BUENAVENTURA IPS CHAPTER

Advanced Detection Technologies and Artificial Intelligence Benefit the Biopharmaceutical Industry.

By P. Grandsard, Ph.D., & J. McGivern., PhD

May 25, 2017

6:30 pm (pizza and networking), 7 pm talk

Location

Hub101 - 31416 Agoura Road -Westlake Village, CA 91361

Meetings are free and open to the public

RSVP at http://ieee-bvdetectiontechnologies.eventbrite.com/

Discovery and development of human therapeutics is a very complex, decades-long process with many iterative workflows where inputs and outputs need to be carefully orchestrated in locations across the world. From research to commercialization of a single therapeutic, thousands of decisions must be made with great urgency. As decisions are data-driven, the assays and analyses generating the required information must demonstrate increasingly high-throughput with great-sensitivity and be highly accurate & predictive. Growing socio-economic pressures on the biopharmaceutical industry as well as our *emerging* true understanding of human biology/health drive the increasing urgency. A company like Amgen therefore invests in the application of established detection technologies (such as surface plasmon resonance spectroscopy, electrophysiology, and microscope-based imaging of proteins, cells & whole-organisms) and in the development & implementation of newer technologies (such as graphene-based electronic sensors) for the characterization of molecules and molecular interactions. Furthermore, we believe that relevant novel detection technologies can complement and be made more powerful by in-silico information generating methodologies e.g., first-principle-based predictive modeling and artificial intelligence (AI). In this meeting, we will discuss the application of existing & novel detection technologies in drug discovery & development and will present insights on why we believe we need to employ both analytical & computational approaches to enhance decision-making. Finally, we look forward to Q&A and debate.

Dr. Peter Grandsard is currently an Executive Director of Research at Amgen responsible for the characterization of pre-clinical-stage therapeutic candidates. Since joining Amgen in 1996, he has had a variety of roles and responsibilities. Trained as a chemical engineer (BE/ME) and as an analytical chemist (Ph.D.), he started as a scientist designing and implementing new laboratory automation and instrumentation, in what was then a new group named R&AT (Research & Automation Technologies). Later he led that team of engineers, physicists, biologists, and chemists, to increase therapeutics discovery and development efficiency, or to enable new activities. In 2008, Peter started leading another diverse organization (DAS, Discovery Analytical Sciences) whose task it is to analyze therapeutic candidates and reagents, biologics or synthetics alike, in order to understand their structures, their physical-chemical properties, and their protein target binding properties.

Dr. Joe McGivern is Director of the Bioassay & Profiling group at Amgen in Thousand Oaks-California. His group develops in vitro biochemical, biophysical & cell-based assays to enable high-throughput screening as well as mechanistic studies and detailed characterization of novel small & large molecule drug candidates & tool compounds. Prior to joining Amgen in 2000, Joe held research scientist positions at Roche, Palo Alto-California & Syntex, Edinburgh-Scotland. He obtained his PhD in physiology from the School of Medicine at Queen's University, Belfast-Northern Ireland under the mentorship of Dr Norman Scholfield.