

SEMINARS ON TECHNOLOGICAL ADVANCES AND  
INNOVATION

**THE JOURNEY OF HIGH-  
PERFORMANCE COMPUTER  
TECHNOLOGY (1988-2025):  
POWERING SCIENCE,  
INNOVATION AND BETTER  
FUTURE**



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The evolution of High-Performance Computing (HPC) from the era of vector supercomputers in 1988 to today's exascale and AI-driven computing platforms has transformed the landscape of Scientific discovery, Engineering Innovation, and Societal Applications. This talk traces the remarkable journey of HPC technology over nearly four decades, highlighting major milestones in computing architectures, Parallel processing, Networking, Storage systems, and Data-Centre infrastructure. Special emphasis will be placed on India's HPC journey, including the commissioning of the CRAY X-MP/14, the country's first Supercomputer at NCMRWF, and the subsequent advancements that have enabled cutting-edge research in Weather and Climate Prediction, Disaster Management, Life sciences, Aerospace Engineering, Artificial Intelligence, and Big-data Analytics.

The talk will also explore the critical role of HPC in addressing grand Scientific Challenges, Accelerating Innovation, and Supporting evidence-based decision-making. Finally, emerging trends such as AI-enabled supercomputing, Cloud-HPC convergence, Quantum Computing, Energy-efficient Architectures, and Intelligent Infrastructure Management will be discussed, providing insights into how next-generation computing technologies will continue to power science, innovation, and a better future for society.

**Jul | 9 | 2026**

TIFRH Auditorium 16:00 Hrs

Tea/Coffee 15:45 Hrs