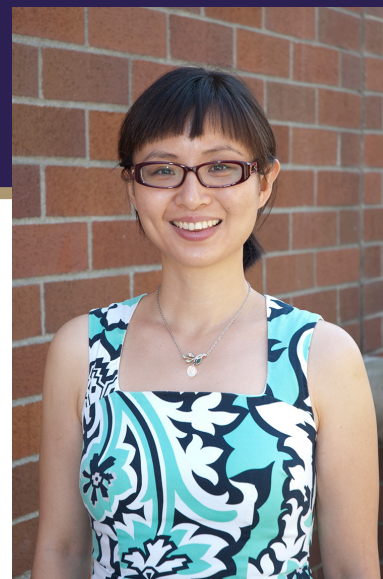




Julia Yue Cui, PhD

Treating pediatric patients can be challenging; their metabolism is different from adults and their organs are still developing. I investigate how processing of environmental chemicals and drug metabolism changes during child development. This research can help with the development of appropriate safety standards to protect children, and safer and more efficacious drug therapy for children.



RESEARCH

My research focuses on the interplay between environmental chemical exposures, the gut microbiome and epigenetic regulation of drug metabolism during development.

- I investigate how regulation of drug metabolism is altered by environmental chemical exposures with the use of transgenic animal models and Next-Gen sequencing techniques. Learn more at <http://tinyurl.com/z57cunm>
- I use a genome-wide approach to determine the relationship between the expression of transcription factors, drug-processing genes and their epigenetic patterns.

TEACHING

My interests lie in the general principles and mechanisms of toxicology: toxicogenomics, toxicoepigenomics, hepatotoxicology and developmental toxicology.

- Guest lecturer: Principles of Toxicology; Basic Concepts in Pharmacogenetics and Toxicogenomics; and the Environmental Health Seminar.
- Main lecturer: Principles of Toxicology.

MEMBERSHIPS AND AWARDS

- Core investigator, Center for Ecogenetics and Environmental Health
- Sheldon D. Murphy Endowed Chair
- Member, Society of Toxicology

MY STUDENTS' ACTIVITIES

- Doctoral candidate Cindy Yanfei Li studied 3D genomics applications for understanding mechanisms of human diseases at the Jackson Lab in Farmington, CT. She also won second prize for her presentation at the Pacific Northwest Association for Toxicology meeting on how neonatal exposure to xenobiotics may cause lasting changes that lead to disruption in liver function.
- Graduate and undergraduate students present posters of their research at Society of Toxicology meetings, where they also attend career development workshops.
- Undergraduates have participated in the Mary Gates Research Scholarship and the Environmental Health Research Experience Program.

LEARN MORE

University of Washington, Box 357234
Seattle, WA 98195-3055
206.543.6991
deohs.washington.edu

RECENT PUBLICATIONS

Selwyn FP, Cheng SL, Klaassen CD, Cui JY. Regulation of hepatic drug-metabolizing enzymes in germ-free mice by conventionalization and probiotics. *Drug Metabolism and Disposition*. 2016 Feb; 44(2):262-74. doi: 10.1124/dmd.115.067504

Li CY, Renaud HJ, Klaassen CD, Cui JY. Age-specific regulation of drug-processing genes in mouse liver by ligands of xenobiotic-sensing transcription factors. *Drug Metabolism and Disposition*. 2015 Nov 17. doi: 10.1124/dmd.115.066639.

Gunewardena SS, Yoo B, Peng L, Lu H, Zhong X, Klaassen CD, Cui JY. Deciphering the developmental dynamics of the mouse liver transcriptome. *PLoS One*. 2015 Oct 23; 10(10):e0141220. doi: 10.1371/journal.pone.0141220.

COMMITMENT TO STUDENTS

- I am very passionate about training students. I look forward to not only helping them with their coursework but also advising them with their research projects and career development.
- I want to see my students be successful in the field of toxicology. I encourage them to publish papers and present their research to the scientific community.



Photos, from left: Julia Yue Cui (foreground) with graduate student Cindy Yanfei Li (credit: Sarah Fish); Lab container (credit: School of Public Health); Undergraduate Yubin Song presents at the Mary Gates Undergraduate Student Research Symposium (credit: Julia Yue Cui); Pipetting (credit: School of Public Health).

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