Timothy W. Collette, Research Chemist, in EPA's National Exposure Research Laboratory

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Area of Expertise: My research has been directed primarily at developing and applying spectroscopic tools for solving difficult environmental problems. Since 2005, my work has focused on the use of metabolomics to inform chemical exposure assessments. We develop metabolomic techniques and apply them to discover exposure biomarkers, characterize the important temporal aspects of these exposures, and define characteristics of exposures to which organisms can compensate. An important element of this research is discovering how key initiating exposure events are linked to whole-organism adverse outcomes and then assessing the extent to which these linkages are conserved across species.

Select Publications:

"Integrating Omic Technologies Into Aquatic Ecological Risk Assessment And Environmental Monitoring: Hurdles, Achievements And Future Outlook", G. Van Aggelen, G. Ankley, W. Baldwin, D. Bearden, W. Benson, J. Chipman, T. Collette, et al., *Environ. Health Perspect*. 118, 1-5 (2010).

"Impacts of an Anti-Androgen and an Androgen/Anti-Androgen Mixture on the Metabolite Profile of Male Fathead Minnow Urine", T.W. Collette, Q. Teng, K.M. Jensen, M.D. Kahl, E.A. Makynen, E.J. Durhan, D.L. Villeneuve, D. Martinovic-Weigelt, G.T. Ankley, and D.R. Ekman. *Environ. Sci. Technol*. 44, 6881 – 6886 (2010).

"Use of Gene Expression, Biochemical and Metabolite Profiles to Enhance Exposure and Effects Assessment of the Model Androgen 17-Trenbolone in Fish", D.R. Ekman, D.L. Villeneuve, Q. Teng, K.J. Ralston-Hooper, D. Martinovic-Weigelt, M. D. Kahl, K.M. Jensen, E.J. Durhan, E.A. Makynen, G.T. Ankley, and T. W. Collette. *Environ. Tox. Chem*. 30, 319-329 (2011).

"Push-through Direct Injection NMR: An Optimized Automation Method Applied to Metabolomics", Q. Teng, D.R. Ekman, W. Huang, and T.W. Collette. *Analyst*, 137, 2226 - 2232 (2012).

"Metabolite Profiling and a Transcriptional Activation Assay Provide Direct Evidence of Androgen Receptor Antagonism by Bisphenol A in Fish", D.R. Ekman, P.C. Hartig, M. Cardon, D.M. Skelton, Q. Teng, E.J. Durhan, K.M. Jensen, M.D. Kahl, D.L. Villeneuve, L.E. Gray, Jr, T.W. Collette, and G.T. Ankley. *Environ. Sci. Technol*. 46, 9673 – 9680 (2012).

“Fishy Aroma of Social Status: Urinary Chemo-signaling of Territoriality in Male Fathead Minnows (*Pimephales promelas*)”, D. Martinović-Weigelt, D.R. Ekman, D. L. Villeneuve, C.M. James, Q. Teng, T.W. Collette, and G. T. Ankley. *PLoS One.* 7(11): e46579. doi:10.1371/journal.pone.0046579 (2012).

View more research publications by Timothy Collette.

Education:

- Ph.D., Physical Chemistry, University of Georgia, 1985
- B.S., Chemistry, Berry College, 1981

Professional Experience:

- Research Chemist, US EPA, ORD, Athens, GA 1985 - present
- Teaching and Research Assistant, Dept. of Chemistry, UGA, Athens, GA 1981 - 1985