



# A Workshop on GRAVITATIONAL WAVES & LIGO INDIA

## 10<sup>th</sup> - 14<sup>th</sup> September 2025

Organized by the Center for Astrophysics, Gravitation & Cosmology (CAGC), SRM University Sikkim &  
The Inter-University Centre for Astronomy & Astrophysics (IUCAA)  
Hosted by SRM University-AP, Andhra Pradesh (SRMAP)

### ABOUT THE WORKSHOP

As we celebrate a decade since the first direct observation of gravitational waves from the coalescing binary black hole (BH) system, GW150914, by the LIGO detectors --- a landmark event that ushered in the era of Gravitational Wave Astronomy and opened a new window of the Universe --- this workshop aims to foster a deep understanding of gravitational-wave (GW) astrophysics, data analysis techniques and the fundamentals of GW instrumentation among young participants. Through a series of lectures and demonstration sessions, the program will cover essential topics such as general relativity, source modeling, GW detectors, calibration, detector characterization, search methodologies, and parameter estimation, providing participants with a comprehensive foundation in both theoretical concepts and computational tools that drive current research. The heart of this workshop lies in its hands-on sessions, where the attendees will acquire practical skills in data analysis and instrumentation, preparing them to contribute meaningfully to ongoing and future research in this rapidly evolving field. With LIGO-India poised to become a key player in the global GW network, the workshop also offers a unique opportunity for participants to engage with this ambitious project and its cutting-edge technologies. To commemorate the 10th anniversary of GW discovery, a special public talk will be held, marking the first direct detection of gravitational waves on September 14, 2015.

### ABOUT THE ORGANIZING INSTITUTES

**CAGC, SRM University Sikkim (SRMUS)**, located in Gangtok, is an autonomous research centre at SRMUS dedicated to conducting pure research and related scientific activities in astronomy & astrophysics, space science, cosmology, and related fundamental physics. The centre was instrumentalized with the vision of advancing scientific research in space science & astronomy. CAGC, currently comprises of two research groups: Relativistic Astrophysics, Astroparticles, and Gravity Group (RAAPG) and Early Universe, Quantum Gravity, & Strings Group (EUQGS). They focus on a wide range of research areas, with thrust on high-energy astrophysics, compact objects, black hole astrophysics, X-ray binaries and active galactic nuclei, GW astrophysics, dark matter, early Universe, and classical and quantum gravity. SRMUS is a prominent educational institution in the northeastern (NE) region of India, offering a wide range of undergraduate, postgraduate, and doctoral programs across various disciplines, including engineering, management, and computer science, with a strong focus on multidisciplinary research in a picturesque Himalayan setting.

**SRM University-AP, Andhra Pradesh (SRMAP)**, located in Amaravati, is a multidisciplinary research-intensive institute that combines academic rigor, an evolving research ecosystem, entrepreneurial heritage, and a pioneering faculty. It aims to emerge as a world-class University in creating and disseminating knowledge and innovations, and providing students a unique learning experience in their chosen field of scholarship that would best serve the society and betterment of mankind, delivering world-class research-based education.

**The Inter-University Centre for Astronomy and Astrophysics (IUCAA)** is an autonomous institution under the University Grants Commission (UGC) of India to promote the nucleation and growth of active groups in astronomy and astrophysics at Indian universities. IUCAA's activities fall under two broad programmes: core academic programmes, which include basic research, the Ph.D. programme, advanced research workshops and schools, the giant metre-wave radio telescope, and guest observer programmes; and the visitor academic programmes, which include the visitor and associates programme, refresher courses for teachers

### PARTICIPANTS

The workshop is targeted at Master's (MSc/MS), Integrated MSc/MS (4th/5th year) students in Physics, Mathematics, Electronics, Applied Physics, Instrumentation Science, and Computer Science, as well as final-year Engineering (B.Tech/BE) and M.Tech/ME students interested in GW Science. Additionally, Ph.D. students in their first or second year of study in Physics, Astrophysics, Mathematics, or any field of engineering are eligible to apply.

**The workshop can support a maximum of 40 participants, out of which 30 will be local. The remaining 10 participants will be provided round-trip sleeper-class train fares, boarding, and lodging.**

### IMPORTANT DATES

Last date of submission:  
**31<sup>ST</sup> JULY 2025**

Selected applicants will be informed by  
5<sup>th</sup> August 2025 via email

### RESOURCE PERSONS (IUCAA, PUNE)

Apratim Ganguly Shivaraj Kandhasamy  
Shasvath Kapadia Sandeep K. Joshi  
Manasadevi P. T.

### VENUE

**SRM University AP, Andhra Pradesh**

### SCAN TO APPLY



<https://docs.google.com/forms/d/1GD0mSyYFmbohRl7GFs22hrDd7cqmn41DM9nlQXeEDYo/edit>

For more info or queries, email at [ligoworkshop2025@srmus.edu.in](mailto:ligoworkshop2025@srmus.edu.in)

### COORDINATORS

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