



# 8<sup>th</sup> HBNI Alumni Webinar



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**Friday, 25<sup>th</sup> October, 2024 at 17.00 Hrs**

HBNI Council Hall, 2<sup>nd</sup> Floor, Training School Complex

*Quantum Computing - An Ongoing Technology Revolution*

**Dr. Rajeev Singh** completed Integrated Ph.D. (2006-2013) under the supervision of Prof. Sitabhra Sinha at The Institute of Mathematical Sciences, Chennai. Following this, he held postdoctoral fellowships at the Max Planck Institute for the Physics of Complex Systems in Dresden, Germany (2013-2015), and at the Department of Physics, Bar-Ilan University, Ramat Gan, Israel (2015-2016). He then joined the Department of Physics at the Indian Institute of Technology (BHU), Varanasi, where he served as a Ramanujan Fellow (2016-2017) and have been an Assistant Professor since 2017. His areas of interest include quantum computers, quantum many-body physics, quantum machine learning, and quantum devices.

## **ABSTRACT**

Quantum computing is one of the major disruptive technologies of modern times with significant advances coming from both academia and industry. I will present a historical introduction to the subject and discuss the current status. Due to its highly technical nature it presents many novel career opportunities from deep mathematical and theoretical computer science roles to highly applied engineering ones in the development of hardware. This field is also quite unique in that there are several research avenues in the industry as well with many jobs with a preference to PhD. Apart from a personal interest as a career, there is also an urgent need for our nation to develop a critical mass of expertise in this area. Students aspiring to make a mark with a significant contribution to national capabilities will also find this field very appealing.



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*All are cordially invited.*