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Inaugural Translational Research in NeuroVirology Lectureship
Harris Gelbard

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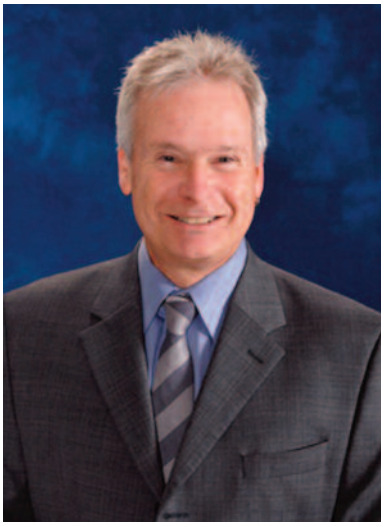

Harris A. (Handy) Gelbard, a native of Louisville, KY, entered the Honors Program in Medical Education at Northwestern University in Chicago in 1972, where he received his B.S., M.S., M.D., and Ph.D, graduating in 1983. He continued his medical training in Pediatrics with a residency at Children's Memorial Hospital at Northwestern from 1983 through 1985, followed by a pediatric neurology residency at Boston Children's Hospital.

Dr. Gelbard then accepted a faculty appointment as an Assistant Professor in the Department of Neurology at the University of Rochester Medical Center. He was promoted to Associate Professor in 1995 and, in 2000, achieved the rank of tenured Professor in the Departments of Neurology, Pediatrics, and Microbiology and Immunology. In 2008, he was appointed the Director of the newly created Center for Neural Development and Disease, and was reappointed in 2013 for an additional five-year term.

During his residency, he was the recipient of a Dana Foundation Fellowship in the Neurosciences while working in the laboratory of Ross Baldessarini and Martin Teicher at the Mailman Research Institute at McLean Hospital. With the continued support of the Dana Foundation and an NIH/NINDS-funded R29 First Award, he established his independent research program on investigating the effects of early brain injury on dopaminergic neurotransmitter systems. This work earned him the Wyeth-Ayerst First Prize in New Psychiatric Research at the VIII World Congress of Psychiatry in 1989 and the Child Neurology Young Investigator Award in 1990.

In 1992, inspired and motivated by a friend and colleague who succumbed to HIV-1 associated dementia, Handy shifted his research focus to identify molecular mechanisms relevant to the neuropathogenesis of HIV-1 associated neurocognitive disorders (HAND). He initiated scientific collaborations with Leon Epstein, David Volsky, and Howard Gendelman, and a clinical collaboration with Karl Kieburtz. He began a research program initially dedicated to repurposing FDA approved drugs for the adjunctive treatment of HAND. Frustrated with the inability of these agents

to modify the course of HAND, he continued his NIMH-funded work with several collaborators as well as a number of industry partners, including BioFocus Discovery and Califia Bio, to design a new class of small molecule therapeutic agents targeting mixed lineage kinases (MLKs) that were subsequently patented nationally and internationally in 2014. Because MLKs control neuroinflammatory responses that occur during HIV-1 infection of the central nervous system, and are amenable to small molecule inhibition without directly affecting cell fate, they represent a highly compelling target for intervention in the pathogenesis of HAND, as well as other neurodegenerative diseases, both acute and chronic, including post-operative cognitive dysfunction (POCD), multiple sclerosis (MS), and Parkinson's disease (PD). Following a successful preclinical program supported by a Developmental Center for AIDS Research and then CFAR (led by Stephen Dewhurst), NIMH, and NINDS SBIR grants to validate these agents, he was able to garner support from URVentures, the technology transfer arm of URMC, to initiate IND-enabling studies for the development compound URMC-099, a "selectively non-selective" MLK3 inhibitor. This work, in turn, led to the founding of Camber NeuroTherapeutics, Inc., a Rochester-based biotech company dedicated to bringing URMC-099 into clinical trials for HAND and POCD. Dr. Gelbard serves as the leader of the scientific advisory board for Camber NeuroTherapeutics, while retaining a full time appointment at URMC.

Dr. Gelbard and his colleagues continue a highly active collaborative effort to investigate the roles of both MLK3 and leucine rich repeat kinase type 2 (LRRK2), which is a target for MLK3, in mediating the neuropathogenesis of HAND, with a new effort to develop small molecule therapeutics directed at LRRK2 in collaboration with Albany Molecular Research Institute and Camber NeuroTherapeutics. Perhaps most intriguingly, Dr. Gelbard and his close collaborators have identified a unique set of interactions between these small molecule kinase inhibitors and nanoformulated antiretroviral therapies that demonstrate an entirely new approach to elimination of persistent HIV-1 infection in mononuclear phagocytes.

Driven by personal motivation and a fervent curiosity, Handy has built a highly productive and translational research program that continues to flourish. The ISNV is honored to present Dr. Gelbard with the inaugural Translational Research in NeuroVirology Lectureship.