toxicology*, *Ecotoxicology*, *Environmental Pollution*, *Ecotoxicology and Environmental Safety*, *Bulletin of Environmental Contamination and Toxicology*, *Integrated Environmental Assessment and Management*, *Comparative Biochemistry and Physiology*, *Hydrobiologia*, *Science of the Total Environment*, *Environmental Nanotechnology*, *Monitoring & Management*, *Journal of Pollution Effects & Control*, *Water Research*, *Chemosphere*
- Research Proposals:
 - The University of Science and Technology of Hanoi, Swedish Research Links Program (International Collaborative Research Grants Sweden, Asia, MENA and South Africa)
 - Study on POP pesticide residues in sediment and water in Bach Dang estuary and using bivalve or fish species as bioindicators for POP pesticides toxicity (Vietnam France University, University of Science and Technology Hanoi)
- Reviewer for Technical Guidelines:
 - Technical support document for using the copper biotic ligand model (BLM) to derive water quality criteria for copper
 - Peer Review of a comparison of aluminum aquatic life criteria approaches

Awards:

- Midwest SETAC Best Research Presentation Award, 2016
- SETAC Best Research Presentation Award, 2013
- SETAC Chris Lee Global Award for Metals Research, 2008
- Best Student Presentation Award, Carolina SETAC Meeting, 2002
- SETAC Student Travel Awards, 2002 and 2004
- Outstanding Student Award, Vietnam Atomic Energy Commission, 1998

Proposals and funding:

2016: (\$1,226,278 funded)

- Tham C. Hoang (PI). Effects and Ecological Risk Assessment for Microplastics in the Great Lakes Ecosystem. (\$177,266, submitted to NOAA, Dec. 19, 2016).
- Tham C. Hoang (PI), Marsha Black (co-PI), Mark Robson (co-PI). Evaluation of Human Exposure and Health Risks from a Toxic Effluent Spill in Ha Tinh, Vietnam. (\$411,376, submitted to NIEH, Oct. 3, 2016).
- Tham C. Hoang (PI). Organizing the 3rd International Conference on Environmental Pollution restoration and management and Biotic Ligand Model workshop, March 6-10, 2017, Quy Nhon, Vietnam
 - Society of Environmental Toxicology and Chemistry: \$5,000
 - International Copper Association: \$25,000
 - International Zinc Association: \$5,000
 - International Center for Interdisciplinary Science and Education: \$10,000
 - Vietnam National University HCM City: \$10,000
- Marianne Colvin (PI), Gunther Rosen (IP), Chuck Katz (co-PI), Chris Stransky (co-PI), Tham Hoang (co-PI). Derivation and Demonstration of an Environmentally Relevant Approach for Stormwater Toxicity Testing Compliance Monitoring (\$1,164,965, funded by the Strategic Environmental Research and Development Program, the U.S. Department of Defense, October 2016).
- Tham C. Hoang (PI). Organizing a training workshop on Copper Biotic Ligand Model for tropical environment. (\$6,313, funded by the International Copper Association, July, 2016).

2015: (\$75,995 funded)

- Tham C. Hoang (PI). Copper Biotic Ligand Model for Mekong River Watershed: final calibration and outreach (\$75,995, funded by the International Copper Association, September, 2015).
- Tham C. Hoang (PI) and Richard Pierce (co-PI). Toxicity of perfluorinated compounds to birds, amphibians, and reptiles in support of development of toxicity relevance values (\$1,781,349, submitted to the Strategic Environmental Research and Development Program, the U.S. Department of Defense (DoD), February, 2015, unsuccessful).
- Tham C. Hoang (PI) and Rodney M. Dale (co-PI). Characterization of potential development of granules and changing behaviors of the Florida apple snail (*Pomacea paludosa*) under copper stress (\$580,572, submitted to NSF, January, 2015, unsuccessful).

2014: (\$103,720 funded)

- Tham C. Hoang (PI). Model describing the antagonistic acute toxicity of bi-metal mixtures: case study with cadmium, nickel, zinc and *Daphnia magna* (\$130,877, submitted to the International Zinc Association and Nickel Producers Environmental Research Association, December 2014).
- Tham C. Hoang (PI). Influence of water quality on the toxicity of metal mixtures to *Daphnia magna*: case study for copper and zinc in support of development of a metal mixture BLM (\$116,298, submitted to the International Copper Association, December 2014).
- Tham C. Hoang (PI). Characterization of pesticide exposure to rice farmers in Vietnam before and after training in safer pesticide handling: a case study with chlorpyrifos in Can Tho Province (\$49,767, submitted to Environ Foundation, August 2014, unsuccessful).
- Tham C. Hoang (PI), Clifford J. Shultz, II (co-PI), Stephen J. Klaine (co-PI), Mark G. Robson (co-PI): Mekong Partnership for the Environment Project (MPE): Capacity building and connectivity to develop dialogue among multi-stakeholders (\$12,999,991 submitted to USAID, 2014, unsuccessful).
- Training Workshop on Copper Biotic Ligand Model for Mekong River Ecosystem: Application Outreach (\$33,263 funded by the International Copper Association, December 2014-January, 2015).
- Characterization of pesticide exposure routes to famers in Vietnam: case study with chlorpyrifos in Can Tho Province and implications for pesticide application guidelines ((\$49,767 submitted to Environ Foundation, unsuccessful).
- Tham C. Hoang (PI). Copper Bioavailability and Mekong Tropical Biotic Ligand Model: Phase III Calibration with Sensitive Snail and Development of Species Sensitivity Distribution (\$36,412 funded by the International Copper Association, October, 2014).
- Tham C. Hoang (PI). Chronic Toxicity of Lead to Topsmelt (*Atherinops affinis*) (\$34,045 funded by the International Lead Zinc Research Organization, July 2014).

2013: (\$63,001funded)

- Tham C. Hoang (PI). Copper Bioavailability and Mekong Tropical Biotic Ligand Model: Phase II Development with Sensitive Snail and Technology Transfer to Scientists from Cambodia and Laos (\$63,001 funded by the International Copper Association, October, 2013).
- Tham C. Hoang (PI). Characterization of pesticide exposure to rice farmers in Vietnam before and after training in safer pesticide handling: a case study with chlorpyrifos in Can Tho Province (\$49,971 submitted to Environ Foundation, unsuccessful)
- Tham C. Hoang (PI). Application of a Biotic Ligand Model developed for copper and tropical water to the Mekong Delta watershed (\$40,141 submitted to the International Copper Association, unsuccessful).

2012: (\$100,043 funded)

- Tham C. Hoang (co-PI). Stimulating Multidisciplinary Research: The effects of spatial and temporal variation of measured abiotic and biotic attributes on ecosystem health in the Chicago

Area Waterways System: Building the foundation for scientific inquiry (\$20,000 funded by Loyola University Chicago, June 2012).

- Tham C. Hoang (PI). Organizing the second international conference on environmental pollution restoration and management and Biotic Ligand Model workshop, March 4-8, 2013, Hanoi, Vietnam
 - Society of Toxicology: \$2,000
 - Society of Environmental Toxicology and Chemistry: \$5,000
 - Hanoi University of Science: \$2,500
 - CUERP, Loyola University Chicago: \$2,000
 - International Copper Association: \$5,000
 - International Zinc Association: \$7,500
 - International Nickel Association: \$10,000
 - Vietnam Environment Administration: \$2,000
- Tham C. Hoang (PI). International Workshop on The Biotic Ligand Model: Technical basis and application for environmental quality guidelines for metals (\$22,363 submitted to Environ Foundation, unsuccessful)
- Tham C. Hoang (PI). Application of a Biotic Ligand Model developed for copper and tropical water to the Mekong Delta watershed-Phase 2 (\$38,043 for 2012 – 2013, funded by the International Copper Association).
- Tham C. Hoang (PI). Preliminary study on selenium desorption and potential effects on aquatic organisms in the Everglades ecosystem (\$5,000 for summer 2012, funded by Loyola University Chicago).

2011: (\$44,250 funded)

- Tham C. Hoang (PI). Determination of zinc uptake in Florida apple snail and mosquito fish in an outdoor microcosm study (\$5,600, 2011, funded by International Zinc Association through Florida International University).
- Tham C. Hoang (PI). Determination of copper uptake in clam (*Mercenaria mercenaria*) and amphipods (*Ampelisca abdita*) (\$2,500, 2011, funded by NOAA through Florida International University).
- Tham C. Hoang (PI), Chi Lan Do Hong (co-PI). Application of a Biotic Ligand Model developed for copper and tropical water to the Mekong Delta watershed (\$29,150 for 2011 – 2012, funded by the International Copper Association).
- Tham C. Hoang (PI). Characterization of the influence of water quality on the toxicity of metal mixtures to fathead minnows (*Pimephales promelas*) (phase I: \$7,000 for 2011 - 2012, funded by the Japanese National Institute of Advanced Industrial Science and Technology).

2010: (\$422,500 funded)

- Gary M. Rand (PI) and Tham C. Hoang (co-PI). Outdoor Freshwater Aquatic Microcosm Study with Zinc (\$385,000 for 2010 - 2011, funded by the International Zinc Association).
- Tham C. Hoang (PI). Organizing the first International Conference on Environmental Pollution, Restoration, and Management (March 1-5, 2010, Ho Chi Minh City, Vietnam) (\$15,000 funded by the International Copper Association).
- Tham C. Hoang (PI). Organizing the first International Conference on Environmental Pollution, Restoration, and Management (March 1-5, 2010, Ho Chi Minh City, Vietnam) (\$20,000 funded by the Economy and Environment Program for Southeast Asia).
- Tham C. Hoang (PI). Organizing the first International Conference on Environmental Pollution, Restoration, and Management (March 1-5, 2010, Ho Chi Minh City, Vietnam) (\$2,500 funded by the University of Medicine and Dentistry of New Jersey School of Public Health and NIH Fogarty International Grant D43 TW007849, Rutgers).

Peer-reviewed Publications:

41. Thanh-Son Dao, Khuong V. Dinh, Ba-Trung Bui, Thanh-Son Nguyen, **Tham Hoang**, Cong-Thanh Dao, Van-Dong Nguyen, Truong-Giang Vo, Thi-My-Chi Vo. Metal contamination in the lower Mekong River of Vietnam and the bioaccumulations in edible mollusks
In preparation for submission to the Journal of Environmental Monitoring and Assessment,
40. **Tham C. Hoang**. Development of a Biotic Ligand Model for tropical environments and application for setting environmental quality guidelines
In preparation and will be submitted to the Journal of Environmental Science and Technology,
39. **Tham C. Hoang**, Dureshahwar Ali, Erik J. Reynolds. Influence of alkalinity on metal toxicity to aquatic organisms
In preparation and will be submitted to the Journal of Environmental Toxicology and Chemistry,
38. Adam Benson, Markian Pylypczak, **Tham C. Hoang**. Toxicity and uptake of metal mixtures: protective effect of nickel and zinc from cadmium toxicity to adult *Daphnia magna*
In preparation and will be submitted to the Journal of Environmental Toxicology and Chemistry,
37. **Tham C. Hoang**, Avais S. Ahmed, Nabil Saeed. Selenium accumulation from water to duckweed (*Lemna minor*) and Florida apple snail (*Pomacea paludosa*)
In preparation and will be submitted to the Journal of Environmental Toxicology and Chemistry

2018:

36. Ku Peijia, Tsui Martin, Nie Xiangping, Chen Huan, **Hoang Tham**, Blum Joel, Dahlgren Randy, Chow. Alex. 2018. Origin, reactivity, and bioavailability of mercury in wildfire ash.
Environmental Science and Technology, under review.
35. **Tham C. Hoang**, Marsha C. Black, Sandra L. Knuteson, Aaron P. Roberts. 2018. Environmental pollution, management, and sustainable development: Strategies for Vietnam and other developing countries. *Environmental management, in press.*
34. Erik Reynolds, Scott Smit, Jasim Chowdhury, **Tham C. Hoang**. 2018. Influence of salinity and organism age on chronic toxicity of lead to topsmeltfish (*Atherinops affinis*). *Journal of Environmental Toxicology and Chemistry, in press*
33. Edgar Perez, **Tham C. Hoang**. 2018. Chronic Toxicity of Binary-Metal Mixtures of Cadmium and Nickel to *Daphnia magna*. *Chemosphere, 208:99-1001.*
32. Patrick R. Canniff, **Tham C. Hoang**. 2018. Microplastic ingestion by *Daphnia magna* and its enhancement on algal growth. *Journal of Science of the Total Environment, 633:500-507.*

2017:

31. Edgar Perez, **Tham C. Hoang**. 2017. Chronic Toxicity of Binary-Metal Mixtures of Cadmium and Zinc to *Daphnia magna*. *Journal of Environmental Toxicology, 36:273-2749.* DOI: 10.1002/etc.3830.

2016:

30. Thanh-Khiet L. Bui, Do-Hong L. Chi, Thanh-Son Dao, **Tham C. Hoang**. 2016. Copper toxicity and the influence of water quality of Dongnai River and Mekong River waters on copper bioavailability and toxicity to three tropical species. *Chemosphere, 144:872-878.*

2015:

29. Dao Thanh Son, Le Vu Nam, Nguyen Thanh Son, Bui Ba Trung, Do-Hong Lan-Chi, **Tham C. Hoang**. 2015. Acute and chronic effects of nickel to tropical micro-crustacean, *Daphnia lumholtzi*. *Journal of Science and Technology, 53:271-276*
28. N Khounnavongsa, CB Iwai, **Tham C Hoang**. 2015. Ecotoxicology of copper on freshwater fish with different water hardness on the Mekong River, Lao PDR. *International Journal of Environmental and Rural Development 6 (2):128-132*
27. S Lyly, CB Iwai, **T. Hoang**. 2015. Ecotoxicology of copper on local freshwater organisms in Mekong River Cambodia. *International Journal of Environmental and Rural Development 6 (1): 22-27.*

26. Natalie Lynch, **Tham C. Hoang**, Timothy O'Brien. 2015. Acute toxicity of binary metal mixtures of copper, zinc, and nickel to *Pimephales promelas*: evidence of more than additive effect. *Environmental Toxicology and Chemistry*, 35:446-457.
25. **Tham C. Hoang** and Xin Tong. 2015. Influence of water quality on zinc toxicity to the Florida apple snail (*Pomacea paludosa*) and relative sensitivity of freshwater snails to zinc. *Journal of Environmental Toxicology and Chemistry*, 34:545-553.
24. **Tham C. Hoang**, Gary M. Rand. 2015. Acute toxicity and risk assessment of permethrin, naled, and dichlorvos to larval butterflies via ingestion of contaminated foliage. *Chemosphere*, 120:714-721.
23. **Tham C. Hoang**, Gary M. Rand. 2015. Mosquito Control Insecticides: a Probabilistic Ecological Risk Assessment on Drift Exposures of Naled, Dichlorvos (naled metabolite) and Permethrin to Adult Butterflies. *Science of the Total Environment* 502:252-265.

2014:

22. **Tham C. Hoang** and Gary M. Rand. 2014. Effects of St. Lucie River (FL) saltwater sediments on the amphipod (*Ampelisca abdita*) and the hard shell clam (*Mercenaria mercenaria*). *Archives of Environmental Contamination and Toxicology*, 67:224-233.

2011:

21. **Tham C. Hoang**, Gary M. Rand, Piero R. Gardinali, Joffre Castro. 2011. Bioconcentration and depuration of endosulfan sulfate in mosquito fish (*Gambusia affinis*), *Chemosphere*, 84 (5):538-543.

2010:

20. **Tham C. Hoang**, Rachel L. Pryor, Gary M. Rand, Robert A. Frakes. 2010. Bioaccumulation and toxicity of copper in outdoor freshwater microcosms, *Ecotoxicology and Environmental Safety*, 74(4):1011-1020.
19. **Tham C. Hoang**, Rachel L. Pryor, Gary M. Rand, Robert A. Frakes. 2010. Use of butterflies as non-target insect test species and the acute toxicity and hazard of mosquito control insecticides, *Environmental Toxicology and Chemistry*, 30 (4):997-1005.
18. Carriger JF, **Hoang TC**, Rand GM, Gardinali PR. 2010. Acute toxicity and effects analysis of endosulfan sulfate to freshwater fish species, *Archives of Environmental Contamination and Toxicology*, 60 (2):281-289.
17. Carriger JF, **Hoang TC**, Rand GM. 2010. Survival time analysis of least killifish (*Heterandria formosa*) and mosquitofish (*Gambusia affinis*) in acute exposures to endosulfan sulfate. *Archives of Environmental Contamination and Toxicology*, 58 (4):1015-1022.

2009:

16. **Tham C. Hoang** and Gary M. Rand. 2009. Exposure routes of copper: Short term effects on survival, growth, and uptake in Florida apple snails (*Pomacea paludosa*). *Chemosphere*, 76 (3):407-414.
15. **Tham C. Hoang**, Lance J. Schuler, Emily C. Rogevich, Pamela M. Bachman, Gary M. Rand. 2009. Copper release, speciation, and toxicity following multiple floodings of copper enriched agriculture soils: Implications in Everglades restoration, *Water, Air, and Soil Pollution*, 199:79-93.
14. **Tham C. Hoang**, Lance J. Schuler, Gary M. Rand. 2009. Effects of copper from flooded Florida agricultural soils on *Hyalella azteca*, *Archives of Environmental Contamination and Toxicology*, 56:459-467.
13. Emily C. Rogevich, **Tham C. Hoang**, Gary M. Rand. 2009. The effects of sub-lethal chronic copper exposure on the growth and reproductive fitness of the Florida apple snail (*Pomacea paludosa*), *Archives of Environmental Contamination and Toxicology*, 56:450-458.

2008:

12. **Tham C. Hoang**, Emily C. Rogevich, Gary M. Rand, Robert A. Frakes. 2008. Copper uptake and depuration by Florida apple snails (*Pomacea paludosa*): Bioconcentration and bioaccumulation factors. *Ecotoxicology*, 17:605-615.
11. Lance J. Schuler, **Tham C. Hoang**, Gary M. Rand. 2008. Copper: Aquatic risk assessment in south Florida freshwater and saltwater ecosystems. *Ecotoxicology*, 17:642-659.

10. **Tham C. Hoang**, Emily C. Rogevich, Gary M. Rand, Piero. R. Gardinali, Robert A. Frakes, Timothy A. Bargar. 2008. Copper desorption in flooded agricultural soils and toxicity to the Florida apple snail (*Pomacea paludosa*): Implications in Everglades restoration. *Environmental pollution*, 154:338-347.
9. Emily C. Rogevich, **Tham C. Hoang**, Gary M. Rand. 2008. The effects of water quality and age on the acute toxicity of copper to the Florida apple snail, *Pomacea paludosa*. *Archives of Environmental Contamination and Toxicology*, 54:690-696.
8. **Tham C. Hoang** and Stephen J. Klaine. 2008. Characterizing the toxicity of pulsed exposures of selenium to *Daphnia magna*. *Chemosphere*, 71:429-438.

2007:

7. **Tham C. Hoang**, Jeffrey S. Gallagher, Joseph R. Tomasso, Stephen J. Klaine. 2007. Toxicity of two pulsed metal exposures to *Daphnia magna*: Relative effects of pulsed duration- concentration and interpulse period. *Archives of Environmental Contamination and Toxicology*, 53:579-589.
6. **Tham C. Hoang** and Stephen J. Klaine. 2007. Influence of organism age on pulsed metals exposures to *Daphnia magna*. *Environmental Toxicology and Chemistry*, 26 (6):1198-1204.
5. **Tham C. Hoang**, Jeffrey S. Gallagher, Stephen J. Klaine. 2007. Response of *Daphnia magna* to pulsed exposures of arsenic. *Environmental Toxicology*, 22 (3):308-317.
4. **Tham C. Hoang**, Joseph R. Tomasso, Stephen J. Klaine. 2007. An integrated model describing the toxic responses of *Daphnia magna* to pulsed exposures of three metals. *Environmental Toxicology and Chemistry*, 26 (1):132-138.

2006:

3. Jonathan Butcher, Jerry Diamond, Jonathan Berr, Henry Latimer, Stephen Klaine, **Tham Hoang**, Marcus Bowersox. 2006. Toxicity model of pulsed copper exposure to *Pimephales promelas* and *Daphnia magna*. *Environmental Toxicology and Chemistry*, 25 (9):2541-2550.

2004:

2. **Tham C. Hoang**, Joseph R. Tomasso, Stephen J. Klaine. 2004. Influence of water quality and age on nickel toxicity to fathead minnows (*Pimephales promelas*). *Environmental Toxicology and Chemistry*, 23 (1):86-92.

2002:

1. P. D. Hien, V. T. Bac, **H. C. Tham**, D. D. Nhan and L. D. Vinh. 2002. Influence of meteorological conditions on PM_{2.5} and PM_{2.5-10} concentrations during the monsoon season in Hanoi, Vietnam. *Atmospheric Environment*, 36 (21):3473-3484.

Scientific and Technical Reports:

1. Flooded Copper (Cu)-Enriched Agricultural Soils: Environmental Fate of Cu and it's Toxicity, Bioavailability and Bioconcentration/Bioaccumulation in Florida Apple Snails (*Pomacea paludosa*) and other Aquatic Organisms. 2010 (submitted to U.S. Fish and Wildlife Services, Department of Interior).
2. The first International Conference on Environmental Pollution, Restoration and Management (SETAC A/P Joint Conference, Ho Chi Minh City, Vietnam, March 1-5, 2010, submitted to the Economy and Environment Program for Southeast Asia).
3. Effects of Zinc on Freshwater Microcosms. 2010 (submitted to International Zinc Association)
4. Chronic Toxicity of Lead to Topsmelt (*Atherinops affinis*). 2015 (submitted to International Lead Association)

Invited presentations/speaker:

- **Environmental toxicology-from fundamentals to applied science: case studies with heavy metals and insecticides**
Yokohama National University, Sep 5, 2015
- **Toxicity of binary-mixtures of copper, nickel, zinc, and cadmium to aquatic organisms: additive and none additive effects**
National Institute of Environmental Science of Japan, August 27, 2015

- **Ecotoxicology research in support of the Comprehensive Everglades Restoration Plan: case studies with Cu contaminated soils and mosquito control insecticides in the South Florida Ecosystem**
Toyama Prefectural University, August 28, 2015
- **Influence of water quality on copper toxicity to apple snails**
International workshop on metal toxicity in aquatic environment, Yunnan Normal University, Kunming, China, May 8, 2012
- **Toxicity of metal mixtures in the aquatic environment: additive and non additive**
Workshop on metal mixture toxicity, Brussels, Belgium, May 18-19, 2012
- **Introduction to environmental status and management in Vietnam and Asia**
Ecotoxicology Technical Advisory Panel of International Metals Research Association, Chicago, IL, USA, July 31, 2012
- **Copper desorption, bioavailability, bioaccumulation and toxicity to Florida apple snails (*Pomacea paludosa*)**
Departmental seminar, Chemistry Department, Loyola University Chicago: December 1, 2011.
- **Copper risk, desorption, bioavailability and toxicity to aquatic organisms: Implications for Everglades Restoration Plan,**
The Metropolitan Water Reclamation District of Greater Chicago: October 4, 2011
- **Copper contamination in South Florida Ecosystem: desorption, bioavailability, bioaccumulation and toxicity to Florida apple snails (*Pomacea paludosa*)**
Gulf Ecology Division Laboratory, US EPA, July 15, 2011
- **Copper-Aquatic Risk, Desorption from Flooded Soils and Toxicity to Florida Apple Snails (*Pomacea paludosa*)**
South Florida Water Management District, West Palm Beach, September 7, 2007
- **Copper Desorption in Flooded Agricultural Soils and Toxicity to the Florida Apple Snails (*Pomacea paludosa*)**
Clemson University, Clemson, April 27, 2007
- **Copper Desorption in Flooded Agricultural Soils and Toxicity to the Florida Apple Snails (*Pomacea paludosa*)**
The University of Georgia, Athens, April 26, 2007
- **Introduction to Environmental Toxicology: Copper Risk Assessment, desorption from Flooded Soils, and Toxicity to Florida apple snails (*Pomacea paludosa*)**
Hanoi University of Agriculture, Hanoi, February 5, 2007
- **Introduction to the Environment, Science, and Policy of Vietnam**
Georgia Tech University, Atlanta, June 5, 2006

Presentations at regional, national and international conferences (over 70 since 2001):

- **Response of *Daphnia magna* to chronic toxicity of binary-metal mixtures of copper, cadmium, and chromium**
SETAC North America 38th Annual Meeting, Minneapolis, November 12-16, 2017
- **Preliminary evaluation of improved toxicology testing methods for episodic discharge**
SETAC North America 38th Annual Meeting, Minneapolis, November 12-16, 2017
- **Chronic toxicity of binary-metal mixtures of copper, cadmium, and chromium to *Daphnia magna***
Annual Meeting of Midwest SETAC, Minneapolis, March 20-22, 2017
- **Copper Toxicity to Mekong and Lancang River organisms: development of a tropical Cu-BLM and application for setting Cu Water quality guidelines**
7th SETAC World Congress and SETAC North America 37th Annual Meeting, Orlando, Florida, November 6-10, 2016
- **Copper toxicity to tropical organisms: Are guideline approaches from temperate climates consistent with and protective for tropical species**
7th SETAC World Congress and SETAC North America 37th Annual Meeting, Orlando, Florida, November 6-10, 2016

- **Ingestion of microplastic associated with green algae by *Daphnia magna* and potential enhancement of PCBs bioaccumulation**
7th SETAC World Congress and SETAC North America 37th Annual Meeting, Orlando, Florida, November 6-10, 2016
- **Copper toxicity to Florida Apple snail (*Pomacea paludosa*) and development of a Biotic Ligand Model with *P. Paludosa***
7th SETAC World Congress and SETAC North America 37th Annual Meeting, Orlando, Florida, November 6-10, 2016
- **Copper bioavailability and toxicity to Mekong River organisms: implication for calibrating the US Cu-BLM to tropical environment**
SETAC AP Meeting, Singapore, September 16-19, 2016
- **Ecotoxicology of Copper on Tropical Freshwater Biota under Field Water of Mekong River in Thailand, Lao PDR and Cambodia**
SETAC AP Meeting, Singapore, September 16-19, 2016
- **Copper toxicity to tropical organisms: Are guideline approaches from temperate climates consistent with and protective for tropical species?**
SETAC AP Meeting, Singapore, September 16-19, 2016
- **Copper toxicity to Mekong River organisms and calibration of the US Cu-BLM to tropical environments and species sensitivity distribution development**
SETAC AP Meeting, Singapore, September 16-19, 2016
- **Bioaccumulation of Selenium through the food chain: water - *Lemna minor* – *Pomacea paludosa***
Annual Meeting of SETAC Europe, Nantes, France, May 22-26, 2016
- **Influence of microplastics on the uptake of endosulfan sulfate in earthworm (*Lumbricus terrestris*)**
Annual Meeting of Midwest SETAC, Madison, March 14-16, 2016
- **Ingestion of microplastics associated with green algae by *Daphnia magna*: evidence of no effect**
Annual Meeting of Midwest SETAC, Madison, March 14-16, 2016
- **Chronic Toxicity of Pb to *A. affinis*: influence of salinity and organism age**
Annual Meeting of Midwest SETAC, Madison, March 14-16, 2016
- **Chronic toxicity of binary-metal mixtures of cadmium and zinc and cadmium and nickel to *Daphnia magna*.**
Annual Meeting of Midwest SETAC, Madison, March 14-16, 2016
- **The toxicity of Pb to *A. affinis*: influence of salinity and organism age**
Annual Meeting of SETAC North America, Salt Lake City, November 1-5, 2015
- **Ingestion of microplastics associated with green algae by *Daphnia magna*: evidence of no effect**
Annual Meeting of SETAC North America, Salt Lake City, November 1-5, 2015
- **Chronic effect of cadmium and nickel mixtures to *Daphnia magna***
Annual Meeting of SETAC North America, Salt Lake City, November 1-5, 2015
- **Copper bioavailability and toxicity to the lower Mekong river organisms: implications for BLM and species sensitivity distribution**
Annual Meeting of SETAC North America, Vancouver, November 9-13, 2014
- **Influence of water quality on zinc toxicity to the Florida apple snail (*Pomacea paludosa*) and sensitivity of freshwater snails to zinc**
Annual Meeting of SETAC North America, Vancouver, November 9-13, 2014
- **Chronic Effects of Binary-metal Mixtures of Cadmium and Zinc to *Daphnia magna***
Annual Meeting of SETAC North America, Vancouver, November 9-13, 2014
- **Potential enhancement of microplastics on metal uptake in earthworm (*Lumbricus terrestris*)**
Annual Meeting of SETAC North America, Vancouver, November 9-13, 2014
- **Influence of dissolved organic carbon and alkalinity on copper toxicity to *Pomacea Paludosa*: implication for the Biotic Ligand Model**
SETAC AP Meeting, Adelaide, Australia, September 14-17, 2014

- **Influence of water quality on zinc toxicity to *Pomacea paludosa* and sensitivity of freshwater snails to zinc.**
22 Annual Meeting of the Midwest Regional Chapter of the Society of Environmental Toxicology and Chemistry, Loyola University Chicago, March 24-25, 2014
- **Influence of dissolved organic carbon and alkalinity on copper toxicity to *Pomacea paludosa***
22 Annual Meeting of the Midwest Regional Chapter of the Society of Environmental Toxicology and Chemistry, Loyola University Chicago, March 24-25, 2014
- **Toxicity of Copper, zinc, and cadmium mixtures to *Pimephales promelas* and *Daphnia magna*: additive and non additive mechanisms**
Annual Meeting of SETAC North America, Nashville, November 17-21, 2013
- **Protective effect of nickel and zinc from cadmium toxicity and uptake in *Daphnia magna***
Annual Meeting of SETAC North America, Nashville, November 17-21, 2013
- **Effects of metal mixtures to *Pimephales promelas* and *Daphnia magna*: additive and non additive mechanisms**
SETAC Midwest chapter annual meeting, La Cross, Wisconsin, March 14-15, 2013
- **Toxicity and uptake of metal mixtures: protective effect of nickel and zinc from cadmium toxicity to adult *Daphnia magna***
SETAC Midwest chapter annual meeting, La Cross, Wisconsin, March 14-15, 2013
- **Copper bioavailability, accumulation and toxicity to Florida apple snails**
SETAC Midwest chapter annual meeting, Minneapolis, Minnesota, March 14-15, 2012
- **Toxicity of copper, zinc and nickel mixtures to fathead minnows (*Pimephales promelas*): implications for Biotic Ligand Model for metal mixtures**
The SETAC 6th world congress meeting, Berlin, May 20-24, 2012
- **Copper toxicity to Mekong river fish and invertebrates: implications for development of a Biotic Ligand Model**
SETAC AP meeting, Kumamoto, Japan, September 24-27, 2012
- **Influence of water quality on zinc toxicity to Florida apple snails (*Pomacea paludosa*)**
Annual Meeting of SETAC North America, Boston, 2011
- **Effects of zinc on survival and zinc uptake in Florida apple snails (*Pomacea paludosa*)**
Annual Meeting of SETAC North America, Boston, 2011
- **Toxicity of mosquito control insecticides to Florida native caterpillars via ingestion**
Annual Meeting of SETAC North America, Boston, 2011
- **Short term and long term effects of copper contamination soils on Florida Apple Snails: comparison of Cu uptake between indoor and outdoor studies**
Annual Meeting of SETAC North America, Portland, 2010
- **Accumulation and depuration of endosulfan sulfate in *Gambusia affinis***
Annual Meeting of SETAC North America, Portland, 2010
- **Copper desorption and toxicity to aquatic organisms in south Florida**
1st International Conference on Environmental Pollution, Restoration and Management, March 1-5, 2010, Ho Chi Minh City, Vietnam
- **Desorption, bioavailability, bioaccumulation and toxicity of copper to aquatic organisms in south Florida**
2009 Indian River Lagoon Research Forum, University of Florida, 2009
- **Copper in saltwater ecosystems of south Florida: An ecological risk assessment**
2009 Indian River Lagoon Research Forum, University of Florida, 2009
- **Wing versus thorax exposures and risk assessment of mosquito control insecticides to Florida native butterflies**
Annual Meeting of SETAC North America, New Orleans, 2009
- **Effects of Copper in Flooded Florida Agricultural Soils on *Hyalella azteca***

- Annual Meeting of SETAC North America, New Orleans, 2009
- **Chronic Outdoor freshwater microcosm study: effects of Copper on the aquatic community**
Annual Meeting of SETAC North America, New Orleans, 2009
 - **Survival time analysis of mosquito fish (*Gambusia affinis*) and least killifish (*Heterandria formosa*) exposed to endosulfan sulfate**
Annual Meeting of SETAC North America, Tampa, 2008
 - **Acute Toxicity of Mosquito Control Insecticides to Native Florida Butterflies**
Annual Meeting of SETAC North America, Tampa, 2008
 - **The effects of sub-lethal chronic copper exposure on the growth and reproductive fitness of the Florida apple snail (*Pomacea paludosa*)**
Annual Meeting of SETAC North America, Tampa, 2008
 - **Inhibition of copper on whole body ion uptake in Florida apple snail (*Pomacea paludosa*): Implications for mechanism of toxicity and detoxification**
Annual Meeting of SETAC North America, Tampa, 2008
 - **Short-term effects of various copper exposure routes on survival, growth, and copper uptake by Florida apple snails (*Pomacea paludosa*)**
Annual Meeting of SETAC North America, Tampa, 2008
 - **Bioavailability of Copper in Flooded Agricultural Soils and Toxicity to the Florida Apple Snail (*Pomacea paludosa*)**
Greater Everglades Ecosystem Restoration (GEER) Conference, Naples, 2008
 - **Desorption and toxicity of copper following multiple flooding events from agriculture soils**
Annual Meeting of SETAC North America, Milwaukee, 2007
 - **Copper uptake and depuration by Florida apple snails (*Pomacea paludosa*): Bioconcentration and Bioaccumulation factors**
Annual Meeting of SETAC North America, Milwaukee, 2007
 - **Influence of water quality and age on the toxicity of copper to Florida apple snails**
Annual Meeting of SETAC North America, Milwaukee, 2007
 - **Characterizing the toxicity of pulsed exposures of selenium to *Daphnia magna***
Annual Meeting of SETAC North America, Milwaukee, 2007
 - **Simulating Effects of Transient Copper Exposure**
Annual Meeting of SETAC North America, Montreal, 2006
 - **Relationship between the toxicity of two pulse metal exposures in *Daphnia magna*: role of pulse duration and magnitude and interval between pulses**
Annual Meeting of SETAC North America, Montreal, 2006
 - **Desorption of copper from field collected soils to water and toxicity to Florida Apple Snails (*Pomacea paludosa*)**
Annual Meeting of SETAC North America, Montreal, 2006
 - **Influence of organism age on metal toxicity to *Daphnia magna***
Annual Meeting of SETAC North America, Montreal, 2006
 - **Responses of *Daphnia magna* to episodic exposures of zinc**
Annual Meeting of Carolina SETAC, North Carolina State University, Raleigh, 2005
 - **Responses of *Daphnia magna* to episodic exposures of selenium**
Annual Meeting of SETAC North America, Baltimore, 2005
 - **Responses of *Daphnia magna* to episodic exposures of arsenic**
Annual Meeting of SETAC North America, Baltimore, 2005
 - **Responses of *Daphnia magna* to episodic exposures of zinc**
Annual Meeting of SETAC North America, Baltimore, 2005
 - **Responses of *Daphnia magna* to episodic exposures of copper**
Hanoi Polytechnical University, April 16, 2004, Hanoi, Vietnam
 - **Responses of *Daphnia magna* to episodic exposures of copper**

First Vietnam-USA Workshop on Ecosystem Assessment, Management, and Restoration, March 16-19, 2004, Hanoi, Vietnam

- **Responses of *Daphnia magna* to episodic exposures of copper**
Annual Meeting of SETAC North America, Portland, 2004
- **Responses of *Daphnia magna* to episodic exposures of copper**
Annual Meeting of SETAC North America, Austin, 2003
- **Influence of water quality and age on nickel toxicity to fathead minnows (*Pimephales promelas*)**
Annual Meeting of Carolina SETAC, Charleston, 2003
- **Influence of water quality and age on nickel toxicity to fathead minnows (*Pimephales promelas*)**
Annual Meeting of SETAC North America, Salt Lake City, 2002
- **Influences of water quality on nickel toxicity to fathead minnows (*Pimephales promelas*)**
Annual Meeting of Carolina SETAC, North Carolina State University, Raleigh, 2002

Special Training/Certification:

- GIS, Carolina SETAC Short Course, North Carolina, 2005
- Toxicity Identification/Reduction Evaluation Overview, SETAC Short Course, SETAC 25th Annual Meeting Portland, Oregon, November 14-18, 2004
- Environmental Fate & Exposure Assessment Course: Use of the USEPA EPIWIN Estimation Software, SETAC Short Course, SETAC 24th Annual Meeting, Austin, Texas, November 16-20, 2003
- Total Maximum Daily Loads: SETAC Short Course, SETAC 23rd Annual Meeting, Salt Lake City, November 16-20, 2002
- Biotic Ligand Model. SETAC Short Course, SETAC 22nd Annual Meeting. Baltimore, Maryland, November 11-15, 2001

Computer and Equipment Proficiency:

- Familiar with Microsoft Word, PowerPoint, Excel, and MATLAB
- Experience in experimental statistical methods and data analysis using SAS, SPSS, and @ Risk
- Familiar with toxicology software/models (e.g., Probit model, Spearman-Karber model, BLM model, etc.). Good mathematical background and skills with modeling data
- Strong background in environmental chemistry and experience in measuring water chemistry parameters (e.g., pH, alkalinity, hardness, DO, TOC, ammonia conductivity, heavy metals using AA and ICPMS, major anions using IC, chlorophyll a, etc.)
- Experience in characterizing chemical speciation in the aquatic environment using chemical models (e.g., Minteq model, WHAM, EXAM, Agdrift model, etc.)

References:

Dr. Gary M. Rand
Professor
Southeast Environmental Research Center
Department of Environmental Studies
Florida International University
North Miami, FL 33181
Phone: (305) 919-5869, Email: randg@fiu.edu

Mark Gregory Robson, PhD, MPH, DrPH
Board of Governors Distinguished Service Professor
Professor of Plant Biology and Pathology
Editor in Chief – Human and Ecological Risk Assessment
Rutgers University - School of Environmental and Biological Sciences
59 Dudley Road - Foran Hall
New Brunswick, New Jersey USA 08901
P: 848-932-6276, Email: robson@aesop.rutgers.edu

Dr. Marsha C. Black
Associate Professor
Department of Environmental Health Science
College of Environmental Health
University of Georgia
Athens, GA 30602-2102
Phone: (706) 542-0998, Email: mblack@uga.edu

Dr. Joseph R. Tomasso
Professor
Department of Biology
Texas State University
San Marcos, TX 78666
Phone: (512) 245-6274, Email: jt33@txstate.edu