



# ISNV

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## Kamel Khalili 2010 Pioneer in NeuroVirology

Jennifer Gordon Ph.D., Philadelphia, PA

The International Society for NeuroVirology has honored Dr. Kamel Khalili with the 2010 Pioneer in NeuroVirology Award for his numerous and outstanding contributions to the field. Dr. Khalili is Chair of the Department of Neuroscience and Director of the Center for NeuroVirology at Temple University School of Medicine in Philadelphia. He is the eighth recipient of this award and the first Pioneer who was not trained as a clinician.

Dr. Khalili received his Ph.D. from the Department of Microbiology at the University of Pennsylvania in 1983 followed by a postdoctoral fellowship at the Wistar Institute. He first became interested in eukaryotic gene transcription and translation while working in the laboratory of Dr. Roberto Weinmann at Wistar. In the early 1980's, he pursued a postdoctoral fellowship in Molecular Virology in one of the top laboratories studying eukaryotic gene regulation at NCI under the direction of Dr. George Khoury. There he began to focus on temporal gene expression comparing the constitutive activity of the SV40 promoter sequences with the more restricted activity of the recently isolated JC virus promoter as a model for tissue-specific gene regulation and viral tropism. After completing a three year Fogarty Scholarship at NCI, Dr. Khalili landed his first faculty position at Thomas Jefferson University in Philadelphia in 1987. He has since remained in Philadelphia subsequently expanding his research group into a division (at Thomas Jefferson University), a Center (at Drexel University), and finally as a Department (at Temple University).

Dr. Khalili continued his work on JC virus (JCV) and the rare demyelinating disease with which it is associated, progressive multifocal leukoencephalopathy (PML), which was becoming increasingly more common with the spread of HIV-1 infection. He began to focus attention on understanding the possible interaction between JCV and HIV-1 that may lead to a higher incidence of PML among AIDS patients. Through these studies, he demonstrated for the first time TAR-independent Tat transactivation of the HIV-1 LTR as well as Tat transactivation of the JCV promoter. In the process, he



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has identified the involvement of many host transcription factors and regulatory proteins that participate in expression of JCV and HIV-1 and novel mechanisms of viral-viral interaction and cross talk in the CNS.

Always interested in translating his *in vitro* findings to the *in vivo* setting, he has investigated JCV gene expression using transgenic mice containing the gene for JCV T-antigen under the control of the natural JCV promoter. While some mice have a demyelinating phenotype, they more frequently develop nervous system tumors and these mice provided the first evidence that the JCV T-antigen alone could transform cells *in vivo*. The characterization of the JCV T-antigen mouse models led Dr. Khalili to embark on a series of studies investigating panels of brain tumors for the presence of JCV. Determined to use a multidisciplinary approach to lend credence to the findings, he has detected viral DNA and the expression of viral T-antigen and Agnoprotein in a broad range of neural and non-neural tumors. Dr. Khalili suggests these findings point to an association between JCV and human tumors. Despite his cautiousness to ascribe a contributing role for JCV in human cancer at this stage, he has aggressively pursued the underlying mechanisms whereby JCV T-antigen and Agnoprotein may transform cells using the viral proteins as a powerful tool to uncover weaknesses in the cells that are exploited by JCV.

Dr. Khalili's scholarly pursuits and mentorship in the field cannot be ignored. Early in his career, he quickly took on responsibility for mentorship and training of graduate students and M.D./Ph.D. students who are always attracted to the vibrant and dynamic laboratory environment he continues to maintain as his small laboratory has grown into a department. He has trained over eighteen graduate students, sixteen M.D./Ph.D. students, thirty-two post-doctoral fellows and eighteen visiting scholars, as well as having served as a friend and mentor to countless colleagues in the field. Stimulated by discussion around the table with colleagues at an international conference about the lack of a forum specifically for publishing neurovirology-oriented work, Dr. Khalili created the Journal of NeuroVirology in 1994 and organized the first International Symposium on NeuroVirology held in Philadelphia in 1998, which led to the establishment of the International Society for NeuroVirology the same year. He has served as founding Treasurer of the ISNV, as Editor on comprehensive texts on polyomaviruses and viral oncology, and as organizer of many conferences and workshops around the world. Dr. Khalili has authored over 340 scholarly publications in highly regarded journals. Through his leadership, commitment, and tireless dedication, he will continue to serve as a role model and mentor to many throughout the field of neurovirology.

**Request for Nominations  
for the next Pioneer in NeuroVirology**

The 11<sup>th</sup> symposium will be held in New York, New York, Spring 2012

Nominations should be forwarded to:  
**Dr. Lynn Pulliam, President**  
International Society for NeuroVirology  
E-mail: [lynn.pulliam@ucsf.edu](mailto:lynn.pulliam@ucsf.edu)

International Society for NeuroVirology  
**ISNV**  
LectureShip Series

**Past recipients of the Pioneer in NeuroVirology Award**

 1999	 2000	 2002	 2003
Richard T. Johnson, M.D. Johns Hopkins University School of Medicine	Volker ter Meulen, M.D., Ph.D. University of Wurzburg	Neal Nathanson, M.D. University of Pennsylvania	Michael B. A. Oldstone, M.D. Scripps Research Institute
 2004	 2006	 2007	 2009
Hilary Koprowski, M.D. Thomas Jefferson University	Opendra Narayan, D.V.M., Ph.D. University of Kansas Medical Center	Donald H. Gilden, M.D. University of Colorado Health Sciences Center	Diane Griffin, M.D., Ph.D. Johns Hopkins University School of Hygiene & Public Health

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