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MEET THE EDITOR

Meet our editorial board member: Dr. Jennifer Knaack

College of Pharmacy, Mercer University, Atlanta, GA 30341, USA.

Dr. Jennifer Knaack was born on October 1st, 1979 in Orange County, California (United States) and received her Bachelor of Science degree in Molecular, Cell and Developmental Biology from the University of California at Los Angeles (UCLA) in 2001. She then joined the Department of Pharmaceutical Sciences in the College of Pharmacy at the University of Southern California and received her Ph.D. in 2006. Her thesis project, "Uncovering the Structure-Function Relationship of the Human Intestinal Dipeptide Transporter hPepT1," focused on the determination of structural requirements for transport of substrates through human PepT1, a transporter involved in the absorption of various drugs including valacyclovir, and involved the use of cysteine scanning mutagenesis as well as computational modeling. Dr. Knaack joined Lawrence Livermore National Laboratory's Center for Accelerator Mass Spectrometry for a post-doctoral fellowship where she studied yeast metabolism and life extension using ^{14}C as a metabolic tracer. In 2008, Dr. Knaack joined Battelle Memorial Institute as a contractor to the Centers for Disease Control and Prevention (CDC) where she developed analytical methods for measuring toxins in environmental and food matrixes for the Environmental Protection Agency. She then joined the CDC's National Center for Environmental Health, Division of Laboratory Sciences, Emergency Response and Air Toxicants Branch as an Associate Service Fellow in 2010 and was promoted to a Senior Service Fellow in 2011. At the CDC, Dr. Knaack served as a team lead in the development of diagnostic tests for measuring exposure to various toxins including organophosphate nerve agents like sarin and VX as well as marine toxins including saxitoxin, a potent paralytic shellfish toxin. She served as a quality control officer for emergency responses and a primary emergency responder and subject matter expert for paralytic shellfish poisoning.

In 2012, Dr. Knaack joined Mercer University's College of Pharmacy in the Department of Pharmaceutical Sciences as an Assistant Professor where she currently runs an analytical toxicology and diagnostics laboratory with the help of five graduate students. Her research focuses on the development of diagnostic tests to measure exposure to various synthetic and natural toxins including organophosphate pesticides and paralytic shellfish toxins. She also develops analytical methods for measuring pharmaceutical drugs in biological and formulation matrixes and has performed research for various pharmaceutical and academic research groups. Dr. Knaack recently received certification as a Toxicological Chemist from the National Registry of Certified Chemists. In addition to her research, Dr. Knaack teaches in both the Pharm.D. and Ph.D. programs on topics that include gastrointestinal, cardiovascular and renal disorders as well as analytical methods and immunology.

Dr. Knaack has authored and co-authored more than 20 research articles, three standardized operating procedures for the EPA, and two book chapters (Suhonen P, Sporty J, Lee VHL, Urtti A. "Cell culture models of the corneal and conjunctival epithelium." Cell Culture Models of Biological Barriers. Ed. Claus-Michael Lehr. Taylor & Francis: New York, 2002. 253 – 270 and Klein D, Knaack J, Morse A. "Commentary on Health and Environmental Risks from Hydraulic Fracturing." In Uddameri V, Morse A, Tindle K (Eds.) Hydraulic Fracturing Impacts and Technologies: A Multidisciplinary Perspective. CRC Press, Boca Raton. (2015)). She is an inducted member of the Rho Chi pharmacy academic honors society, the

Correspondence:
Assistant Professor, College of Pharmacy, Mercer University
3001 Mercer University Dr., Atlanta, GA 30341. USA. Phone: +1 678 5476737; Fax: +1 678 5476423 . E-mail: knaack_js@mercer.edu

Sigma Xi scientific research society, and the Omicron Delta Kappa national leadership honors society.

Dr. Knaack is highly involved in professional service, educational outreach, and human rights. She currently serves as a Councilor for the American Chemical Society's (ACS's) Georgia Local Section after having served as the section's Chair-Elect (2015), Chair (2016), and Past-Chair (2017). Dr. Knaack also serves as a Science Coach through ACS and works closely with local high school and middle school teachers as well as students on STEM education and generating interest in science. Dr. Knaack is very passionate about human rights and serves as an On-Call Scientist specializing in chemical weapons exposure through the American Association for the Advancement of Science. She was recently included as a new member of the On-Call Scientist Hotline. Through this program, Dr. Knaack has had opportunities to work with Amnesty International on the use of chemical weapons in Darfur and Syria.

Recent publications

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6. Henneberger PK, Braun B, Delclos GL, Fagan K, Huang V, Knaack JL, Kusek L, Lee SJ, Moual NL, Maher KA, McCrone SH, Mitchell AH, Pechter E, Rosenman K, Sehulster L, Stephens AC, Wilburn S, Jan-Paul JP. Cleaning and disinfecting environmental surfaces in healthcare: Towards an integrated framework for infection and occupational illness prevention. Am J Infect Control 43(5), 424–434 (2015).
7. Indapurkar AS, Eangoor P, Knaack JS. Method Development for Extraction of Butyrylcholinesterase Using Protein-G Agarose Spin Columns. J Appl Bioanal 1(1), 35-37 (2015).
8. Knaack JL, Hamelin EI, Magnuson M, Silvestri E, Ash D, Johnson RC. Quantitative analysis and stability of the rodenticide TETS (tetramine) in finished tap water. Anal Methods 6, 2780-2784 (2014).
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11. Abney CW, Knaack JLS, Ali AAI, Johnson RC. Novel dual-mode immunomagnetic method for monitoring reactivators of nerve agent exposures. Chem Res Toxicol 26(5), 775-82 (2013).
12. Knaack JS, Zhou Y, Magnuson M, Silvestri E, Johnson RC. Performance of a Novel High Throughput Method for the Determination of VX in Drinking Water Samples. Anal Chem 85(5), 2611-2616 (2013).
13. Stewart BJ, Navid A, Kulp KS, Knaack JLS, Bench G. D-lactate production as a function of glucose metabolism in Saccharomyces cerevisiae. Yeast 30(2), 81-91 (2013).
14. Knaack JL, Zhou Y, Abney CW, Prezioso SM, Magnuson M, Evans RA, Jakubowski EM, Hardy K, Johnson RC. High throughput immunomagnetic scavenging technique for quantitative analysis of live VX nerve agent in water, hamburger, and soil matrixes. Anal Chem 84(22), 10052-10057 (2012).
15. Knaack JL, Zhou Y, Abney CW, Jacob JT, Prezioso SM, Hardy K, Lemire SW, Thomas J, Rudolph RC. A high-throughput diagnostic method for measuring human exposure to organophosphorus nerve agents. Anal Chem 84(21), 9470-9477 (2012).

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