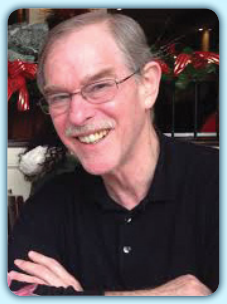
James A Shapiro, Virol-mycol 2015, 4:2
http://dx.doi.org/10.4172/2161-0517.S1.001

OMICS International
conferenceseries.com





*James A Shapiro*
*University of Chicago, USA*

## Retroviruses and the RW Genome

The RW Genome means that cells actively inscribe information onto and into their DNA. In real time, these inscriptions include nucleoprotein complexes and epigenetic chromatin modifications. Over evolutionary time, natural genetic engineering functions rearrange and incorporate new information into the DNA. Retroviruses are key components of the natural genetic engineering toolbox. In the course of mammalian and human evolution, they have played important roles, including contributions to the origination of the placenta and pregnancy. The lecture will highlight how retroviruses contribute to genome content and regulatory formatting.

### Biography

James A Shapiro, Author of the 2011 book *Evolution: A View from the 21st Century,* is Professor of Microbiology at the University of Chicago. He has a BA in English Literature from Harvard (1964) and a PhD in Genetics from Cambridge (1968). During a Postdoctoral at the Institut Pasteur in 1968, he established insertion mutations in bacteria. In 1969, he and colleagues at Harvard Medical School used *in vivo* genetic manipulations to clone and purify the *lac* operon. With Bukhari and Adhya in 1976, he organized the first conference on DNA insertion elements. In 1979, Shapiro formulated a molecular model for transposition. In 1984, he showed that selection stress triggers transposon action. Since 1992, he has been writing about the importance of biologically regulated natural genetic engineering.

jsha@uchicago.edu

**Notes:**