Exponent®
Engineering & Scientific Consulting

Rekha Balachandran, Ph.D., DABT

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Professional Profile

Dr. Balachandran is a toxicologist with over 8 years of experience as a research scientist and public health risk assessor. During her career, she has investigated the human health impacts of a myriad of chemical substances, including heavy metals, phthalates, solvents, pesticides, and phenols.

Dr. Balachandran has extensive experience with the development of toxicological profiles for toxic substances, systematic literature reviews, as well as conducting benefits assessments and human health risk assessments.

Prior to joining Exponent, Dr. Balachandran worked on federal contract projects with a focus on toxicology and economic benefits analysis for health effects to support various federal agencies. As a Postdoctoral fellow, she studied the in vitro effects of manganese and polyfluoroalkyl substances exposures on cell signaling pathways of neurotoxicity. Dr. Balachandran earned her Ph.D. from the University of Illinois at Urbana-Champaign in 2018, where her dissertation focused on identifying cognitive deficits caused by circadian disruption.

Dr. Balachandran is an active member of the Society of Toxicology (SOT), Developmental Neurotoxicology Society (DNTS). She has received numerous scholarships and awards during her graduate career including the AbbVie Young Investigator Award at the Midwest Regional Chapter of SOT in 2017 and the Toxicology Scholar Award supported by Interdisciplinary Environmental Toxicology Program at University of Illinois at Urbana-Champaign two times.

Academic Credentials & Professional Honors

Ph.D., University of Illinois, Urbana-Champaign, 2018

M.S., Biological Engineering, University of Illinois, Urbana-Champaign, 2011

B.Tech., Biotechnology, University of Calicut, India, 2007

Christine Mirzayan Science and Technology Policy Graduate Fellow, National Academies, Washington D.C, January - April 2020

Poster Presentation Award, College of Veterinary Medicine Research Day, 2018

Conference Travel Award, Developmental Neurotoxicology Society, 2018

Abbvie Young Investigator Award, Midwest Regional Chapter, Society of Toxicology, 2017

Toxicology Scholar, Interdisciplinary Environmental Toxicology Program, University of Illinois at Urbana-Champaign, 2016-2018

Best Poster Presentation Award, 40th Annual Meeting, Developmental Neurotoxicology Society, 2016

UIUC Graduate College Grant, University of Illinois at Urbana-Champaign, 2015-16, Jan - May 2017

1st Prize, Poster Competition, Economics and Policy Section, “Growing the Bio-Economy” conference, Alberta, Canada, Fall 2012

Licenses and Certifications

Diplomate of the American Board of Toxicology (DABT)

Prior Experience

Environmental Science Senior Analyst, Abt Associates, 2020 - 2022

Postdoctoral Research Fellow, Purdue University, 2018 - 2020

Christine Mirzayan Science and Technology Policy Graduate Fellow, National Academies of Science, Engineering and Medicine (NASEM), January - April 2020

Technology Commercialization Intern, Purdue Research Foundation, September - November 2019

Graduate Research Intern, National Institute of Food and Agriculture, U.S. Department of Agriculture (USDA), May - December 2013

Professional Affiliations

Society of Toxicology (SOT), 2017 - Present

Developmental Neurotoxicology Society (DNTS), 2015 - Present

Publications

ATSDR. (2022). Toxicological Profile for Nitrobenzene: Draft for Public Comment. Atlanta, GA: Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services.

ATSDR. (2022). Toxicological Profile for Nitrophenols: Draft for Public Comment. Atlanta, GA: Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services.

Human Services. Balachandran RC, Yanko FM, Cheng P, Prince L, Rivers CN, Morcillo P, Akinyemi AJ, Tabbassum S, Pfalzer AC, Nie LH, Aschner M, and Bowman AB. (2021). Rodent Hair is a Poor Biomarker for Internal Manganese Exposure. Food and Chemical Toxicology. 157:112555. https://doi.org/10.1016/j.fct.2021.112555.

Balachandran RC, Mukhopadhyay S, McBride D, Veevers J, Harrison F, Aschner M, Haynes EN, and Bowman AB. (2020). Brain Manganese and the Balance between Essential Roles and Neurotoxicity. Journal of Biological Chemistry, 295(19): 6312-6329.

Balachandran RC, Hatcher KM, Sieg ML, Leventhal MB, Mahoney MM, Eubig PA, Pharmacological Challenges Examining the Underlying Mechanism of Altered Response Inhibition and Attention Due to

Circadian Disruption in Adult Long-Evans Rats, Pharmacology Biochemistry and Behavior; 193:172915, 2020.

Presentations

Essential Amino Acids are Crucial for Manganese Potentiation of Insulin/IGF dependent S6, but not AKT Phosphorylation. 59th Annual Society of Toxicology virtual meeting, Spring 2021.

Neurotoxicity of perfluorooctanesulfonic acid (PFOS) and perfluoroctanic acid (PFOA) in human neuroprogenitor development. 58th Annual Society of Toxicology meeting, Baltimore, MD, Spring 2019.

Pharmacological challenges examining the underlying mechanism of altered response inhibition and attention due to circadian disruption in adult Long-Evans rats. 57th Annual Society of Toxicology meeting, San Antonio, TX, Spring 2018.

Peer Reviews

Neurotoxicology, 2019 - Present