

Dr. Bowen Du

Scientist

Chemistry Department

Southern California Coastal Water Research Project

Education

Ph.D., ecological, earth and environmental sciences, Baylor University, Waco, TX, 2014

M.S., environmental science, Baylor University, Waco, TX, 2009

B.S., environmental science, Northeast Forestry University, Harbin, China, 2004

Professional Experience

Scientist, Southern California Coastal Water Research Project Authority. Costa Mesa, CA. 2017-present

Postdoctoral Research Scientist, Center for Urban Waters, University of Washington. Tacoma. 2014-2017

Research Assistant, The Institute of Ecological, Earth, Environmental Sciences, Baylor University. 2009-2014

Research and Teaching Assistant, Department of Environmental Science, Baylor University. 2006-2009

Professional Appointments

Reviewer, Analytical Chemistry

Reviewer, Applied Water Science

Reviewer, Chemosphere

Reviewer, Comparative Biochemistry and Physiology

Reviewer, Desalination and Water Treatment

Reviewer, Environmental Management

Reviewer, Environmental Pollution

Reviewer, Environmental Science: Processes & Impacts

Reviewer, Environmental Science and Technology

Reviewer, Environmental Toxicology and Chemistry

Reviewer, Integrated Environmental Assessment and Management

Reviewer, Journal of Civil and Environmental Engineering

Reviewer, Journal of Environmental Quality

Reviewer, Journal of Environmental Health

Reviewer, Journal of Hazardous Materials

Reviewer, Science of the Total Environment

Reviewer, Water and Environment Journal

Reviewer, Water Research

Honors and Awards

Certificate of Merit for Outstanding Oral Presentation at ACS 245th National Meeting, 2013

Graduate Student Award in Environmental Chemistry, American Chemical Society, 2013

Graduate Student Travel Award, SETAC North America 33rd Annual Meeting, 2012

AWRA Summer Specialty Meeting Outstanding Student Platform Presentation, 2012

SETAC North America (Boston) Best Ph.D. Student Poster Presentation, 3rd place, 2011

Baylor University Spotlight Graduate Student, 2009

The Glasscock Restricted Scholarship Fund, Baylor University, 2007/2008

Selected Presentations and Conference Proceedings

Du B, Tian Z, Peter K, Steele J, Griffith J, Kolodziej E, Wong C. Application of Non-target Analysis to Identify Types of Beach Contamination in Southern California. SETAC NA Annual Meeting, SciCon2, online, November 2020.

Du B, Darjany L, Lao W, Wenger E, Diehl D, Zhu J, Maruya K. Detection of Microcystins in Water Samples from Los Angeles Area Waterbodies. SoCal SETAC Annual Meeting, La Jolla, CA, USA, May 2019

Du B, Peter KT, Steele J, Griffith J, Kolodziej E, Maruya K. Non-Target HRMS for Tracking Sources of Human Contamination to Stormwater Conveyances. SETAC NA 39th Annual Meeting, Sacramento, CA, USA, November 2018.

Du, B. Towards Sustainable Urban Water Quality: Environmental Health Challenges and Opportunities with Contaminants of Emerging Concern. University of California Riverside. October 11, 2017. Riverside, CA (Invited)

Du B, Lofton JM, Baker JE, Kolodziej EP. Suspect and Non-Target Screening of Organic Contaminants in Urban Aquatic Environments. SETAC NA 37th Annual Meeting. Orlando, Florida. November 2016.

Du B, James CA, Gipe AD, Baker JE, Kolodziej EP. Investigation of ecological hazard of storm water runoff using quadrupole time-of-flight liquid chromatography tandem mass spectrometry. SETAC NA 36th Annual Meeting. Salt Lake City, Utah. November 2015.

Du B, Haddad SP, Scott WC, Burket SR, Breed CS, Broach L, Kelly M, Brooks BW, Chambliss CK. Differential trophic position accumulation of select contaminants of emerging concern in an urban bayou, Houston, Texas, USA. SETAC NA 35th Annual Meeting. Vancouver, BC, Canada. November 2014.

Du B, Haddad SP, Scott WC, Breed CS, Broach L, Kelly M, Chambliss CK, Brooks, BW Differential Bioaccumulation of Select Contaminants of Emerging Concern in an Urban Bayou. Houston, Texas. Joint Aquatic Sciences Meeting, Portland, OR. May 2014.

Du B, Haddad SP, Connors KA, Scott WC, Kristofco LA, Breed C, Broach L, Kelly M, Byars B, Chambliss CK, Brooks, BW Evaluation of bioaccumulation and therapeutic hazard of contaminants of emerging concerns in fish collected in Texas estuaries SETAC NA 34th Annual Meeting. Nashville, TN. November 2013.

Du B, Price AE, Scott WC, Kristofco LA, Brooks, BW et al. Comparative Analysis of Contaminant of Emerging Concern Discharges from Common On-site Wastewater Treatment Systems 2013 NGWA Summit - The National and International Conference on Groundwater. San Antonio, TX. April 2013.

Du B, Connors KA, Scott WC, Kristofco LA, Breed C, Byars B, Chambliss CK, Brooks, BW Evaluation of temporal influence on bioaccumulation of contaminants of emerging concern in aquatic organisms in estuaries along Gulf of Mexico ACS 242nd National Meeting and Exposition. New Orleans, LA. April 2013.

Du B, Connors KA, Scott WC, Kristofco LA, Breed C, Byars B, Chambliss CK, Brooks, BW Bioaccumulation of Pharmaceuticals and Other Contaminants of Emerging Concern in Aquatic Organisms in Estuary Area along Gulf of Mexico ALSO 2013 Aquatic Sciences Meeting. New Orleans, LA. February 2013.

Du B, Brooks BW, Berninger JP, Connors KA, Chambliss CK, Erickson RJ, Nichols JW Development of An Initial Predictive Understanding of Bioconcentration of the Weakly Basic Pharmaceutical Diphenhydramine in Fish SETAC NA 33rd Annual Meeting. Long Beach, CA. November 2012.

Du B, Brooks BW, Berninger JP, Connors KA, Chambliss CK, Erickson RJ, Nichols JW Effect of pH on accumulation of weak bases by fish: An evaluation of competing models for branchial uptake using diphenhydramine as a case study SETAC NA 33rd Annual Meeting. Long Beach, CA. November 2012.

Du B, Berninger JP, Connors KA, Conry TM, Chambliss CK, Brooks BW Bioaccumulation of Pharmaceuticals and Other Contaminants of Emerging Concern in Different Trophic Levels Residing in the North Bosque River, an Effluent-Dominated Stream, Texas. AWRA Summer Specialty Conference-Contaminants of Emerging Concern in Water Resources II: Research, Engineering, and Community Action. Denver, CO. June 2012.

Journal Articles

Tian, Z., H. Zhao, K.T. Peter, M. Gonzalez, J. Wetzel, C. Wu, X. Hu, J. Prat, E. Mudrock, R. Hettinger, A.E. Cortina, R.G. Biswas, F.V.C. Kock, R. Soong, A. Jenne, B. Du, F. Hou, H. He, R. Lundeen, A. Gilbreath, R. Sutton, N.L. Scholz, J.W. Davis, M.C. Dodd, A. Simpson, J.K. McIntyre, E.P. Kolodziej. 2020. A ubiquitous tire rubber-derived chemical induces acute mortality in coho salmon. *Science* 371:185-189.

Harraka, G.T., J.T. Magnuson, B. Du, C.S. Wong, K. Maruya, D. Schlenk. 2020. Evaluating the estrogenicity of an effluent-dominated river in California, USA: Comparisons of in vitro and in vivo

bioassays. *Science of the Total Environment* DOI:10.1016/j.scitotenv.2020.143965.

Du, B., Z. Tian, K.T. Peter, E.P. Kolodziej, C.S. Wong. 2020. Developing Unique Nontarget High-Resolution Mass Spectrometry Signatures to Track Contaminant Sources in Urban Waters. *Environmental Science & Technology Letters* DOI:10.1021/acs.estlett.0c00749.

Peter, K.T., Z. Tian, C. Wu, P. Lin, S. White, B. Du, J.K. McIntyre, N.L. Scholz, E.P. Kolodziej. 2018. Using High-Resolution Mass Spectrometry to Identify Organic Contaminants Linked to Urban Stormwater Mortality Syndrome in Coho Salmon. *Environmental Science and Technology* 52:10317-10327.

Du B, Lofton JM, Peter KT, Gipe AD, James CA, McIntyre JK, Scholz NL, Baker JE, Kolodziej EP 2017. Development of suspect and non-target screening methods for detection of organic contaminants in highway runoff and fish tissue with high-resolution time-of-flight mass spectrometry. *Environmental Science: Processes & Impacts* 19 (9): 1185-1196.

Haddad SP, Du B, Scott WC, Saari GN, Breed C, Kelly M, Broach L, Chambliss CK, Brooks BW. 2017. Ontogenetic dietary shifts and bioaccumulation of diphenhydramine in *Mugil cephalus* from an urban estuary. *Marine Environmental Research* 127:155-162.

Scott WC, Du B, Haddad SP, Breed CS, Saari GN, Kelly M, Broach L, Chambliss CK, Brooks BW 2016. Predicted and Observed Therapeutic Dose Exceedences of Ionizable Pharmaceuticals in Fish Plasma from Urban Coastal Systems. *Environmental Toxicology and Chemistry* 35:983-995.

Du B, Haddad SP, Luek A, Scott WC, Saari GN, Burket SR, Breed CS, Kelly M, Broach L, Rasmussen JB, Chambliss CK, Brooks BW 2016. Bioaccumulation of Human Pharmaceuticals in Fish Across Habitats of A Tidally Influenced Urban Bayou. *Environmental Toxicology and Chemistry* 35:966-974. Franzellitti S, Buratti S, Du B, Haddad SP, Chambliss CK, Brooks BW, Fabbri E. 2015. A Multibiomarker Approach to Explore Interactive Effects of Propranolol and Fluoxetine in Marine Mussels. *Environmental Pollution*. 205:60-69.

Nichols JW, Du B, Berninger JP, Connors KA, Chambliss CK, Erickson RJ, Hoffman AD, Brooks BW 2015. Observed and Modeled Effects of pH on Bioconcentration of Diphenhydramine, A Weakly Basic Pharmaceutical, in Fathead Minnows. *Environmental Toxicology and Chemistry* 34:1425-1435.

Kristofco LA, Du B, Berninger JP, Chambliss CK, Brooks BW 2015. Comparative Pharmacology and Toxicology of Pharmaceuticals in the Environment: Diphenhydramine Protection of Diazinon Toxicity in *Danio rerio* but not *Daphnia magna*. *The AAPS Journal* 17:175-183.

Du B, Haddad SP, Scott WC, Chambliss CK, Brooks, BW 2015. Pharmaceutical Bioaccumulation by Periphyton and Snails in an Effluent-dependent Stream during an Extreme Drought. *Chemosphere*

119:927-934.

Lazarus RS, Rattner BA, Brooks BW, Du B, McGowan PC, Blazer VS, Ottinger MA 2015. Exposure and food web transfer of pharmaceuticals in ospreys (*Pandion haliaetus*): predictive model and empirical data. *Integrated Environmental Assessment and Management* 11:118-129.

Du B, Haddad SP, Luek A, Scott WC, Saari GN, Kristofco LA, Connors KA, Rash C, Rasmussen JB, Chambliss CK, Brooks BW 2014. Bioaccumulation and Trophic Dilution of Human Pharmaceuticals across Trophic Positions of an Effluent-dependent Wadeable Stream. *Philosophical Transactions of The Royal Society B: Biological Sciences* 369:20140058.

Watkins CD, Winemiller KO, Mora MA, Du B, Chambliss CK, Brooks BW, Phalen D. 2014. Assessment of Mosquitofish (*Gambusia affinis*) Health Indicators in Relation to Domestic Wastewater Discharges in Suburbs of Houston, USA. *Bulletin of Environmental Contamination and Toxicology* 93:13-18.

Hazelton PD, Du B, Haddad SP, Fritts AK, Chambliss CK, Brooks BW, Bringolf RB. 2014. Chronic Fluoxetine Exposure Alters Movement and Burrowing in Adult Freshwater Mussels. *Aquatic Toxicology* 151:27-35.

Franzellitti S, Buratti S, Capolupo M, Du B, Haddad SP, Chambliss CK, Brooks BW, Fabbri E. 2014. An Exploratory Investigation of Various Modes of Action and Potential Adverse Outcomes of Fluoxetine in Marine Mussels. *Aquatic Toxicology* 151:14-26.

Du B, Price AE, Scott WC, Kristofco LA, Ramirez AJ, Chambliss CK, Yelderman JC, Brooks BW. 2014. Comparison of Contaminants of Emerging Concern Removal, Discharge, and Water Quality Hazards among Centralized and On-site Wastewater Treatment System Effluents Receiving Common Wastewater Influent. *Science of The Total Environment* 466:976-984.

Connors KA, Du B, Fitzsimmons PN, Hoffman AD, Chambliss CK, Nichols JW, Brooks BW. 2013. Enantiomer-specific Biotransformation of Select Pharmaceuticals in Rainbow Trout (*Oncorhynchus mykiss*). *Chirality* 25:763-767.

Connors KA, Du B, Fitzsimmons PN, Hoffman AD, Chambliss CK, Nichols JW, Brooks BW. 2013. Comparative Pharmaceutical Metabolism by Rainbow Trout (*Oncorhynchus mykiss*) Liver S9 Fractions. *Environmental Toxicology and Chemistry* 32:1810-1818.

Du B, Perez-Hurtado P, Brooks BW, Chambliss CK. 2012. Evaluation of An Isotope Dilution Liquid Chromatography Tandem Mass Spectrometry Method for Pharmaceuticals in Fish. *Journal of Chromatography A*. 1253:177-183.

Subedi B, Du B, Chambliss CK, Koschorreck J, Rudel H, Quack M, Brooks BW, Usenko S. 2012. Occurrence of Pharmaceuticals and Personal Care Products in German Fish Tissue: A National

Study. Environmental Science and Technology 46: 9047-9054.

Berninger, JP, Du, B, Connors, KA, Eytcheson, SA, Kolkmeier, MA, Prosser, KN, Valenti, TW, Chambliss, CK and Brooks, BW. 2011. Effects of the Antihistamine Diphenhydramine on Selected Aquatic Organisms. Environmental Toxicology and Chemistry. 30:2065-2072.

Du B, Sharma LN, Becker C, Chen S-F, Mowery RA, van Walsum GP, Chambliss CK. 2010. Effect of Varying Feedstock-Pretreatment Chemistry Combinations on the Formation and Accumulation of Potentially Inhibitory Degradation Products in Biomass Hydrolysates. Biotechnology and Bioengineering. 107:430-440.

Technical Reports

McLaughlin, K., K.C. Schiff, B. Du, J. Davis, A. Bonnema, G. Ichikawa, B. Jakl, W. Heim. 2020. Southern California Bight 2018 Regional Monitoring Program Volume V: Contaminant Bioaccumulation in Edible Sport Fish Tissue. Technical Report 1155. Southern California Coastal Water Research Project. Costa Mesa, CA.

Du, B., C.S. Wong, K. McLaughlin, K.C. Schiff. 2020. Southern California Bight 2018 Regional Monitoring Program: Volume II. Sediment Chemistry. Technical Report 1130. Southern California Coastal Water Research Project. Costa Mesa, CA.

Du, B., J. Smith, K. Maruya, C.S. Wong. 2020. Comparison of Novel Passive Sampling Methods to Identify Cyanotoxins and their Sources. Technical Report 1123. Southern California Coastal Water Research Project. Costa Mesa, CA.