Panelist Bios

**Paul Belcher, PhD**  
Global Product Strategy Manager, Biacore  
GE Healthcare

Dr. Belcher received his PhD in organic chemistry from the University of Newcastle upon Tyne in the United Kingdom. During his postdoctoral training, he worked under George Pettit at Arizona State University working on the first total synthesis of the natural product dolastatin 16, a potential cancer therapeutic. While at Arizona State, he established a label-free screening program for screening/characterization of large libraries of compounds to enable the development of synthetic probes to challenging targets. At GE, his focus has been on the value of drug-target binding kinetics for investigating structure-activity relationships and drug efficacy. He also works on fragment-based lead discovery, interacting predominately with small molecule screening groups within academia and industry to implement and optimize label-free methods for drug discovery. He has offered over 400 lectures at conferences, pharma/biotech industry sites, and Universities globally.

**Angela Holmberg, PhD**  
Director of Polymer Development  
Anfiro, Inc.

Dr. Holmberg received her PhD in Chemical and Biomolecular Engineering from the University of Delaware and two bachelor's degrees in Chemical Engineering (BChE) and Chemistry (BS) from the University of Minnesota Twin Cities. During her graduate studies, she invented a family of thermoplastic block and statistical copolymers from waste biomass with a unique mechanism for minimized production costs. This work resulted in one issued patent with another pending. One year ago, immediately following her work at MIT as a postdoc in the Olsen lab, she joined Anfiro™, a cleantech startup company that is developing water purification membranes, as its first employee.
Monique Johnson, PhD
Research Chemist
National Institute of Standards and Technology (NIST)

Dr. Johnson, an analytical chemist, received her BS degree in Chemistry from Lincoln University and her PhD in Analytical Chemistry from the University of Massachusetts Amherst. She is presently a Research Chemist and postdoctoral fellow at the National Institute of Standards and Technology (NIST). Her current research is an interdisciplinary project which explores the uptake of engineered nanomaterials in a model organism, Caenorhabditis elegans, where internalized nanomaterials are detected via conventional and single particle ICP-MS (inductively coupled plasma mass spectrometry), as well as TEM and confocal microscopy. As an analytical chemist, she has extensive experience in sample preparation of complex matrices such as human breast milk, plants, and food stuffs for total analysis, as well as ICP-MS and ICP-OES (optical emission spectrometry) analysis.

Stephen McCarron, PhD
Senior Process Development Chemist
Nitto Denko Avecia Inc.

Dr. McCarron earned his BS in Chemistry from Siena College and his PhD in Chemistry from the University of Massachusetts Amherst. He worked for 3 years as a research scientist with Laurus Synthesis Inc, which is a small contract research organization (CRO) that focuses on API (active pharmaceutical ingredient) process development. In that role, he worked on projects for various companies in the Boston area (as well as internal projects from our parent company Laurus Labs) to optimize a synthetic route for a given critical intermediate or drug compound. He recently joined Avecia as a Senior Process Development Chemist.

Ruth Zearfoss, PhD
Scientific Editor
Cell Reports

Dr. Zearfoss is a Scientific Editor at Cell Reports, based in Cambridge, MA. She earned her PhD in Biomedical Science from the University of Texas at Houston Graduate School of Biomedical Sciences, where she studied early vertebrate development. She then completed her postdoctoral studies at the University of Massachusetts Medical School in Worcester, MA, where she focused on post-transcriptional regulation of gene expression and the biochemistry of RNA-protein interactions. Throughout her training, she actively communicated her research, giving oral and poster presentations at national and international meetings as well as publishing regularly in scientific journals. She moved to Cell Reports in November 2014, where she manages the review process for manuscripts and continues to interact with the scientific community.
Dr. Hughes joined the National Cancer Institute’s Division of Cancer Biology in 2015 as a Program Director for the Cancer Systems Biology Consortium and the Physical Sciences in Oncology Network. Dr. Hughes’ interest in cancer systems biology and physical oncology stems from her background in applying chemical and biomedical engineering principles to investigate cell signaling pathways involved in cell migration, invasion, and cancer metastasis. Following completion of her BS in Chemical Engineering from Iowa State University, Shannon spent three years as a process engineer working in the field of drug delivery at 3M in St. Paul, MN. Industrial research motivated her Ph.D. in Biomedical Engineering at Washington University in St. Louis where she studied the molecular mechanisms underlying bioactive sphingolipid-mediated endothelial cell migration. After moving to MIT, she obtained a DOD Breast Cancer Research Postdoctoral Fellowship to systematically investigate the role of the cytoskeleton in receptor tyrosine kinase-mediated breast cancer metastasis. Before coming to NCI, Shannon co-authored many research publications in both experimental and quantitative biology, mentored various undergraduate and graduate level students, and served as a lead technical research instructor in the Biological Engineering Department at MIT. In her role as a Program Director at NCI, she manages the Cancer Systems Biology Consortium, NCI’s main effort to tackle complex questions in cancer through the explicit integration of mathematical and computational approaches with experimental biology, and co-leads the Human Tumor Atlas Network, a Beau Biden Cancer Moonshot initiative.