

# Dr. B.R. Ambedkar Center for Biomedical Research

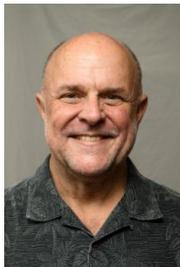


University of Delhi  
Presents  
Virtual Keynote Lecture  
on



## "Successful drug design and broad insights from diverse structures of the multi-talented HIV-1 reverse transcriptase enzyme"

### About the Speaker



**Prof. Eddy Arnold**

Board of Governors Professor, and Distinguished Professor, Center for Advanced Biotechnology and Medicine (CABM), & Department of Chemistry and Chemical Biology Rutgers University, USA

Discoverer of two non-nucleoside drugs, rilpivirine and etravirine, that have since been incorporated into six licensed medications for treating HIV/AIDS. It is a classic example of crystallographic structure-based rational drug discovery.



Chairperson  
Dr. Dinesh Gupta  
ICGEB, New Delhi, India



Patron  
Prof. Daman Saluja  
Director, ACBR

Date: 12th November, 2021; Time: 6:30 PM (IST)

Certificates will be provided for attending the seminar

**Abstract:** Since I began at CABM and Rutgers in 1987 I have been pursuing structural studies of HIV-1 reverse transcriptase (RT) with dual goals of understanding the chemistry of this marvelous molecular machine at the atomic level, and of using the structures to facilitate the process of developing novel therapeutic agents targeting this enzyme. I will review some of the variety of retroviral RT structures that have illuminated molecular mechanisms of catalysis, inhibition, and drug resistance. After we overcame many difficulties in obtaining suitable crystals and solving the initial structures, we have determined a wide variety of HIV-1 RT structures that have yielded insights into the intricate workings of this molecular machine, insights that are applicable to many other polymerases. In a structure-guided design effort driven by my laboratory's crystallographic structures and coordinated by Dr. Paul at his Janssen Center for Molecular Design, and Tibotec/Janssen in Belgium, we succeeded in developing two non-nucleoside drugs, rilpivirine and etravirine, that have since been incorporated into six licensed medications for treating HIV/AIDS. Rilpivirine recently was approved as part of the first long-acting anti-HIV treatment (together with cabotegravir, an integrase inhibitor), as the injectable Cabenuva, requiring only once-monthly dosing.



<https://meet.google.com/xit-uoso-ojw>



[https://youtu.be/7TismWW\\_BMQ](https://youtu.be/7TismWW_BMQ)

Convener: Dr. Sanjay Kumar Dey

Contact email: [acbrseminars@gmail.com](mailto:acbrseminars@gmail.com); Contact Number: +91 9717035809; Website: <http://acbrdu.edu/>