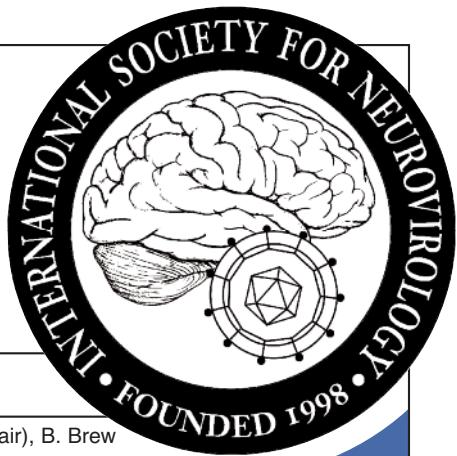


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Janice Clements Gives the Inaugural Bill Narayan Lectureship

Shilpa Buch, Ph.D. • Kansas City, KS



One look at Dr. Janice Clements and you are staring at a pillar of strength. She is a dynamic leader who is an epitome of success and diligence. Within a short span of time, through her dedication and hard work, Dr. Clements has risen to the ranks of being the Vice Dean for the faculty, the Director of the Department of Comparative Medicine while leading a highly active retrovirus laboratory at the Johns Hopkins University. She spearheads a distinguished, multidisciplinary, research program that focuses on the molecular pathogenesis of lentiviruses. The main interest of her group is aimed at exploring the molecular basis of HIV-associated pathologies using the SIV-infected macaque model system. Pioneering work from her group has provided many of the foundational concepts that are currently being utilized to explore the pathogenesis of HIV and its effects on the immune and nervous systems.

Her scientific achievements are stellar. Dr. Clements was the first scientist to clone and sequence lentivirus genomes, thereby unraveling their complex genetic and molecular organization. Subsequently, a series of papers published by her elucidated the molecular basis for antigenic variation in the classic model of slow virus (visna) infection. Her ground-breaking work on the initial cloning of lentivirus genomes formed the basis for characterization of the AIDS virus, HIV, as a member of the lentivirus family. This landmark breakthrough has been critical in our understanding of lentivirus pathogenesis and its relationship with other oncogenic retroviruses. Role of macrophages as key target cells of lentivirus infection and central to the disease process had long been recognized. Dr. Clements' work on the molecular mechanisms of lentiviruses has provided further important insights into the pathogenesis of HIV including high susceptibility of infection and disease in macrophages in the end organs such as brain & lungs, role of antigenic variation of lentiviruses in persistence and evasion of immune control and the inability to develop successful immunological approaches for prevention of lentivirus infections.

As an extension of her work on lentiviruses she initiated work on the relevant SIV/macaque model of NeuroAIDS. She successfully developed the first virus molecular clones that were both macrophage-tropic as well as neurovirulent, and proceeded to demonstrate in depth the molecular basis for SIV neuropathogenesis *in vivo*. Work from her laboratory for the first time identified CD4-independent entry of virus into the cells of the CNS. The neurovirulent

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SIV clone developed and characterized by her was critical for the progress of the “novel accelerated, consistent model” of HIV/AIDS. This model has proved a valuable tool to decipher the early effects of innate immunity in the brain. Work from her group has shed light on a novel signaling pathway in macrophages for SIV latency. Another application of this model has been its translational approach to decipher the anti-inflammatory and neuroprotective role of the drug minocycline. These key findings formed the basis for testing the role of minocycline in Multi-Center Clinic trials for the treatment of AIDS-associated pathologies. Using this model system, Dr. Clements has also established a latency model to study reservoirs of HIV in vivo as well as identifying a novel mechanism for the establishment of SIV/HIV latency in macrophages in the brain triggered by innate immune responses in vivo.

Besides academic achievement, Dr. Clements has also proved her caliber as an outstanding administrator who champions the causes of women and is their active voice in the field. At Hopkins she re-structured the Women's Leadership Council to actively undertake the mission of developing and mentoring women junior faculty and has been instrumental in fostering leadership skills aimed at preparing senior women faculty for leadership positions. In 2005, she organized the Women Professors Celebration at Johns Hopkins School of Medicine commemorating the promotion and celebration of women Professors, an event that was attended by celebrities such as Cokie Roberts (ABC News) and the 2005 Nobel Laureate Dr. Linda Buck. Great things DO indeed come in small packages!



The Bill Narayan Lectureship is dedicated to the study of viral pathogenesis and the neurovirology of lentiviruses. Dr. Narayan started his career as Dr. Richard T. Johnson's first post-doctoral fellow in the laboratory of NeuroVirology at Johns Hopkins School of Medicine in 1970. From 1972 through 1993, he developed his research and was promoted at Johns Hopkins to Professor in the Division of Comparative Medicine and founded the Retrovirus Biology Laboratories in 1988. Since 1993, Dr. Narayan had served as Chair of the Department of Microbiology, Molecular Genetics, and Immunology at the University of Kansas Medical Center, Kansas City, KS, USA. He also served as the Marion Merrell Dow Foundation Distinguished Professor and Director of the Marion Merrell Dow Laboratory of Viral Pathogenesis at the University of Kansas Medical Center. Bill studied the pathogenesis of lentiviruses before the emergence of HIV, and his studies predicted the neuropathogenesis of

HIV, the inability of antibody to control lentiviruses, antigenic variation within the infected host, and the difficulty in protecting the host with vaccine strategies. He had done all this before HIV was identified. When HIV was identified as the cause of AIDS, Bill made a conscious decision to study the pathogenesis of the simian immunodeficiency virus in the macaque model. His research provided the foundation for the early studies of the pathogenesis of the human immunodeficiency virus and its effects on the immune and nervous systems. His long-term contributions established the SIV model for studies of AIDS and CNS pathogenesis. In the final stages of his career, Dr. Narayan focused major efforts on the development of a vaccine against HIV-1 using the simian/human immunodeficiency virus (SHIV) macaque model of AIDS. His contributions in SIV research are considerable, spanning pathogenesis, neuropathogenesis, and the development of a therapeutic SIV vaccine. All of these accomplishments pale in comparison to his role as mentor and his ability to develop independent scientists. He trained over 40 scientists whom he taught to think critically about pathogenesis and become leaders in their fields. He always respected the training and background of his mentees and sought their ideas. He mentored by making you a trusted colleague and friend.

The Bill Narayan Lectureship

The International Society for NeuroVirology will accept nominations for the 10th International Symposium on NeuroVirology for the Fall of 2010. Please send all inquiries and nominations to mail@isnv.org



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