

## CURRICULUM VITAE

Hyun-Min Hwang

Department of Environmental and Interdisciplinary Sciences  
Texas Southern University  
3100 Cleburne Street, Houston, TX 77004  
Phone: 713-313-1028 Fax: 717-313-4217  
Email: hwangh@tsu.edu

### EDUCATION

- Ph.D. Environmental Chemistry/Oceanography (1996–2001), Texas A&M University, College Station, TX (Dissertation: Lysosomal responses to environmental contaminants in bivalves)
- M.S. Environmental Chemistry/Earth and Marine Sciences (1993–1995), Hanyang University, Korea (Thesis: Distribution and environmental fate of organotins in mussels, oysters, and sediments from Chinhae Bay, Korea)
- B.S. Earth and Marine Sciences (1987–1993), Hanyang University, Korea (Graduation Research Project: Nutrients in river water before and after precipitation)

### ACADEMIC APPOINTMENTS

- Assistant Professor (2011–Present), Department of Environmental and Interdisciplinary Sciences, Texas Southern University, Houston, TX
- Assistant Project Scientist (2008–2011), Department of Civil & Environmental Engineering, University of California, Davis, CA
- Staff Research Associate, Supervisor (2007–2008), Department of Civil & Environmental Engineering, University of California, Davis, CA
- Adjunct Teaching Professor (2006–2007), Department of Environmental Studies, California State University, Sacramento, CA
- Postdoctoral Research Scientist (2002–2008), Department of Civil & Environmental Engineering, University of California, Davis, CA
- Postdoctoral Research Scientist (2001–2002), Department of Chemistry, George Mason University, Fairfax, VA
- Graduate Research Assistant (1996–2001), Department of Oceanography, Geochemical & Environmental Research Group, Texas A&M University, College Station, TX
- Graduate Teaching Assistant (1993–1995), Department of Earth and Marine Sciences, Hanyang University, Korea

### PROFESSIONAL SERVICES

- Review Panelist (2015), EPA STAR Fellowship Program, Washington, DC.
- Advisory Committee (2014), International Conference on Environmental Science and Technology, Houston, TX.
- Advisory Panelist (2013–2014), Texas Health in All Policy Program, Texas Health Institute, Austin, TX.
- Editorial board member (2008–2010), J. of Environmental Science & Health, Part A.

## **PROFESSIONAL SOCIETY**

- American Chemical Society (ACS)
- Society of Environmental Toxicology and Chemistry (SETAC)

## **RESEARCH INTERESTS**

- Sediment and water quality assessment
- Sustainable agriculture and adaptation to climate change
- Stormwater runoff best management practices (BMPs)
- Human health and ecological risk assessment
- Fate, transport dynamics, remediation, interface exchange, and environmental degradation of pollutants
- Source identification and apportionment of pollutants and particulate matter in sediment, water and air
- Toxicokinetics and bioavailability of organic pollutants and trace metal
- Indoor exposure to emerging and legacy organic contaminants and trace metals

## **UNIVERSITY SERVICES**

- Vice-Chair (2013–Present), Research Committee, College of Science and Technology
- Advisor (2013–Present), Environmental Student Club
- Member (2012–Present), Research Committee, College of Science and Technology
- Member (2012–Present), Curriculum Committee, College of Science and Technology
- Chair (2012–Present), Curriculum Committee, Environmental Toxicology Graduate Program
- Member (2012–Present), Admission Committee, Environmental Toxicology Graduate Program

## **COURSES TAUGHT**

- Environmental Chemistry (Texas Southern University)
- Environmental Toxicology I (Texas Southern University)
- Environmental Toxicology II (Texas Southern University)
- Environmental Policy and Management (Texas Southern University)
- Aquatic Resources and Pollution (Texas Southern University)
- Groundwater Pollution (Texas Southern University)
- Environmental Toxicology (California State University, Sacramento)
- Environmental Science (California State University, Sacramento)

## **RESEARCH GRANTS**

- EPA P3 (People, Prosperity, and Planet) Phase I: (PI, \$15,000 from EPA; 2015-2016)
- Research Infrastructure for Science and Engineering: Characterization of Bimolecular Responses to Environmental Stress (Co-PI, \$1,000,000 from NSF; 2014-2017)
- Evaluation of alternative abrasives and road sweeping/vacuuming as source control BMPs for load reduction of fine sediment particles and particle associated phosphorus in urban roadway stormwater (PI, \$277,060 from US Department of Agriculture Forest Service; 2012–2015)

- Assessment of the impacts of biosolid application on groundwater and soil quality and bioaccumulation of constituents of concern in pasture grass (Co-PI, \$85,000 from Solano County, CA; 2010–2011)
- Endocrine disrupting chemicals in indoor dust (Subcontract, \$310,000 from NIH; 2009–2011)
- Environmental decay of glyphosate in broom-infested Mt. Tamalpais soils and its transport through stormwater runoff and soil column infiltration (PI, \$49,997 from Marin Municipal Water District, CA; 2009–2010)
- Source identification of fine sediments, N, and P in highway stormwater runoff in the Lake Tahoe Basin (Co-PI, \$553,000 California Department of Transportation; 2008–2011)
- Organic contaminants in steelhead from the Columbia River (Subcontract, \$55,000 from U.S. Army Corps of Engineers; 2008–2009)
- Assessment of the contribution of contemporary carbon sources to size-resolved and time-resolved atmospheric particulate matter in Sacramento, California (PI, \$100,000 from California Air Resources Board; 2007–2008)
- Removal of dissolved trace metals in stormwater runoff using low-cost adsorbents (Co-PI, \$120,000 from California Department of Transportation; 2005–2006)
- Source identification for particulate matter and polycyclic aromatic hydrocarbons in stormwater runoff using radiocarbon (Subcontract, \$50,000 from California Department of Transportation; 2005–2007)
- Identification of wastewater input to Clear Lake, California, by measuring caffeine (Subcontract, \$5,000 Clear Lake County; 2005–2006)
- Organic contaminants in tidal salt marsh in California and sediment quality assessment using multiple lines of evidence (Subcontract, \$55,000 from Pacific Estuary Ecosystem Indicator Research Consortium Director; 2003–2005)

## JOURNAL PUBLICATIONS

Total number of citation: 860

H-index: 14

i10-index: 15

1. Hwang H-M, MJ Fiala, D Park, TL Wade. (2016) Review of pollutants in urban road dust: Heavy metals released from vehicles. *International Journal of Urban Science* (DOI: 10.1080/12265934.2016.1193041)
2. Hwang H-M, BL Buchholz, TM Young, JA Pederson. (2016) Assessment of the contribution of modern carbon sources to size-resolved atmospheric particulate matter and time-resolved bulk PM<sub>10</sub> using measurement of radiocarbons and molecular markers. *Atmospheric Environment* (Submitted).
3. Fiala MJ, H-M Hwang (2016) Trace metals in indoor dust and health risk to children. *Science of the Total Environment* (Submitted)
4. Philippat C, D Bennett, P Krakowiak, M Rose, H-M Hwang, I Hertz-Picciotto (2015) Phthalate concentrations in house dust in relation to autism spectrum disorders and developmental delay in the

Childhood Autism Risk from Genes and Environment (CHARGE) Study. *Environmental Health* 14:56.

5. Hong Y, D Wetzel, EL Pulster, P Hull, D Reible, H-M Hwang, P Ji, E Rifkin, E Bouwer. (2015) Significant spatial variability of bioavailable PAHs in water column and sediment porewater in the Gulf of Mexico one year after the Deepwater Horizon Oil Spill. *Environmental Monitoring and Assessment* 187: 646.
6. Hwang H-M, B Stanton, T McBride, MJ Anderson. (2014) PAH body residues and lysosomal membrane destabilization in mussels impacted by *Dubai Star* bunker fuel spill in San Francisco Bay. *Environmental Toxicology and Chemistry* 33:1117-1121.
7. Hwang H-M, RS Carr, GN Cherr, PG Green, ED Grosholtz, L Judah, SG Morgan, S Ogle, VK Rashbrook, WL Rose, SJ Teh, C Vine, SL Anderson. (2013) Sediment quality assessment in tidal salt marshes in northern California: an evaluation of multiple lines of evidence approach. *Science of the Total Environment* 454-455:189-198.
8. Buchholz BA, P Zermeno, H-M Hwang, TM Young. (2010) Measuring radiocarbon in sub-micron size fractionated particulate matter on aluminum impact disks. *Radiocarbon* 52:278-285.
9. Kayhanian M, A Vichare, PG Green, C Alaimo, H-M Hwang, J Signore, M Troxler, D Jones, J Harvey. (2010) Water quality evaluation of leachate produced from pavement specimens under controlled laboratory conditions. *Road Materials and Pavement Design* 11:9-28.
10. Hwang H-M, PG Green, RW Holmes. (2009) Anthropogenic impacts on the quality of streambed sediments in the lower Sacramento River watershed, California (USA). *Journal of Environmental Science and Health Part A* 44:1-11.
11. Hwang H-M, PG Green, TM Young. (2009) Historical trends of trace metals in a sediment core from a contaminated tidal salt marsh in San Francisco Bay. *Environmental Geochemistry and Health* 31, 421-430.
12. Hwang H-M, EK Park, TM Young, BD Hammock. (2009) Response to "Occurrence of five classes of chemicals in indoor dust: an evaluation of the human health risk". *Science of the Total Environment* 407, 5197-5198.
13. McGourty CR, JA Hobbs, WA Bennett, PG Green, H-M Hwang, L Lewis, N Ikemiyagi. (2009) Likely population-level effects of contaminants on a resident estuarine fish species: Comparing *Gillichthys mirabilis* population static measurements and vital rates in San Francisco and Tomales Bays. *Estuaries and Coasts* 32, 1111-1120.
14. Hwang H-M, GD Foster (2008) Polychlorinated biphenyls in urban stormwater runoff entering into the tidal Anacostia River, Washington, DC, through small urban catchments and combined sewer outfalls. *Journal of Environmental Science and Health Part A* 43:567-575.
15. Hwang H-M, PG Green, TM Young (2008). Tidal salt marsh sediment in California, USA. Part 3: Current and historic toxicity potential of contaminants and their bioaccumulation. *Chemosphere*, 71, 2139-2149.
16. Hwang H-M, TL Wade. (2008) Aerial distribution, temperature-dependant seasonal variation, and sources of polycyclic aromatic hydrocarbons (PAHs) in pine needles from the Houston metropolitan area, Texas, USA. *Journal of Environmental Science and Health Part A* 43, 1243-1251.

17. Hwang H-M, EK Park, TM Young, BD Hammock. (2008) Occurrence of endocrine disrupting chemicals in indoor dust. *Science of the Total Environment* 404, 26-35.
18. Hwang H-M, TL Wade, JL Sericano. (2008) Residue-response relationship of lysosomal destabilization and PAHs and their toxicokinetics in eastern oysters (*Crassostrea virginica*). *Journal of Environmental Science and Health Part A* 43, 1373-1380.
19. Han JH, H-M Hwang, SC Min, JM Krochta (2008) Antioxidative edible coating of peanuts with whey protein isolated containing  $\alpha$ -tocopherol and ascorbyl palmitate. *Journal of Food Science* 73, E349-E355.
20. Hwang H-M, GD Foster (2006) Characterization of polycyclic aromatic hydrocarbons in urban stormwater runoff flowing into the tidal Anacostia River, Washington, DC, USA. *Environmental Pollution* 140:416-426.
21. Hwang H-M, PG Green, TM Young (2006) Tidal salt marsh sediment in California, USA. Part 1: Occurrence and sources of organic contaminants. *Chemosphere* 64:1383-1392.
22. Hwang H-M, PG Green, RM Higashi, TM Young (2006) Tidal salt marsh sediment in California, USA. Part 2: Occurrence and anthropogenic input of trace metals. *Chemosphere* 64:1899-1909.
23. Cordova AL, Y Cao, PG Green, H-M Hwang, MG LaMontagne, LV De Werfhorst, PA Holden, KM Scow (2006) Diversity, composition and geographical distribution of estuarine sediment microbial communities along the California coastline. *Applied and Environmental Microbiology* 72:3357-3366.
24. Hwang H-M, TL Wade, JL Sericano. (2004) Destabilized lysosomes and elimination of PAHs and PCBs in eastern oysters (*Crassostrea virginica*). *Environmental Toxicology and Chemistry* 23: 1991-1995.
25. Hwang H-M, TL Wade, JL Sericano. (2003) Concentrations and source characterization of polycyclic aromatic hydrocarbons (PAHs) in pine needles from Korea, Mexico, and US. *Atmospheric Environment*. 37:2259-2267.
26. Hwang H-M, TL Wade, JL Sericano. (2002) Relationship between lysosomal membrane destabilization and chemical body burden in eastern oysters (*Crassostrea virginica*) from Galveston Bay, Texas. *Environmental Toxicology and Chemistry* 21:1268-1271.
27. Hwang H-M, JR Oh, S-H Kahng, KW Lee. (1999) Tributyltin compounds in mussels, oysters, and sediments from Chinhae Bay, Korea. *Marine Environmental Research* 47:61-70.

## **BOOK CHAPTER**

1. Hwang H-M, PG Green, TM Young. (2012) Chapter 4. Pollutants: Persistent organic contaminants and trace metals. In *Tidal Salt Marshes of the San Francisco Estuary: ecology, conservation and restoration*, Ed by Arnas Palaima, University of California Press.

## CONFERENCE PRESENTATIONS

1. Haynes B, A White, H-M Hwang. (2015) Fast screening of atmospheric particulate matter (PM) concentrations. *Society of Environmental Toxicology and Chemistry 36th Annual Meeting*. Salt Lake City, UT, November 1-5.
2. Fiala MJ, Hwang H-M (2015) Identification of sources of trace metals in Houston road dust. *Society of Environmental Toxicology and Chemistry 36th Annual Meeting*. Salt Lake City, UT, November 1-5.
3. Hwang H-M (2015) State of the Water. *Creation Care Fest/Environmental Extravaganza-State of the World*. Houston, TX, September 27.
4. Hoy D, L Lay, J Saynoh, N Tan, H-M Hwang (2015) Atmospheric particulate matter pollution and platinum in soil, road dust, and plants in Houston, Texas. *Emerging Researchers National (ERN) Conference in STEM*. Washington, DC, February 19-21.
5. S. Bhandari, H-M Hwang (2014) Atmospheric carcinogenic polycyclic aromatic hydrocarbons in Houston, TX, USA: Pine needles as passive samplers. *11th International Symposium on Recent Advances in Environmental Health Research*. Jackson, MS, September 14-18.
6. S Bhandari, H-M Hwang (2013) Carcinogenic PAHs in pine needles and cigarette smoke. *Society of Environmental Toxicology and Chemistry 34th Annual Meeting*. Nashville, TN, November 17-21.
7. Hwang H-M, HS Kim. (2011) Air-Solid and Solid-Solid partitioning of phthalates in the indoor environment. *Society of Environmental Toxicology and Chemistry 32nd Annual Meeting*.
8. Hwang H-M, S-G Lee (2011) Source apportionment of fine sediment particles in highway stormwater runoff in the Lake Tahoe Basin. *Society of Environmental Toxicology and Chemistry 32nd Annual Meeting*.
9. Hwang H-M, B Stanton, T McBride, MJ Anderson (2011) PAH body residues and lysosomal membrane destabilization in mussels impacted by T/V Dubai Star oil spill. *Society of Environmental Toxicology and Chemistry 32nd Annual Meeting*.
10. Hwang H-M, S-G Lee (2011) Environmental fate of glyphosate in broom-infested Mt. Tamalpais soil. *Society of Environmental Toxicology and Chemistry 32nd Annual Meeting*.
11. Hwang H-M, HS-Kim (2011) Desorption and bioavailability of organic contaminants in biosolids. *Society of Environmental Toxicology and Chemistry 32nd Annual Meeting*.
12. Hwang H-M, HS-Kim, PG Green, TM Young (2011) Trace metals in biosolids and biosolid amended soils in dairy farm land. *Society of Environmental Toxicology and Chemistry 32nd Annual Meeting*.
13. Hwang H-M, HS-Kim (2011) Biochar amendment for reduction of bioavailability of toxic chemicals in biosolids. *Society of Environmental Toxicology and Chemistry 32nd Annual Meeting*.
14. Hwang H-M, B Buchholz, TM Young, I Pederson (2010) Source apportionment of size-fractionated PM<sub>1.8</sub> and time-resolved PM<sub>10</sub> using radiocarbon and molecular markers. *Society of Environmental Toxicology and Chemistry 31<sup>st</sup> Annual Meeting*.
15. Hwang H-M, RS Carr, ET Grosholtz, R Wendy, SM Morgan, S The, C Vine, GN Cherr, PG Green, SA Anderson, I Judah, S Ogle. (2010) Sediment quality assessment in tidal salt marshes in northern California: an evaluation of multiple lines of evidence approach. *Society of Environmental Toxicology and Chemistry 31<sup>st</sup> Annual Meeting*.

16. Hwang H-M, H Baek, JA Hobbs, D Thompson, PG Green, FJ Loge, N Hostetter, D Roby (2010). Decrease of PCBs in hatchery-reared juvenile steelhead trout (*Oncorhynchus mykiss*) after release into the Snake River, Oregon. *Society of Environmental Toxicology and Chemistry 31<sup>st</sup> Annual Meeting*.
17. K ahn, SJ Gee, A Blum, H-M Hwang, BD Hammock. (2010) Immunoassay for flame retardant PBDEs residues in the indoor environment. *Society of Environmental Toxicology and Chemistry 31<sup>st</sup> Annual Meeting*.
18. Hwang H-M, S Lee. (2010) Fast analysis of phthalates and organophosphorus compounds in indoor floor dust with less laboratory contamination. *Society of Environmental Toxicology and Chemistry 31<sup>st</sup> Annual Meeting*.
19. Hwang H-M, S Lee, J Lim, S Jeon, P Mikuska, A Kumar (2010) Phthalates and organophosphorus compounds in indoor dust. *Society of Environmental Toxicology and Chemistry 31<sup>st</sup> Annual Meeting*.
20. Hwang H-M, B Buchholz, TM Young (2008) Assessment of the contribution of contemporary carbon sources to size-resolved and time-resolved atmospheric particulate matter in Sacramento, California using measurement of radiocarbon and molecular markers. *Society of Environmental Toxicology and Chemistry 29<sup>th</sup> Annual Meeting*
21. Hwang H-M, PG Green, ED Gonzalez, SG Morgan, S Carr, GN Cherr, SA Anderson (2006) Sediment quality assessment by integrating multiple lines of evidence. *Society of Environmental Toxicology and Chemistry 27<sup>th</sup> Annual Meeting*.
22. Hwang H-M, E-K Park, TM Young, BD Hammock (2006) Persistent and endocrine disrupting chemicals in indoor dust in Davis, California *American Chemical Society 232<sup>nd</sup> Annual Meeting*.
23. Hwang H-M, PG Green, TM Young (2005) Assessment of sediment quality using a triad approach. *Society of Environmental Toxicology and Chemistry 26<sup>th</sup> Annual Meeting*.
24. Hwang H-M, PG Green, TM Young (2005) Monitoring of priority toxic pollutants in highway stormwater runoff. *Society of Environmental Toxicology and Chemistry 26<sup>th</sup> Annual Meeting*.
25. Hwang H-M, PG Green, TM Young (2005) Historical trends of organic contaminants and trace metals in Stege Marsh, San Francisco Bay *American Chemical Society 230<sup>th</sup> Annual Meeting*.
26. Hwang H-M, TM Young (2004) Organic contaminants in highway stormwater runoff. *Society of Environmental Toxicology and Chemistry 25<sup>th</sup> Annual Meeting*.
27. Hwang H-M, TM Young (2004) Volatile organic carbons in highway stormwater runoff. *Society of Environmental Toxicology and Chemistry 25<sup>th</sup> Annual Meeting*.
28. Hwang H-M, TY Young (2004) Organic contaminants in sediments from Stege Marsh, San Francisco Bay, CA 3<sup>rd</sup> biennial CALFED Bay-Delta Program.
29. Hwang H-M, PG Green, RM Holmes, TY Young (2003) Anthropogenic impacts on water-way sediments in the Sacramento Valley, CA. *Society of Environmental Toxicology and Chemistry 24<sup>th</sup> Annual Meeting*.
30. Hwang H-M, TM Young, GD Foster (2003) Toxic loadings and sources of PAHs in stormwater runoff and precipitation. *Society of Environmental Toxicology and Chemistry 24<sup>th</sup> Annual Meeting*.
31. Hwang H-M, TL Wade, JL Sericano (2003) Lysosomal destabilization as a screening tool in large-scale biomonitoring. *Society of Environmental Toxicology and Chemistry 24<sup>th</sup> Annual Meeting*.

32. Hwang H-M, Peter G. Green, XiaoQiao Lu, Thomas M. Young (2003) Organics and metals in highway stormwater runoff: Time series study. *6<sup>th</sup> Biennial State of the Estuary Conference, San Francisco Estuary Program.*
33. Hwang H-M, TM Young, GD Foster (2003) Polycyclic aromatic hydrocarbons in urban and highway runoff and precipitation. *American Chemical Society 226<sup>th</sup> National meeting.*
34. Hwang H-M, GD Foster (2002) Toxic loadings to the tidal Anacostia River through stormwater runoff. *Society of Environmental Toxicology and Chemistry 23<sup>rd</sup> Annual Meeting.*
35. Hwang H-M, TL Wade, JL Sericano (2002) Aerial distribution, temporal trends, and sources of polycyclic aromatic hydrocarbons in pine needles from Houston, TX. *Society of Environmental Toxicology and Chemistry 23<sup>rd</sup> Annual Meeting.*
36. Hwang H-M, TL Wade, JL Sericano. (2002) Residue-response relationship between lysosomal destabilization and PAHs and toxicokinetics of PAHs in eastern oysters. *Society of Environmental Toxicology and Chemistry 23<sup>rd</sup> Annual Meeting.*
37. GD Foster, P Mceachern, H-M Hwang (2002) Parallel column GC-ECD configuration for the determination of polychlorinated biphenyls in river sediments. *American Chemical Society 35<sup>th</sup> Middle Atlantic Regional Meeting.*
38. Hwang H-M, TL Wade, JL Sericano (2001) Assessment of potential sediment toxicity in US coast. *Society of Environmental Toxicology and Chemistry 22<sup>nd</sup> Annual Meeting.*
39. Hwang H-M, TL Wade, JL Sericano (2001) Recovery of lysosomal damage in eastern oysters (*Crassostrea virginica*) and elimination kinetics of PAHs and PCBs. *Society of Environmental Toxicology and Chemistry 22<sup>nd</sup> Annual Meeting.*
40. Hwang H-M, TL Wade, JL Sericano (2000) Concentrations and source characterization of polycyclic aromatic hydrocarbons in pine needles from Korea, Mexico, and United States. *Society of Environmental Toxicology and Chemistry 21<sup>st</sup> Annual Meeting.*