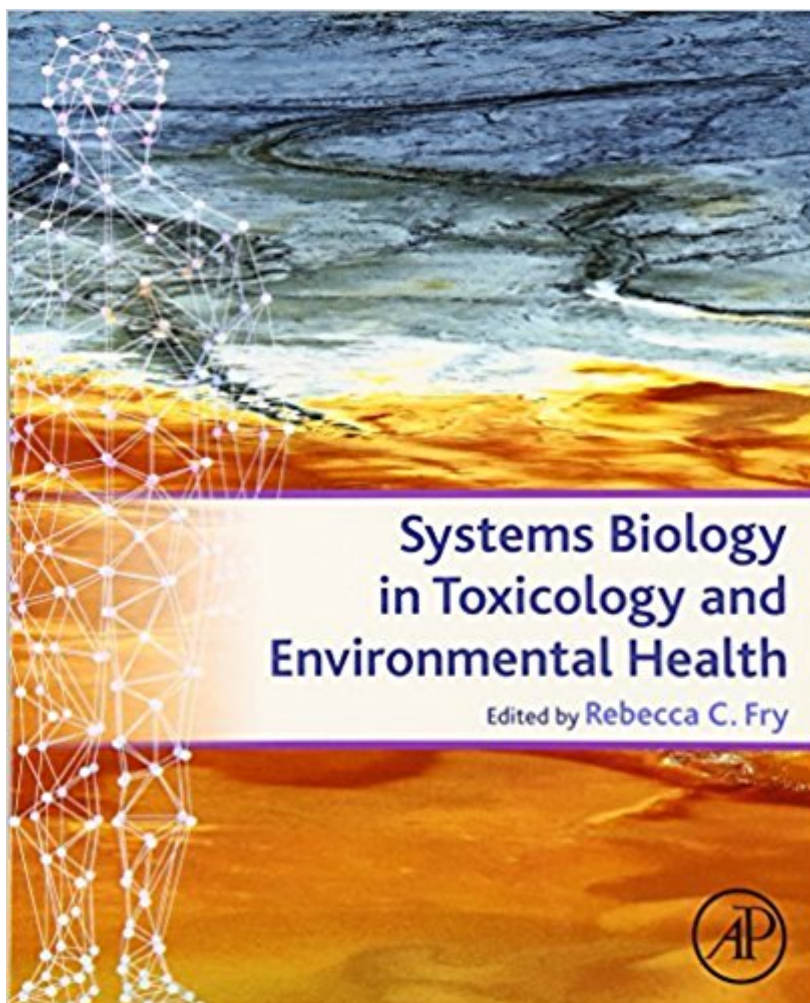


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# Systems Biology In Toxicology And Environmental Health



## Synopsis

Systems Biology in Toxicology and Environmental Health uses a systems biological perspective to detail the most recent findings that link environmental exposures to human disease, providing an overview of molecular pathways that are essential for cellular survival after exposure to environmental toxicants, recent findings on gene-environment interactions influencing environmental agent-induced diseases, and the development of computational methods to predict susceptibility to environmental agents. Introductory chapters on molecular and cellular biology, toxicology and computational biology are included as well as an assessment of systems-based tools used to evaluate environmental health risks. Further topics include research on environmental toxicants relevant to human health and disease, various high-throughput technologies and computational methods, along with descriptions of the biological pathways associated with disease and the developmental origins of disease as they relate to environmental contaminants. Systems Biology in Toxicology and Environmental Health is an essential reference for undergraduate students, graduate students, and researchers looking for an introduction in the use of systems biology approaches to assess environmental exposures and their impacts on human health. Provides the first reference of its kind, demonstrating the application of systems biology in environmental health and toxicology. Includes introductions to the diverse fields of molecular and cellular biology, toxicology, and computational biology. Presents a foundation that helps users understand the connections between the environment and health effects, and the biological mechanisms that link them.

## Book Information

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## Customer Reviews

"...begins with a review of the biochemical basics of genomics and proteomics to establish a foundation for exploring applied examples of systems biology in environmental health and toxicology" --Doody's  
Score: 70 - 3 Stars"

Dr. Rebecca Fry is an Associate Professor in the Department of Environmental Sciences and Engineering at the Gillings School of Global Public Health at UNC-Chapel Hill. She also holds appointments in the Curriculum in Toxicology and the Lineberger Cancer Center. She is the Deputy Director of UNC's Superfund Research Program funded by the National Institute of Environmental Health Sciences (NIEHS). She also serves as the Director of Graduate Studies in the Curriculum of Toxicology and Co-PI of an NIEHS-funded T32 training grant. Dr. Fry received her B.S. in Biology from William Smith College. She received her M.S. and Ph.D. in Biology from Tulane University and completed her post-doctoral training at MIT. Her research focuses on unraveling the biological mechanisms by which prenatal exposures to toxic metals impact infant health. A primary goal of Dr. Fry's research is to increase awareness of the deleterious impacts of exposures during the prenatal period and to improve public health initiatives to address this issue.

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