Robert H. Ring, Ph.D.

MIND Institute Distinguished Lecturer Series – September 14, 2016

Biographical Information

Robert Ring, Ph.D., is a seasoned R&D leader, with sixteen years of diverse experience in executive, strategic and technical leadership roles across the pharmaceutical industry, non-profit sector and venture philanthropy space. Throughout his career, Ring has distinguished himself as an innovator, with a track record of accomplishments that involve all phases of the translational research value chain.

Ring most recently served as the Chief Science Officer of Autism Speaks (AS), overseeing all aspects of the science mission for the world's largest science and advocacy non-profit operating in the rapidly expanding autism/neurodevelopmental disorder space. Since 2005, AS has provided over $300M in R&D funding aimed at improving treatment, diagnosis and technology solutions for individuals with autism spectrum disorders (ASD). Originally recruited from industry, Ring served as Vice President and Head of Translational Research for AS before taking over as CSO. Among his accomplishments at AS, Ring helped spearhead a collaborative partnership with Google and SickKids in Toronto to establish MSSNG, an unprecedented cloud database featuring open-access, whole-genome sequence data from 10,000 multiplex families (www.mss.ng) with autism. Ring was also centrally involved in launching DELSIA, a venture arm of AS working to facilitate the commercialization of scientific innovations by entrepreneurs, academic institutions and small companies across the autism space.

Before joining AS, Ring served on the executive leadership team of Pfizer's Neuroscience Unit, and headed the global pharma giant's groundbreaking Autism Research Department. From basic target identification to phase 2 proof-of-concept studies, Pfizer's autism program pioneered efforts to develop first in disease medicines for autism and closely related neurodevelopmental disorders, with an emphasis on rare genetic syndromes such as Fragile X, Rett, Tuberous Sclerosis and Phelan McDermid. At the helm of the program, Ring was centrally involved in helping develop the research, regulatory and commercial strategies for this new therapeutic area.

Prior to Pfizer, Ring distinguished himself during his decade-long tenure in CNS drug discovery and development at Wyeth Pharmaceuticals. From scientist to lab head, team leader, group leader and therapeutic area head – at Wyeth Ring earned his way to senior leadership through the traditional ranks of discovery roles. Through it Ring developed a deep, fundamental understanding of the drug discovery and development process.

In addition to a strong track record of developing and leading cross-functional teams, Ring has extensive experience developing talent, strategic planning and managing externalized research programs and collaborations.

A neuroscientist by training, Ring earned his Ph.D. in molecular neurobiology from the City of Hope National Medical Center in his native Southern California. Today, he remains engaged academically, with faculty appointments (adjunct) at Mount Sinai School of Medicine (Department of Psychiatry), as well as Drexel University College of Medicine (Department of Pharmacology & Physiology) where he remains an active instructor in Drexel's high-profile Drug Development Program.

Ring is a member of numerous professional boards and societies, and he serves as a public member on the Interagency Autism Coordinating Committee (IACC), which is an appointment he received from HHS Secretary Burwell in 2015.

Presentation Abstract (4:30pm presentation)
Peeling the Onion: The Evolving Challenges of Therapeutics Development in Autism

I intend on providing the audience with a brief history of treatment development for autism and related neurodevelopment syndromes, offering perspectives on the evolving challenges that continue to shape current and future therapeutics development. Although my talk will lean towards presenting the evolving challenges and opportunities for the development of medical treatments, I do plan to emphasize the need for advancing more integrated, holistic approaches to treatment development, and for accessing a fuller diversity of approaches being revealed by research. I also want to offer the audience a diversity of perspectives on the same challenges that mirror the diverse organizations I have held leadership roles in, from industry to non-profit to venture work. I also plan on introducing some of the strategic context converging on treatment development that is often set aside (e.g. regulatory dimensions, biotechnology). Topics that will be covered during the presentation include:

- A reframing of the endgame: Defining the clinical targets (e.g. symptoms, disease modification), treatment goals and coming to terms with the effect ceilings of different therapeutic modalities.

- Practical challenges created by evolving diagnostic constructs, current limitations to the valid measurement of outcome(s), and diversity of roles biomarkers play in reducing development risks associated with clinical heterogeneity.

- Understanding the differences in treatment development value chains: Defining and contrasting current process/pathways required by the field to bring different types of treatment to patients (e.g. medicines vs. behavioral interventions vs. technologies vs. CAM). The path medicines travel down with FDA is different than behavioral interventions, as well as others modalities (e.g. assistive, diagnostic, therapeutic technologies, etc.). The differences have implications for research priorities, delivery, reimbursement, and ultimately value to families.

- Importance of alternative treatment modalities (e.g. medical devices/technology, therapeutic games, medical foods/diets) and the future challenges of integrating multimodal approaches to clinical management of ASD.

- Game-changers: Highlight several important stories that are disrupting the way we think about therapeutics discovery, diagnosis and/or innovating how the research and development ecosystem responsible for delivering new treatments will operate moving forward. These include several specific projects, programs and initiatives.

- Laying out what I believe to the key strategic challenges (open questions) that must be addressed by the field if we are want to fundamentally change the pace and value of new treatment development for families with ASD. These are not intended to be strategic priorities for the larger field of research, rather what I believe are the critical bottlenecks holding back treatment development.