NITheCS

National Institute for
Theoretical and Computational Sciences

NITheCS COLLOQUIUM:

Art of Computational Drug Design – Possibility of Victory without Battle

Prof Özlem Tastan Bishop (Rhodes University)

Monday, 26 February 2024 | 16h00 – 17h00 SAST

Venue: Neelsie Cinema, Stellenbosch University, and online

--- Cheese and wine will be served at the venue ---

ABSTRACT

Drug resistance is a serious problem with a huge negative impact on public health and economic growth. We face this issue for almost all marketed drugs developed against any infectious diseases as well as for the drugs used in the treatment of cancer and other non-communicable conditions. Considering that drug research and development is a long and highly complex process, drug resistance urges us to better understand the drug resistance mechanisms and develop new strategies to possibly avoid the issue or at least to have longer lasting drugs.

This talk will discuss the computational approaches and tools that we have developed over the years with the applications to understand resistance mechanisms on HIV, TB and cancer drugs. The talk will also include research on developing pan-inhibitors against the malarial parasite.

BIOGRAPHY

Özlem is full Professor in structural bioinformatics at Rhodes University, and distinguished adjunct Professor at Saveetha University, Chennai, India.

She received her BSc degree in Physics from Boğaziçi University, Turkey. Then she moved to the Department of Molecular Biology and Genetics at the same University for her MSc degree. She obtained her PhD from Max-Planck Institute for Molecular Genetics and Free University, Germany, in 2003. While doing her PhD, Özlem became interested in structural biology, and during her postdoctoral positions (Texas University, USA; University of Western Cape and University of Pretoria) she gained experience in structural bioinformatics as well as structural biology.

In 2009, Özlem took up an academic position at Rhodes University (RU). She established the Research Unit in Bioinformatics (RUBi) in 2013. She has graduated 25 PhD and 38 MSc students since she joined RU. She received the Rhodes University Internationalization award for 2018; Rhodes University Vice Chancellor's Distinguished Senior Research award for 2020 and South African Society for Bioinformatics (SASBi) Silver Award for 2022.

She serves on the Editorial Board for PLOS One and Frontiers in Molecular Biosciences and Frontiers in Applied Mathematics and Statistics, Biological Modeling and Simulation Section, and she is an Advisory Board member of F1000Research Bioinformatics Gateway.

Özlem's broad research interest is structural bioinformatics and its applications to drug design and development. Her recent interest is in the allosteric mechanisms of proteins and understanding the effects of nonsynonymous single nucleotide variations on protein structure and function in the context of drug resistance and drug metabolism. She has published over 95 research articles.

REGISTER TO ATTEND

Visit
https://bit.ly/3vNzxhV
or scan:

SUBSCRIBE TO THE NITheCS MAILING LIST:

science & innovation
Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

NRF National Research Foundation

Stellenbosch UNIVERSITY IYUNIVESITHI UNIVERSITEIT