Data Science Meets Drug Discovery
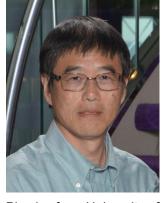
Advancing Drug Discovery: A Webinar Series

September 13, 2023 – 12:00 PM – 1:00 PM ET

Philip E. Bourne, PhD, FACMI is the Stephenson Founding Dean of the School of Data Science, Professor of Data Science and Biomedical Engineering at the University of Virginia, USA. Prior to that he was the Associate Director for Data Science (ADDS; aka Chief Data Scientist) for the US National Institutes of Health (NIH) and a Senior Investigator at the National Center for Biotechnology Information (NCBI). In his role as ADDS he led the trans NIH US $110M per year Big Data to Knowledge (BD2K) research initiative and contributed to data policies and infrastructure aimed at accelerating biomedical discovery. Examples include: establishing the NIH Commons, support for data and software citation and establishing preprints as a supported form of research. Prior to joining NIH, Dr. Bourne was Associate Vice Chancellor for Innovation and Industry Alliances in the Office of Research Affairs and a Professor in the School of Pharmacy and Pharmaceutical Sciences at the University of California San Diego (UCSD). Dr. Bourne is a Past President of the International Society for Computational Biology, an elected fellow of the American Association for the Advancement of Science (AAAS), the International Society for Computational Biology (ISCB), the American Medical Informatics Association (AMIA) and the American Institute for Medical and Biological Engineering (AIMBE). He has published over 350 papers and 5 books garnering over 70,000 citations and co-founded 4 companies. Awards include the Jim Gray Award eScience Award and the Benjamin Franklin Award.

His current research focuses on data science methods applied to systems pharmacology structural bioinformatics and scholarly communication. He has a strong interest in helping the next generation through the Ten Simple Rules series of professional development articles and his work as Dean of one of the few data science schools worldwide where new models of higher education are being emphasized.

Dr. Lei Xie is currently a professor in Computer Science at Hunter College, and Ph.D. program at Computer Science, Biochemistry, and Biology at the Graduate Center, The City University of New York. He is also an Adjunct Professor in Neuroscience at Weill Cornell Medicine, Cornell University.   His research focuses on developing new methods in machine learning, systems biology, and biophysics for multi-scale modeling of drug actions and causal genotype-phenotype associations, and applying them to drug discovery and precision medicine. From 2001 to 2011, he was a principle scientist at San Diego Supercomputer Center (SDSC), research scientist in pharmaceutical company Hoffmann-La Roche and biotechnology start-up Eidogen. He was trained in Computational Biology and Biophysics as a postdoctoral fellow at Columbia University and Howard Hughes Medical Institute from 2000 to 2001. He obtained his Ph.D. in Medicinal Chemistry and M.S. in Computer Science from Rutgers University, and B.S. in Polymer Physics from University of Science and Technology of China.

Zheng Zhao is a research scientist in the School of Data Science and School of Medicine at the University of Virginia. He holds a B.S. in chemistry from Wuhan University and received a Ph.D. in bioinformatics in 2008 from the University of Science and Technology of China. His research focuses on the development and application of data-driven, computational systems pharmacology approaches for novel drug discovery, drug repurposing, drug mechanisms of action, etc.