



INTERNSHIP OPPORTUNITY

Cost-efficient Application development using GNSS and NavIC

Sponsored by Accelerate Vigyan program of DST

21 December 2023 – 29 February 2024 (any 5 weeks)



GNSS Laboratory Burdwan (GLB), Department of Physics, The University of Burdwan, West Bengal is inviting applications for 5-week Internship Program under the *Accelerate Vigyan* Program of Science and Engineering Board (SERB), DST, Govt of India [<https://acceleratevigyan.gov.in/about-accelerate-vigyaan>]. **Five paid Internships** would be offered after shortlisting from the applicants under supervision of **Dr Anindya Bose**.

Global Navigation satellite system (GNSS) is now used for myriads of applications with reliability, precision, global, all-weather availability, and cost-effectiveness. Using satellite signals, GNSS provides accurate position, timing, and velocity (PVT) information. The internship would provide opportunity for hands-on experience in a state of the GNSS laboratory equipped with multitude of GNSS hardware and software.

GENERAL GUIDELINE: The period of the Training and Skill Internship shall be **5 weeks**. The supervisor would be assigning the Interns tasks/assignments, on which, the intern should work and prepare a report to be submitted. A certificate regarding successful completion of internship shall be issued only to the intern on satisfactory attendance and completion of the internship and on submission of the assignment report.

FINANCIAL SUPPORT: The internship will cover daily necessary expenses such as stationery, consumables, accommodation, food, etc., and will not contain any stipend. The support amount will be upto **Rs. 30000/- per intern** for the whole internship period. The interns will be eligible for TA reimbursement for their journey to the host institute from their hometown/home institute, both ways, as per GOI norms.

APPLICATIONS: • Any current Post Graduate (M Sc/ M Tech) or UG 4th Year student with associated background of Physics/ Electronics/ Geospatial Technology. • **Number of interns to be accommodated: 05** (to be selected among the participants based on results and interests) • The applicants should produce (to be uploaded with the online application form) a letter of authentication from their Supervisor / Head of the Department / Head of the Institute indicating their association with the institute and “No Objection Certificate (NOC)” for allowing their student to undergo internship, if selected. • **The dates of internship (5 weeks) may be selected by the candidate between 21 December 2023 – 29 February 2024** in consultation with the Supervisor (see below).

APPLY: Use the Google Form Link: <https://forms.gle/Umhg6DeM7rRFzK9c7>

Last Date of Application: **15 December, 2023**; Selected candidates will be intimated by Email.

ABOUT GNSS LABORATORY BURDWAN: visit <http://buanss.in>

Supervisor Contact:
Dr Anindya Bose
Lead, GNSS Laboratory Burdwan (GLB)
Department of Physics
The University of Burdwan
Golapbag, Burdwan 713 104, West Bengal

Mob: 9434004478

Email: abose@phys.buruniv.ac.in

Scan the QR Code to Apply:



**5 Week Internship Opportunity on Applications of GNSS
@ GNSS Laboratory Burdwan (GLB), Deptt. of Physics, The University of Burdwan
Sponsored by: Accelerated Vigyan, SERB-DST, Govt of India**

Updated Technical Details

Program: Event entitled "Global Navigation Satellite System (GNSS)" under SERB-VRITIKA Program

Ref: File Number: AV/VRI/2023/0068 dt. 10/11/2023

Program Coordinator:

Dr Anindya Bose

Department of Physics,

The University of Burdwan, Golapbag, Burdwan 713 104, West Bengal

Mob: 9434004478; Email: abose@phys.buruniv.ac.in

Global Navigation Satellite System (GNSS) is a satellite based system that provides precise Position, Velocity and Timing (PVT) information anywhere on the earth. Currently, there are four global constellations (GPS from USA, GLONASS from Russia, Galileo from EU and Beidou from China) and two regional (QZSS from Japan and NavIC/ IRNSS from India) are in operation. GNSS including NavIC are being used for myriads of applications varying in complexity and demand – in surveying, rail, road and aircraft navigation, fleet management, intelligent transport system (ITS), power generation and telecommunication industry and various other scientific applications including study of the atmosphere and remote sensing.

Although India is located in a favorable geographical location for receiving GNSS signals from all global and regional constellations, use of GNSS and full exploitation of its advantages have not penetrated the Indian society and market. More training and sensitization are required for popularization of the technology – academic institutions need to play major role in this regard.

GNSS Laboratory Burdwan (GLB), Department of Physics, The University of Burdwan has developed a state-of-art GNSS laboratory using funds from Government agencies (DRDO, ISRO, AICTE, DST) and one of the mandates of the laboratory is developing cost-efficient GNSS/NavIC-based solutions and applications as per the Indian needs. GLB wishes to share its facilities and domain expertise for manpower training including internships to students.

The objective of the current program is to enhance the depth of the technical knowledge of the internees through:

- Training on different types of GNSS hardware, data collection and processing methods and by exposing them to various application developments using GNSS/ NavIC.
- Exposing the interns on the ongoing application-oriented projects of the laboratory (on smart agriculture, low-efficient GNSS RTK and NavIC timing applications) by providing them scope to work with the projects.
- By providing the interns an assignment to complete within the stipulated period on any of the following topics
 - Use of handheld Android Devices for cost-efficient geolocation and scientific research
 - Development of IoT-GNSS/ NavIC-GIS solutions relevant to the Indian Society (Agriculture, pisciculture, asset tracking)

- GNSS/ NavIC based security devices.
- Atmospheric research using compact, low-cost modules.
- Text message based data communication over a distributed network.

The internees will be provided hardware and software support from the Laboratory and will be encouraged to develop their own project ideas.