

2024 RASS Student/Postdoc Award Winners

John Doull Risk Assessment Endowment Graduate Student Award

Juliana Agudelo, Advisor: Angela Slitt

University of Rhode Island, Warwick, RI

Evaluation of Legacy and Replacement Per- and Polyfluoroalkyl Substances (PFAS) in Human Livers Banked over the Past 20 Years

John Doull Risk Assessment Endowment Postdoctoral Award

Erin Huber, Advisor: Shaun McCullough

RTI International, Durham, NC

Common Liquid Application Dosing Conditions Alter Toxicity Testing Endpoints in Air-Liquid Interface Primary Human Bronchial Epithelial Cultures

Perry J. Gehring Best Graduate Student Abstract Award

En-Hsuan Lu, Advisor: Weihsueh Chiu

Texas A&M University, College Station, TX

Involving Probabilistic Risk Assessment of Superfund Priority Chemicals using Bayesian Benchmark Dose Modeling and New Approach Methodologies for Human Population Variability

Perry J. Gehring Best Postdoctoral Abstract Award

Paul Kruse, Advisor: Caroline Ring

US EPA ORISE Postdoctoral Fellow, Carrboro, NC

A Chemoinformatics Workflow for Higher-Throughput Modeling of Chemical Exposures from Biosolids

Robert J. Rubin Student Travel Award

Luiz Paulo de Aguiar Marciano, Advisors: Isarita Martins and Nicole Kleinstreuer

Federal University of Alfenas-MG, Alfenas, Brazil

Risk Assessment of Exposure to Triazole Fungicides by Human Biomonitoring and Mechanistic Data

Disha Gupta, Advisors: Howard Kipen and Andrew Gow

Rutgers University, New Brunswick, NJ

Exposure of Humans to Environmentally Relevant CO₂ Results in NADPH Oxidase Activation and Increased Oxygen Consumption in PMNs

Andersen-Clewell Trainee Award

Srijit Seal, Advisor: Andreas Bender

University of Cambridge, Cambridge, UK

Insights into Drug Cardiotoxicity from Biological and Chemical Data: The First Public Classifiers for FDA DICTrank

2024 Best Abstract Award Winners

Best Abstract

N. Tahir et al. Characterization of Human Variability in Cellular Stress Response Transcriptomic Perturbations Upon Chemical Exposure in PBMCs. (Presenter [Marije Niemeijer](#), Leiden University).

Remaining Top 10 Best Abstracts

O. Cohen and D. Doron. Risk Assessment of Primary and Secondary Leachables in Ophthalmic Drugs: Three Case Studies. (Presenter [Dvir Doron](#), Teva Pharmaceutical Industries Ltd).

[En-Hsuan Lu](#) et al., Texas A&M University. Involving Probabilistic Risk Assessment of Superfund Priority Chemicals using Bayesian Benchmark Dose Modeling and New Approach Methodologies for Human Population Variability.

[Michael DeVito](#) et al., US EPA. The 2022 WHO Reevaluation of Human and Mammalian Toxic Equivalency Factors for Polychlorinated Dioxins, Dibenzofurans and Biphenyls.

[John Reichard](#), Exploration Medical Capabilities Element (ExMC), NASA Johnson Space Center. A Framework Approach for Evaluation of Potential Degradation of Active Pharmaceutical Ingredients for Long-Duration Spaceflight.

[Mao-Wen Wang](#) et al. Abbott Laboratories Medical Devices. Establishing Clear Criteria to Identify and Classify CoC substances.

[Steven Boomhower](#) et al. Gradient and Harvard University. Evaluating the Potential for Reproductive Effects from Intermittent Lead Exposures Using Blood Lead Modeling Under Proposition 65.

I Lee et al. Aggregate Exposure Analysis Shows that Exposure to Fragrance Ingredients in Consumer Products is Low: Many Orders of Magnitude Below Thresholds of Concern. (Presenter [Anne Marie Api](#), RIFM).

[Chi-Yun Chen](#) and Z. Lin, University of Florida. A Physiologically Based Toxicokinetic Model for Assessing Oral Exposure to Microplastics and Nanoplastics in Mice and its Implications to Human Dietary Intake.

P. Tomar et al. Best Practice for Conducting Expert Review of Sensitisation Data and Predictions. (Presenter [Charles Modlin](#), Lhasa Limited).

Best Published Paper in 2023 Award Winners

Best Published Paper in the Application of Risk Assessment

Wallace, J., Jackson, G. R., Kaluzhny, Y., Ayehunie, S., Lansley, A. B., Roper, C., & Hayden, P. J. (2023). Evaluation of in vitro rat and human airway epithelial models for acute inhalation toxicity testing. *Toxicological sciences : an official journal of the Society of Toxicology*, 194(2), 178–190. <https://doi.org/10.1093/toxsci/kfad058>.

Best Published Paper Advancing the Science of Risk Assessment

Addicks, G. C., Rowan-Carroll, A., Reardon, A. J. F., Leingartner, K., Williams, A., Meier, M. J., Moffat, I., Carrier, R., Lorusso, L., Wetmore, B. A., Yauk, C. L., & Atlas, E. (2023). Per- and polyfluoroalkyl substances (PFAS) in mixtures show additive effects on transcriptomic points of departure in human liver spheroids. *Toxicological sciences : an official journal of the Society of Toxicology*, 194(1), 38–52. <https://doi.org/10.1093/toxsci/kfad044>.

Remaining Top 10 Best Published Papers in the Application of Risk Assessment

Davis, A. P., Wieggers, T. C., Wieggers, J., Wyatt, B., Johnson, R. J., Sciaky, D., Barkalow, F., Strong, M., Planchart, A., & Mattingly, C. J. (2023). CTD tetramers: a new online tool that computationally links curated chemicals, genes, phenotypes, and diseases to inform molecular mechanisms for environmental health. *Toxicological sciences : an official journal of the Society of Toxicology*, 195(2), 155–168. <https://doi.org/10.1093/toxsci/kfad069>.

Haigis, A. C., Vergauwen, L., LaLone, C. A., Villeneuve, D. L., O'Brien, J. M., & Knapen, D. (2023). Cross-species applicability of an adverse outcome pathway network for thyroid hormone system disruption. *Toxicological sciences : an official journal of the Society of Toxicology*, 195(1), 1–27. <https://doi.org/10.1093/toxsci/kfad063>.

Heintz, M. M., Haws, L. C., Klaunig, J. E., Cullen, J. M., & Thompson, C. M. (2023). Assessment of the mode of action underlying development of liver lesions in mice following oral exposure to HFPO-DA and relevance to humans. *Toxicological sciences : an official journal of the Society of Toxicology*, 192(1), 15–29. <https://doi.org/10.1093/toxsci/kfad004>.

Liu, S., Kawanishi, T., Shimada, A., Ikeda, N., Yamane, M., Takeda, H., & Tasaki, J. (2023). Identification of an adverse outcome pathway (AOP) for chemical-induced craniofacial anomalies using the transgenic zebrafish model. *Toxicological sciences : an official journal of the Society of Toxicology*, 196(1), 38–51. <https://doi.org/10.1093/toxsci/kfad078>.

Dalton, P. H., Maute, C., Hicks, J. B., Watson, H. N., Loccisano, A. E., & Kerger, B. D. (2023). Environmental chamber studies of eye and respiratory irritation from use of a peracetic acid-based hospital surface

disinfectant. Antimicrobial stewardship & healthcare epidemiology : ASHE, 3(1), e71. <https://doi.org/10.1017/ash.2023.138>.

Rusyn, I., & Wright, F. A. (2023). Ten Years of Using Key Characteristics of Human Carcinogens to Organize and Evaluate Mechanistic Evidence in IARC Monographs on the Identification of Carcinogenic Hazards to Humans: Patterns and Associations. bioRxiv : the preprint server for biology, 2023.07.11.548354. <https://doi.org/10.1101/2023.07.11.548354>.

Schaupp, C. M., Maloney, E. M., Mattingly, K. Z., Olker, J. H., & Villeneuve, D. L. (2023). Comparison of in silico, in vitro, and in vivo toxicity benchmarks suggests a role for ToxCast data in ecological hazard assessment. Toxicological sciences : an official journal of the Society of Toxicology, 195(2), 145–154. <https://doi.org/10.1093/toxsci/kfad072>.

Vliet, S. M. F., Markey, K. J., Lynn, S. G., Adetona, A., Fallacara, D., Ceger, P., Choksi, N., Karmaus, A. L., Watson, A., Ewans, A., Daniel, A. B., Hamm, J., Vitense, K., Wolf, K. A., Thomas, A., & LaLone, C. A. (2023). Weight of evidence for cross-species conservation of androgen receptor-based biological activity. Toxicological sciences : an official journal of the Society of Toxicology, 193(2), 131–145. <https://doi.org/10.1093/toxsci/kfad038>.

Wallace, J., Jackson, G. R., Kaluzhny, Y., Ayehunie, S., Lansley, A. B., Roper, C., & Hayden, P. J. (2023). Evaluation of in vitro rat and human airway epithelial models for acute inhalation toxicity testing. Toxicological sciences : an official journal of the Society of Toxicology, 194(2), 178–190. <https://doi.org/10.1093/toxsci/kfad058>.

Remaining Top 10 Best Published Papers Advancing the Science of Risk Assessment

Bishop, P. L., Dellarco, V. L., & Wolf, D. C. (2023). Is the 90-day dog study necessary for pesticide toxicity testing?. Critical reviews in toxicology, 53(4), 207–228. <https://doi.org/10.1080/10408444.2023.2221987>.

Conolly, R. B., Schroeter, J., Kimbell, J. S., Clewell, H., Andersen, M. E., & Gentry, P. R. (2023). Updating the biologically based dose-response model for the nasal carcinogenicity of inhaled formaldehyde in the F344 rat. Toxicological sciences : an official journal of the Society of Toxicology, 193(1), 1–17. <https://doi.org/10.1093/toxsci/kfad028>.

Garvey, G. J., Anderson, J. K., Goodrum, P. E., Tyndall, K. H., Cox, L. A., Khatami, M., Morales-Montor, J., Schoeny, R. S., Seed, J. G., Tyagi, R. K., Kirman, C. R., & Hays, S. M. (2023). Weight of evidence evaluation for chemical-induced immunotoxicity for PFOA and PFOS: findings from an independent panel of experts. Critical reviews in toxicology, 53(1), 34–51. <https://doi.org/10.1080/10408444.2023.2194913>.

Laws, M. J., Meling, D. D., Deviney, A. R. K., Santacruz-Márquez, R., & Flaws, J. A. (2023). Long-term exposure to di(2-ethylhexyl) phthalate, diisononyl phthalate, and a mixture of phthalates alters estrous

cyclicity and/or impairs gestational index and birth rate in mice. *Toxicological sciences : an official journal of the Society of Toxicology*, 193(1), 48–61. <https://doi.org/10.1093/toxsci/kfad030>.

Dalton, P. H., Maute, C., Hicks, J. B., Watson, H. N., Loccisano, A. E., & Kerger, B. D. (2023). Environmental chamber studies of eye and respiratory irritation from use of a peracetic acid-based hospital surface disinfectant. *Antimicrobial stewardship & healthcare epidemiology : ASHE*, 3(1), e71. <https://doi.org/10.1017/ash.2023.138>.

Maass, C., Schaller, S., Dallmann, A., Bothe, K., & Müller, D. (2023). Considering developmental neurotoxicity in vitro data for human health risk assessment using physiologically-based kinetic modeling: deltamethrin case study. *Toxicological sciences : an official journal of the Society of Toxicology*, 192(1), 59–70. <https://doi.org/10.1093/toxsci/kfad007>.

Paustenbach, D. J., Stevens, M. E., Tuttle, B. P., Shore, R. A., Ligas, S., & Brew, D. W. (2024). Occupational exposure to asbestos in the steel industry (1972-2006). *Journal of exposure science & environmental epidemiology*, 34(3), 465–495. <https://doi.org/10.1038/s41370-023-00576-4>.

Wang, X., Rowan-Carroll, A., Meier, M. J., Williams, A., Yauk, C. L., Hales, B. F., & Robaire, B. (2023). Toxicological Mechanisms and Potencies of Organophosphate Esters in KGN Human Ovarian Granulosa Cells as Revealed by High-throughput Transcriptomics. *Toxicological sciences : an official journal of the Society of Toxicology*, 197(2), 170–185. Advance online publication. <https://doi.org/10.1093/toxsci/kfad114>.

Zhou, Y., Chen, Q., Klaunig, J. E., & Shao, K. (2023). A mode of action-based probabilistic framework of dose-response assessment for nonmutagenic liver carcinogens: a case study of PCB-126. *Toxicological sciences : an official journal of the Society of Toxicology*, 196(2), 250–260. <https://doi.org/10.1093/toxsci/kfad091>.