

Kuan-Teh Jeang

Our loyal friend Kuan-Teh Jeang, or “Teh,” passed away unexpectedly at the age of 54 on the evening of January 27, 2013. Many of us came to know Teh as an energetic and gifted scientist for whom we had much respect and affection.

Teh was born in Taiwan in 1958, and he spent his childhood in Libya before coming to the U.S. in 1970. He began college at the Massachusetts Institute of Technology and attended medical school at Johns Hopkins University, receiving both his M.D. and Ph.D. by age 25. His Ph.D. thesis was on the regulation of gene expression in cytomegalovirus with Dr. Gary S. Hayward as advisor. Teh started his postdoctoral work at the National Institutes of Health (NIH) in the laboratory of Dr. George Khoury at the National Cancer Institute. Teh had been working at the NIH in Bethesda for 27 years, exactly half of his life, and was chief of the Molecular Virology section in the Laboratory of Molecular Microbiology. His major research interest was around the human immunodeficiency virus (HIV-1) and human T cell leukemia virus (HTLV-I), with an abundant production of more than 300 scientific publications on the molecular details of virus replication and the disease-causing mechanisms.

He started his work on HTLV-1 when he was with George Khoury. HTLV-1 is linked to the development of adult T cell leukemia and a variety of inflammatory manifestations, including HTLV-1 associated myelopathy. Teh was the first to show that HTLV-1 transcription is regulated through the cAMP signaling pathway implicating roles for CREB and CBP before these proteins were clearly identified and cloned. His research team also contributed to our understanding of how the viral Tax oncoprotein activates the proinflammatory factor NF- κ B. More recently,

he has proposed a role for deubiquitinases in the regulation of TRAF6-mediated NF- κ B signaling. Teh’s work has also advanced our understanding of genetic damage in virus-cellular transformation. In 1990, he first reported that the HTLV-1 Tax oncoprotein repressed DNA repair. Thereafter, he characterized the important roles of dysregulated mitotic checkpoint and AKT activation in cellular transformation. His work has contributed to the elucidation of the role played by the spindle assembly checkpoint in oncogenesis, helping to explain how the loss of multiple checkpoints alters cancer tropism *in vivo*.

In the late 1980s, Jeang’s lab showed that HIV-1 uses an unprecedented mechanism of transcription that is dictated by an RNA-binding protein, Tat, which binds a nascent viral RNA target (TAR), the first RNA enhancer element ever described. Teh has had a long-standing interest in understanding the viral and cellular factors that govern HIV-1 gene expression in infected human cells. Subsequently, Jeang’s group characterized cellular RNA-binding proteins that regulate HIV-1 replication, including the TAR RNA-binding protein (TRBP) that later became known as an important factor of the cellular RNA interference machinery. In recent work,

his lab has completed a genome-wide screening for human cell factors that are needed for HIV-1 replication. Using novel technology, Teh has extended his interests in RNA biology through the identification of small RNAs (siRNAs and miRNAs) that have biologically important roles in viral infection, cellular metabolism, and virus-induced pathogenesis.

Teh was an extremely hard-working scientist with a vision and a broad interest in all aspects of scientific endeavor. He also was a true scientific leader, initiating scientific debate, writing editorials, sitting on many committees, orchestrating new book volumes, and organizing international meetings on diverse topics. He was a great debater with strong opinions on virtually all subjects of science and life in general. In addition to all these accomplishments, one of Teh’s greatest contributions to science probably lies in his role as supervisor for young scientists. He was a gifted and superb mentor, and his commitments to his postdocs and friends were always strong. Teh trained over 40 international postdoctoral fellows. He has been a fantastic mentor to young scientists who have since spread across the globe to start their own laboratory. Their associations with Teh were critical to the advancement of their scientific careers.

Teh always had a special interest in scientific publication. For instance, in 1994 he joined the editorial board of the *Journal of Biomedical Science (JBS)* of the National Science Council of Taiwan, the country where he was born. In 2004 he launched the Open Access journal *Retrovirology*, where he had been editor-in-chief since launch. I joined him in several of these endeavors (see photo), but he was always the initiator, accelerator, and dynamo. Over the years, we have interacted on diverse science-related activities,



Kuan-Teh Jeang (right) and the author, Ben Berkhout (left), attending a meeting in Mumbai, India in October 2008.

the orchestration of new books, the launch of the Frontiers of Retrovirology meeting series, etc. Teh was also a strong

supporter of *Cell Host & Microbe*, having reviewed and authored for the journal since inception.

Teh's life was much too short, but his legacy and our memories of him will last forever.

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