



INDIAN INSTITUTE OF TECHNOLOGY MANDI

भारतीय प्रौद्योगिकी संस्थान मंडी

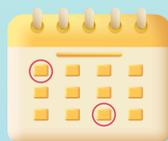
# Institute Colloquium

**“Quantum Mechanics in Shaping Chemistry :  
A perspective lecture”**



**Prof. Sourav Pal**

**Professor and Head of  
Chemistry, Ashoka University**



**17<sup>th</sup> April,  
2026**



**05:00 PM**



**Auditorium,  
North Campus**

## “Quantum Mechanics in Shaping Chemistry: A perspective lecture”

Prof. Sourav Pal

Affiliation: - Professor and Head of Chemistry, Ashoka University and former- Director of Indian Institute of Science Education and Research (IISER) Kolkata and CSIR-National Chemical Laboratory (NCL), Pune.

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### **Abstract: -**

In the 100 years of quantum mechanics and the forthcoming 100 years of quantum chemistry, the talk recollects how quantum mechanics has shaped the growth of chemistry. Quantum mechanics has been relevant in the length scale of molecules. Born-Oppenheimer quantum mechanics has been used for electronic structure extensively using high-quality approximations. For molecules with heavy-atoms, relativistic theories have been prevalent. The question today is not if quantum physics is important for chemistry, but is to ask how much physics is needed to do chemistry. The perspective lecture deals with this, drawing upon formulation and computational work from our groups.

### **Bio-Sketch: -**

Prof. Sourav Pal is presently the Professor and Head of Chemistry, Ashoka University and former- Director of Indian Institute of Science Education and Research (IISER) Kolkata and CSIR-National Chemical Laboratory (NCL), Pune. He was also a Professor of Chemistry at IIT Bombay and Visiting Professor, University of Arizona, Tucson, USA University of Torun, Poland and Institute for Molecular Sciences. He was instrumental in setting up Electronic Structure Theory Group at NCL. Currently, he is an Honorary Professor, IISER Kolkata and holds the position of Chair of the Chemical Division Council of Bureau of Indian Standards.

He is a distinguished theoretical chemist and has contributed to methodological and conceptual developments of coupled-cluster theory to many-body electronic structure theory, to the area of density based chemical reactivity as well as to catalytic and hydrogen storage materials using computational material science.

He obtained his 5 years' integrated Master's degree in Chemistry from Indian Institute of Technology (IIT) Kanpur in 1977, received Ph.D. degree from Calcutta University and was a post-doctoral fellow at the University of Florida, Gainesville, USA (1986-87) and was Alexander von Humboldt Fellow at the University of Heidelberg, Germany (1987).

Prof Pal is Fellow of all three National Academies of Science, Shanti Swarup Bhatnagar prize winner and the inaugural Sastra-CNR Rao awardee and has several other awards and recognitions. His was a Founder member of the Executive Board of Commonwealth Chemistry, and presently is Board member of Asia-Pacific Association of Theoretical and Computational Chemistry and in the Presidential Advisory Board of International Society of Theoretical Chemical Physics. He was the President of Chemical Research Society of India, 2014-17. He has published 320 papers and has guided more than 45 Ph D thesis.