



Indian Institute of Technology Kanpur

C. N. R. Rao Lecture

January 16, 2023 (Monday) | 6.00 pm | L - 17

Speaker: Prof. Bushra Ateeq

Dept. of Biological Sciences & Bioengineering

Talk Title: Strategies to defeat the "Emperor of all Maladies": probing the (many) Achilles heel of cancer

Cancer is one of the most devastating disease worldwide. It remains a challenge to treat owing to its heterogeneous nature, wherein multiple distinct subpopulations of cells are found within a single tumor. This intratumoral heterogeneity is one of the key causes of tumor relapse, drug resistance and treatment failure. Hence, the identification of molecular signatures to categorize diverse cancer subtypes, and decipher their molecular underpinnings is critical to design effective treatment strategies. Over these years, Prof. Bushra's research group has been putting efforts to identify the crucial genetic and/or epigenetic alterations that are involved in tumor progression. Their overarching goal is to translate the mechanistic understanding of these tumor-specific alterations to decode the emergent properties of cancer such as drug resistance, immune evasion, and metastases. In her talk, she will share the inroads that they have made into the molecular understanding of two specific subtypes of prostate cancer, that are prevalent in India and globally. The speaker will also elaborate on how their findings led to the identification of actionable genetic alterations or molecular pathways that paved the way for precision therapeutic interventions and strategies for disease management.

About the Speaker

Prof. Bushra Ateeq earned her Ph.D. from the Aligarh Muslim University. After a brief stint as a Research Associate at the AIIMS and NII in New Delhi, she moved to McGill University for her postdoctoral studies. Later, she joined the Michigan Center for for Translational Pathology at the University



of Michigan as a Research Investigator.

Prof. Ateeq received the Shanti Swarup Bhatnagar Prize in Medical Sciences (2020), and several other national awards for her excellence in research, to mention a few, S. Ramachandran-National Bioscience Award, CSIR-CDRI Award, ICMR-Basanti Devi Amir Chand Prize, Sun Pharma Science Foundation and OPPI Scientist Awards. She has been featured in the 75 under fifty Scientists Shaping Today's India by the Department of Science and Technology. She is an Elected Fellow of the National Academy of Sciences and the Indian Academy of Sciences, Bangalore.

She also serves as an Editor-in-Chief of Translational Oncology (Elsevier) and is on the Editorial Advisory Boards of Frontiers in Genetics, Frontiers in Oncology, and Indian Journal of Biochemistry and Biophysics (CSIR-NIScPR).

About C.N.R Rao endowed Lecture Series

This lecture series was made possible by a generous donation by Prof. C.N.R. Rao, Linus Pauling Professor at JNCASR, Bangalore. The objective is to give one faculty member of the IIT Kanpur, each year, the honor of delivering a lecture to the institute's community, sharing the excitement of his/her research with them. Prof. Rao was a Professor of Chemistry at IIT Kanpur from 1963-76. During this period, he also served as the Dean of Research and Development. He also served as the chairman of BoG at IIT Kanpur from 2003 to 2006. Prof. Rao was born on June 30, 1934, in Bangalore. In 1958, he completed his Ph.D. from Purdue University and became a research chemist at the University of California at Berkeley. During 1984-89, he served as the Director of IISc Bangalore. He was the founder president of Jawaharlal Nehru Center for Advanced Scientific Research (JNCASR), Bangalore. He received Bharat Ratna, the highest civilian award in India in the year 2014. He is the recipient of most of the major scientific awards and is a member of all major scientific organizations. He is a foreign member of the US National Academy of Sciences, American Academy of Arts and Sciences and also a Fellow of the Royal Society (London).

All are cordially invited to attend

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