

Department of Physics

MAHARAJA SUHEL DEV UNIVERSITY, AZAMGARH

Organizing

International Web-Based Seminar on Particle Astrophysics and Cosmology

on <u>1st May 2025</u>

Venue: Seminar Hall, Administrative Block

Time: 12:30 pm - 3:30 pm

About University

Maharaja Shuel Dev University, Azamgarh is a prestigious state university established by the Government of Uttar Pradesh through Gazette Notification No. 1446/79-V-1-19-1(K)-3-19 dated 5th August 2019. The university began its first academic session in 2021–22, in accordance with Notification No. 610/ Seventy-1-2021-16 (74)2018 TC, dated 28 April 2021. Nestled in the culturally vibrant and historically significant city of Azamgarh, the university proudly operates as both a **residential** and **affiliating institution**, serving as a beacon of higher education in eastern Uttar Pradesh.

The university's affiliated network currently includes **468 colleges** spread across **Azamgarh and Mau districts**, comprising **14 government-aided private colleges**, **4 government colleges**, **and 450 self-financed colleges**. With a growing academic ecosystem, Maharaja Shuel Dev University is swiftly emerging as a hub of research and development with cultural excellence.

In alignment with the National Education Policy 2020, the university launched 16 postgraduate and 1 undergraduate program across the faculties of Arts, Commerce, Science, and Management during the 2023–24 academic session. Continuing this momentum, eight new postgraduate programs are being introduced in the 2024–25 session on the university's newly constructed, state-of-the-art campus.

Azamgarh, the district headquarters and a major administrative center located approximately **260 km east of Lucknow**, provides a rich backdrop for academic growth and cultural immersion. With a strong commitment to academic innovation and excellence, **Maharaja Shuel Dev University** envisions establishing a distinct identity at both the **national and international levels**, fostering a new era of learning, research, and development.

About Seminar

Inspired by the academic stewardship and visionary leadership of the Hon'ble Vice Chancellor, the Department of Physics at MSD University is proud to organize a special one-day web-based seminar on **1st May 2025**, to be held on campus.

This seminar marks a rare and prestigious academic occasion, as we are honored to host (via online mode) **Professor Takaaki Kajita**, recipient of the **2015 Nobel Prize in Physics**, who will share insights into his groundbreaking discoveries in atmospheric neutrino oscillations and particle astrophysics.

We are also privileged to welcome **Professor Amare Abebe**, President of the African Astronomical Society and a renowned expert in the field of modified gravity, from North-West University, South Africa. Professor Abebe will deliver a talk on the cosmos and the theoretical advancements reshaping our understanding of the universe via online mode.

The aim of this seminar is to introduce both graduate and postgraduate students to the hidden sectors of the universe and the revolutionary scientific contributions made by our distinguished speakers in the fields of particle astrophysics, cosmology, and gravitation.

Such an event not only fosters scientific curiosity but also serves to inspire young minds, encouraging countless students—both directly and indirectly connected with the university—to pursue excellence in scientific research and exploration.

Patron Prof. Sanjeev Kumar (Vice-Chancellor)



Co-Patron

Shri Vishweshwar Prasad

(Registrar)

Convener

Dr. Ankur Chaubey

(Assistant Professor (G))

Organizing Committee Members Dr. Amit Kumar Mauraya (Co-Convener) Dr. Vibha Mishra (Organizing Secretary) Mr. Sanjay Kumar (Organizing Secretary)

Advisory Committee Members Dr. Avijit K. Ganguly (BHU) Prof. Syed Tahir Husain (Dean, SNC) Prof. Mohammad Imran Aziz(SNC) Dr. Siya Ram Shukla (SDJPGC)

IT Support Members Mr. Dheeraj Yadav



Speaker Prof. Takaki Kajita (Nobel Prize in Physics, 2015) University of Tokyo, Japan

Prof. Takaaki Kajita is currently a University Professor at The University of

Tokyo, Japan, where he also serves as Director of the university's Institute for Cosmic Ray Research. He earned his PhD from the School of Science at The University of Tokyo in 1986 and has since played a key role in the Kamiokande and Super-Kamiokande detector experiments at the Kamioka Observatory in central Japan.

In 1998, at the Neutrino International Conference held in Takayama, Gifu, Professor Kajita presented analysis results that offered compelling evidence for atmospheric neutrino oscillations—a breakthrough in particle physics. In recognition of this work, he was awarded the 2015 Nobel Prize in Physics, which he shared for the discovery of neutrino oscillations.

Professor Kajita has received numerous accolades for his contributions to science, including the Japan Academy Prize in 2012 and the Breakthrough Prize in Fundamental Physics in 2016. He is currently leading the KAGRA Project, which focuses on gravitational wave astronomy, further expanding the frontiers of astrophysical research.

Title of the talk: "Neutrinos ~ key particles for understanding the smallest particles and the largest Universe "

Date and Time : 1st May 2025, 1:30 pm (IST)

Speaker Prof. Amare Abebe Director of Research and Professor North West University, South Africa

Prof. Amare Abebe is a distinguished physicist



and the Research Director at the Centre for Space Research at North-West University (NWU) in South Africa. He earned his BSc in Physics and Mathematics from Addis Ababa University in 2006, followed by an MSc and PhD in Cosmology from the University of Cape Town in 2009 and 2013, respectively. Joining NWU in 2014 as a postdoctoral research fellow, he progressed to full professor, specializing in gravitation and cosmology. His research explores the universe's origin, evolution, and large-scale structures, focusing on alternative gravitational theories and dark matter/energy. Abebe has published several peer-reviewed articles, supervises postgraduate students, and teaches advanced courses in physics. Prof. Amare is a member of multiple scientific societies, including the International Astronomical Union, The South African Institute of Physics. Recently in April 2025, he has been elected as the president of the African Astronomical Society, aiming to expand astronomy education and collaboration across Africa.

Title of the talk: "Tensions in cosmology" Date and Time : 1st May 2025, 2:30 pm (IST)

> For joining the online seminar contact: Dr. Ankur Chaubey (Convener) Email: <u>ankurchaubey@hotmail.com</u> Mob: 9956085177.