Yumei Cecilia Tan, Research Physical Scientist, in EPA's National Exposure Research Laboratory

Computational Exposure Division
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Area of Expertise: Cecilia has research experience in the field of environmental engineering, occupational health and safety, human health assessment, and computational modeling. Her recent research focuses on applying exposure and dosimetry (e.g., pharmacokinetic/physiologically-based pharmacokinetic [PBPK]) modeling, as well as cheminformatic tools, in refining high throughput *in vitro* data that are interpretable using Adverse Outcome Pathway. In addition to exposure and dosimetry modeling, she has been developing, with internal and external partners, the concept of Aggregate Exposure Pathway as an organizational and predictive framework for exposure science.

Select Publications:

Phillips, M., Leonard, J., Grulke, C., Chang, D., Edwards, S., Brooks, R., Goldsmith, M.R., El-Masri, H., Tan, Y.M. (2015). A workflow to investigate exposure and pharmacokinetics influences on high-throughput in vitro chemical screening based on adverse outcome pathways. Environ Health Perspect; doi: 10.1289/ehp.1409450.

Edwards, S., Tan, Y., Villeneuve, D., Meek, B., McQueen, C. (2015). Adverse outcome pathways – organizing toxicological information to improve decision making. J Pharmaco Experimental Therapeutics, dio: 10.1124/jpet.115.228239.

Holm, K., Grulke, C., Phillips, M., Yoon, M., Young, B., McDougall, R., Leonard, J., Lu, J., Lefew, W., Tan, Y.M. (2015). Reconstructing exposures from biomarkers using exposure-pharmacokinetic modeling – a case study with carbaryl. Regul Tox Pharmacol, 73, 689-698.

Sobus, J.R., Dewoskin, R.S., Tan, Y.M., Pleil, J.D., Phillips, M.B., George, B.J., Christensen, K.Y., Schreinemachers, D.M., Williams, M.A., Cohen-Hubal, E.A., Edwards, S.W. (2015). Uses of NHANES biomarker data for chemical risk assessment: trends, challenges, and opportunities. Environ Health Perspect; doi: 10.1289/ehp.1409177.

Phillips, M., Yoon, M., Young, B., and Tan, Y.M. (2014). Analysis of biomarker utility using a PBPK/PD model for carbaryl. Frontiers in Pharmacol, doi: 10.3389/fphar.2014.00246.

View more research publications by Cecilia Tan.

Education:

- Ph.D., Environmental Sciences & Engineering, University of North Carolina at Chapel Hill, 2001
- M.B.A., Biosciences Management & Financial Management, North Carolina State University, 2009
- M.S., Environmental Sciences & Engineering, Harvard School of Public Health, 1997
- B.S., Environmental Engineering, National Cheng Kung University, Taiwan, 1995

Professional Experience:

- Research Physical Scientist, USEPA/ORD/NERL, RTP, NC 2009-present
- Associate Director/Research Investigator, Center for Human Health Assessment, The Hamner Institutes for Health Sciences, RTP, NC 2004-2009
- Post-doctoral Fellow, CIIT Centers for Health Research, RTP, NC 2001-2004
- NIOSH Trainee, The University of North Carolina at Chapel Hill, Chapel Hill, NC 1997-2001
- Industrial Hygienist, Massachusetts Institutes of Technology, Cambridge, MA 1996-1997