Non-SRP Scientific Session Speakers
Northeast SRP Meeting 2018
Woods Hole, MA

- **Linda Abriola, PhD**
  University Professor
  Director, Tufts Institute of the Environment
  Professor, Department of Civil and Environmental Engineering
  Professor, Department of Chemical and Biological Engineering

  Dr. Abriola's primary research area is in the mathematical modeling of the transport and fate of organic chemical contaminants in porous media. She developed one of the first mathematical models to describe the interphase mass partitioning and non-aqueous phase migration of organic liquid contaminants in the subsurface. Her recent research involves the use of models and laboratory experiments to examine abiotic and biotic processes influencing the persistence of organics and controlling the effectiveness of aquifer remediation technologies.

- **Sudin Bhattacharya, PhD**
  Assistant Professor, Biomedical Engineering and Pharmacology & Toxicology
  Michigan State

  Sudin Bhattacharya is broadly interested in several areas of computational toxicology. A major focus of his work is the application of computational methods to study the signaling and transcriptional regulatory networks that underlie the determination of cell fate, and the perturbation of these networks by environmental pollutants like dioxin. Specifically, he is interested in integrating diverse genomic data sets to map and model transcriptional regulatory networks and their environmental perturbation in the immune system and the liver. He also is interested in the extraction of predictive features from genomic data sets to model the toxic potential of chemical agents and pharmaceuticals, and spatial multi-scale modeling of tissue-level phenomena like toxicant-induced liver injury. Dr. Bhattacharya relies primarily on mathematical and statistical modeling as a research tool, and works in close collaboration with experimental scientists.

- **Stephen Edwards, PhD**
  Bioinformatics Senior Scientist
  Research Triangle Institute International

  Stephen Edwards has experience with data mining, design of web-accessible knowledgebases, ontology-based modeling of biological information, biomarker definition and applications, microarray analysis, sequence analysis, database design, and statistical computing. Prior to joining RTI International, Dr. Edwards was a systems biologist at the U.S. Environmental Protection Agency (EPA). In this role, he used computational approaches to describe the mechanisms by which chemicals cause disease in a wide variety of species. This work served as the basis for interpretation of high-throughput toxicity test results allowing thousands of chemicals per week to be screened for toxicity potential. Before joining EPA, Dr. Edwards worked in the pharmaceutical industry where he led a target discovery team focused on novel diabetes targets.

The team used biological networks built from genetics and gene expression data to identify potential diabetes targets, which were subsequently nominated for the Merck high throughput screening program. Dr. Edwards was the chief architect of the Adverse Outcome Pathway Wiki (https://aopwiki.org/).

- **Chirag Patel, PhD**
  Assistant Professor of Biomedical Informatics
  Harvard University

Chirag Patel's long-term research goal is to address problems in human health and disease by developing computational and bioinformatics methods to reproducibly and efficiently reason over high-throughput data streams spanning molecules to populations. Dr. Patel's group aims to dissect inter-individual differences in human *phenomes* through strategies that integrate data sources that capture the comprehensive clinical experience (e.g., through the electronic medical record), the complex phenomena of environmental exposure (e.g., high-throughput measures of the *exposome*), and inherited genomic variation. He received his doctorate in biomedical informatics from Stanford University.

- **Nisha Sipes, PhD**
  Toxicoinformatics Group
  NIEHS

Nisha S. Sipes, PhD, is a Health Science Evaluator in the Biomolecular Screening Branch of the National Toxicology Program (NTP). Her projects are focused on 1) analyzing and developing computational approaches for the Tox21 high-throughput screening dataset as well as genomics datasets, 2) developing better estimates of in vivo likelihood of exposure, 3) providing input into testing scenarios, and 4) facilitating better public understanding and use of the data. Prior to joining the NTP, Dr. Spies spent 5 years in the National Center for Computational Toxicology at the US EPA where she analyzed ToxCast high-throughput screening data and built computational models of developmental toxicity. Dr. Sipes received a B.S. in mechanical engineering, M.S. in biomedical engineering, and a PhD in cell and molecular biology from the University of Cincinnati, Ohio. She is the Secretary for the Genetics and Environmental Mutagenesis Society (GEMS), a member of the Society of Toxicology and Teratology Society, and serves on the Editorial Board of Reproductive Toxicology.