File No: AGIHF/HR/Advt./2026-27/02 Date: 06.05.2026

ASSAM GOVERNMENT – IIT GUWAHATI HEALTHCARE FOUNDATION

Assam Government – IITG Healthcare Foundation is a Section 8 company. Government of Assam has joined hands with IIT Guwahati to establish a cutting-edge R&D institution in health sciences and technology – **Assam Advanced Healthcare Innovation Institute (AAHII)**. AAHII, located within IIT Guwahati campus comprises of an R&D Block, Academic block and a Super-specialty hospital (400 beds) with ancillary facilities invites applications for the following vacancy:

Sl. No.	Name of the Position	No. of posts
1	Research Associate – Development of Plant-based Drugs for Rheumatoid Arthritis	1
2	RF Engineer – Low-field MRI Systems (Indigenous Development)	1
3	Robotics and Mechatronics Engineer	1
4	Senior Robotics Software Engineer (C++ Expert)	1
5	Senior Mechanical and Design Engineer	1

Only the shortlisted candidates will be called for interview. No TA/DA will be paid for the purpose. Terms of Reference (ToR) for the aforesaid position are accessible at: **https://www.agihf.org/careers/vacancies.** Online applications will be received till 17th May 2026 at careers@agihf.org.

Sd/-
Chief Operating Officer
Assam Government – IITG Healthcare Foundation

TERMS OF REFERENCE (ToR)

1. Position: Research Associate - Development of Plant-based Drugs for Rheumatoid Arthritis

Job Description:

We are seeking a motivated and skilled Research Associate to work on a cutting-edge project aimed at developing plant-based therapeutics for rheumatoid arthritis.

Qualification:

Ph.D. in Biotechnology/Pharmacology/Phytochemistry/Life Sciences or related disciplines. Candidates who have submitted their Ph.D. thesis may also apply.

Experience:

1 - 2 years of experience in animal models of inflammation, natural product chemistry, or molecular biology techniques is desirable.

Desirable Skills:

1. Proficiency in data analysis tools and scientific writing.
2. Hands-on experience in cell culture, animal handling, and biochemical/molecular assays.
3. Knowledge of herbal medicine and drug development pipeline.
4. Strong communication and organizational skills.

Place of Duty: Assam Advanced Healthcare Innovation Institute (AAHII), IIT Guwahati campus.

Reporting:

The Research Associate will work under the overall guidance of the Chief Operating Officer, AGIHF and technical supervision of Prof. Dr. Lingaraj Sahoo, IIT Guwahati and Dr. Swapnil Sinha, BioNEST.

Key Responsibilities:

- Conducting phytochemical extraction and characterization of selected medicinal plants.
- Performing in vitro and in vivo assays to evaluate anti-inflammatory and anti-arthritic activity.
- Investigating molecular mechanisms using techniques like RT-PCR, Western blotting, ELISA, etc.
- Analysing experimental data and preparing reports and manuscripts.
- Assisting in maintaining laboratory records and coordinating research activities.

Compensation: As per industry standards and norms applicable, based on qualification and experience.

Duration: 1 year, extendable based on performance and funding.

2. **Position:** RF Engineer – Low-field MRI Systems (Indigenous Development)

Job Description:

To design and optimize RF subsystems for indigenous low-field MRI systems (~50 mT), including RF coils, transmit/receive chains, and shielding strategies. The role will focus on overcoming low SNR, field inhomogeneity, and hardware constraints unique to low-field MRI, in close integration with metamaterials and system-level development at AAHII.

Qualification:

B.Tech / M.Tech in Electronics Engineering / RF & Microwave Engineering / Communication Engineering / Biomedical Engineering, or related fields with strong grounding in electromagnetics and RF systems.

Experience:

1. Hands-on experience in RF circuit design, EM simulation, and experimental validation.
2. Proficiency in CST / HFSS / ADS / COMSOL for RF modelling.
3. Experience in impedance matching, S-parameters, and RF signal chain design.

Strongly Preferred (Low-field MRI relevance):

5. Experience in RF coil design (loop, solenoid, saddle, surface coils).
6. Understanding of low-frequency RF systems (~1–5 MHz range) typical of low-field MRI (~50 mT).
7. Experience with low-noise analog front-end design (LNA, filtering, shielding).
8. Familiarity with signal-to-noise optimization in weak signal environments.

Place of Duty:

Assam Advanced Healthcare Innovation Institute (AAHII), IIT Guwahati campus.

Reporting:

The RF Engineer will work under the overall guidance of the Chief Operating Officer, AGIHF and technical supervision of Dr. Erwin Furher and Dr. Debabrata Sikdar, IIT Guwahati.

Key Responsibilities:

1. Design and optimize RF coils specifically for low-field MRI systems (brain-focused imaging initially).
2. Develop RF systems operating in low-frequency regimes (~1–5 MHz) suitable for low-field magnets.
3. Perform EM simulations to improve B1 homogeneity, penetration depth, and coil sensitivity.
4. Design and implement matching networks, tuning circuits, and detuning mechanisms.
5. Develop and test low-noise RF front-end systems for weak MR signal acquisition.
6. Conduct RF measurements using Vector Network Analyzer (VNA), spectrum analyzer, etc.

7. Implement RF shielding and EMI reduction strategies critical for low-field environments.
8. Collaborate with metamaterials team to integrate metamaterial-enhanced RF performance.
9. Work with system engineers for end-to-end MRI signal chain integration.
10. Document designs, contribute to grant reports, patents, and publications.

Compensation: As per industry standards and norms applicable, based on qualification and experience.

Duration: 1 year, extendable based on performance and funding.

3. **Position:** Robotics and Mechatronics Engineer

Job Description:

This role focuses on the integration of mechanical, electrical, and software systems—ideal for an engineer who can bridge the gap between physical hardware and embedded logic. We are looking for a hands-on Robotics and Mechatronics Engineer to design, build, and test electromechanical systems for surgical robotics domain. This role requires deep understanding of how mechanics, electronics, and software interact on real robotic platforms. This job will offer:

- Access to a well-equipped prototyping lab (3D printers, oscilloscopes, soldering stations, CNC).
- Opportunity to see your designs go from concept → prototype → production.
- Collaborative environment with mechanical, electrical, and software engineers.

Qualification:

Bachelor's degree in Mechatronics / Robotics / Mechanical Engineering / Electrical Engineering or related field with strong EE/CS minor, or equivalent experience.

Desirable Additional Qualifications/Skills:

- Experience with ROS 2 and micro-ROS on embedded targets.
- Knowledge of safety standards (ISO 10218 for industrial robots, IEC 60204 for machinery).
- Familiarity with simulation (Gazebo, Mujoco with hardware-in-the-loop).
- Experience with battery-powered robots (power budgeting, low-power modes, charging circuits).
- Knowledge of feedback devices: resolvers, absolute encoders, hall sensors.
- Exposure to control theory (state-space, observers, filter design).
- Experience writing manufacturing test plans and DFM/DFA principles.
- Basic Python scripting for data logging and analysis (NumPy, Matplotlib).

Experience:

Technical	● 3+ years of hands-on experience in robotics or electromechanical product development. ● Proficiency in CAD (part/assembly design, drawing creation) and basic FEA.

	● Solid understanding of motor control (H-bridges, MOSFETs, PWM, field-oriented control basics). ● Experience with embedded debugging (oscilloscopes, logic analyzers, multimeters). ● Familiarity with communication protocols: CAN bus, UART, SPI, I2C, Ethernet. ● Basic C/C++ or Python skills for hardware bring-up and testing. ● Experience with microcontrollers (Arduino, STM32, Teensy, ESP32) and real-time constraints.
Hands-on Abilities	● Soldering (through-hole and basic SMD) and wire crimping/cabling. ● Using power supplies, electronic loads, and battery management systems (Li-ion/LiPo). ● Operating shop tools (drill press, 3D printer, laser cutter, hand tools).
Soft Skills	● Systematic debugging across mechanical, electrical, and firmware boundaries. ● Ability to read datasheets and application notes. ● Clear documentation for manufacturing and field service teams.

Place of Duty:

Assam Advanced Healthcare Innovation Institute (AAHII), IIT Guwahati campus.

Reporting:

The Research Associate will work under the overall guidance of the Chief Operating Officer, AGIHF and technical supervision of Prof. PK Das, IIT Guwahati and Mr. Shashank Sharma, Roboss Pte Ltd.

Key Responsibilities:

Mechanical & Electromechanical Design	● Design robotic mechanisms (joints, linkages, grippers, drivetrains) using CAD (SolidWorks, Fusion 360, or Onshape). ● Select appropriate motors (BLDC, stepper, DC geared), encoders, gearboxes, springs, and bearings for performance, cost, and durability. ● Perform tolerance analysis, FEA, and basic dynamic simulations for moving parts. ● Create detailed drawings and assembly instructions for fabrication (CNC, 3D printing, sheet metal).
Electronics & Embedded Systems	● Design or integrate embedded controllers (STM32, ESP32, Raspberry Pi, NVIDIA Jetson, or similar). ● Develop firmware in C/C++ or MicroPython for motor control, sensor reading, and communication (I2C, SPI, UART, CAN, EtherCAT). ● Design simple power distribution boards or wire harnesses (fuses, regulators, relays). ● Read and create schematic diagrams and PCB layouts (Altium, KiCad, or EasyEDA).

System Integration & Controls	● Integrate sensors: LiDAR, IMUs, cameras, ultrasonic, time-of-flight, force/torque, current sensing. ● Implement low-level control loops (PID, feedforward, cascaded loops) on microcontrollers. ● Calibrate and synchronize multiple sensors and actuators in a real-time system. ● Work with ROS/ROS 2 (basic topics, serial communication, or micro-ROS) to connect hardware to higher-level software
Testing & Validation	● Design test fixtures and procedures for end-of-line testing (power draw, thermal, vibration, repeatability). ● Debug electrical noise, grounding issues, and communication dropouts. ● Conduct lifetime testing and document failure modes. ● Support field deployments and on-site troubleshooting when necessary.
Collaboration & Documentation	● Work with software engineers to define hardware APIs and message interfaces. ● Create and maintain system wiring diagrams, Bill of Materials (BOM), and assembly manuals. ● Coordinate with external vendors for PCB fabrication, machining, and custom parts.

What we offer:

- Competitive Salary as per industry standards and norms applicable, based on qualification and experience.
- Opportunity to work on real-world robots that ship to hospitals
- Access to cutting-edge hardware
- Flexible hours

How to Apply:

Please submit your resume and a portfolio (PDF or link) highlighting 2–3 mechatronic projects you have personally built. Include:

- A brief description of the system.
- Your role (mechanical, electrical, firmware).
- One challenge you overcame (e.g., motor tuning, noise filtering, mechanical binding).

4. **Position:** Senior Robotics Software Engineer (C++ Expert)

Job Description:

This JD is designed to attract senior-level talent who can work on, planning, control, or manipulation systems in the domain of surgical robotics.
We are seeking a highly skilled C++ expert to join our robotics software team. You will architect, implement, and optimize production-grade software for surgical robots. You will bridge the gap between algorithms and real-time hardware, ensuring our robots are reliable, safe, and efficient. This job will offer:

- Competitive salary
- Opportunity to work on real-world robots that ship to hospitals
- Access to cutting-edge hardware
- Flexible hours

Qualification:

M.S. or Ph.D. in Computer Science / Robotics / Electrical Engineering / or related field (or B.S. with exceptional experience).

Desirable Additional Qualifications/Skills:

- Experience with real-time operating systems (RT-Preempt Linux, VxWorks, QNX, Zephyr).
- GPU programming using CUDA or OpenCL for perception pipelines.
- Contributions to open-source robotics (ROS, Gazebo, OMPL, etc.).
- Familiarity with DDS (Fast DDS, Cyclone DDS, Connext) QoS configurations.
- Experience with simulation frameworks (Webots, MuJoCo, Issac Sim).
- Knowledge of formal methods or model checking for safety-critical systems.
- Prior experience in medical robotics, autonomous driving, or space robotics.

Experience:

Technical	• 3+ years of industry experience in C++ development for robotics, autonomous systems, or real-time software. • Expert-level knowledge of Modern C++ (RAII, move semantics, templates, lambdas, smart pointers, STL algorithms). • Deep experience with ROS/ROS 2 (nodes, actions, services, topics, lifecycle nodes). • Strong understanding of multithreading (std::thread, std::async, mutexes, lock-free data structures) and real-time constraints. • Experience with Eigen, PCL, OpenCV, or Ceres Solver for geometric/numerical computation. Proficiency with CMake, Conan or vcpkg, and GCC/Clang toolchains.

	● Familiarity with Linux (real-time patches, kernel configuration, socket programming).
Robotics Fundamentals	● Solid grasp of at least two of the following: kinematics, dynamics, state estimation (EKF/UKF), motion planning, or PID/MPC control. ● Experience with sensor calibration and data fusion. ● Knowledge of SLAM, navigation stacks, or manipulation frameworks (MoveIt).
Soft Skills	● Ability to debug system-level failures across software, network, and hardware. ● Clear documentation and communication of architectural decisions. ● Passion for code quality, testing (unit/integration/regression), and reproducibility.

Place of Duty: Assam Advanced Healthcare Innovation Institute (AAHII), IIT Guwahati campus.

Reporting:

The Research Associate will work under the overall guidance of the Chief Operating Officer, AGIHF and technical supervision of Prof. PK Das, IIT Guwahati and Mr. Shashank Sharma, Roboss Pte Ltd.

Key Responsibilities:

Core Development	● Design and implement real-time, low-latency robotic software using Modern C++ (C++17/20/23). ● Develop modular architectures for perception, localization, planning, and control pipelines. ● Write efficient, deterministic, and cache-friendly code for constrained embedded computer platforms (e.g., x86_64, ARM). ● Manage memory, threading, and inter-process communication (IPC) in multi-process/ multi-core environments.
Robotics Integration	● Integrate and interface with ROS 2 or other DDS-based middleware. ● Implement real-time sensor drivers for LiDAR, cameras, IMUs, encoders, and force-torque sensors. ● Develop simulation interfaces (Gazebo, Ignition, or custom simulators) and hardware-in-the-loop (HIL) test harnesses.
Performance & Reliability	● Profile and optimize code for CPU/GPU throughput, latency, and power consumption. ● Debug complex concurrency issues (deadlocks, race conditions) using tools like GDB, Valgrind, and TSan. ● Implement safety-critical logic following standards like IEC 62304 or IEC 61508 (preferred but not required).
Collaboration	● Work closely with mechanical, electrical, and controls engineers to specify software-hardware interfaces. ● Contribute to CI/CD pipelines (GitHub Actions, GitLab CI, or Jenkins) for automated testing and deployment.

What we offer:

- Competitive Salary as per industry standards and norms applicable, based on qualification and experience.
- Opportunity to work on real-world robots that ship to hospitals
- Access to cutting-edge hardware
- Flexible hours

How to Apply:

Please send your resume and a link to your GitHub/portfolio highlighting C++ robotics projects or ROS packages you have authored/contributed to. Include a brief note describing a challenging real-time C++ problem you solved.

5. **Position:** Senior Design Engineer Surgical Robotics (C++ Expert)

Job Description:

This role demands rigorous attention to safety, repeatability, and sterilization compatibility, working alongside surgeons, systems engineers and researchers.

We are seeking a talented design engineer to develop next-generation surgical robotic platforms [e.g., laparoscopic, orthopedic, endoluminal, or microsurgical systems]. The engineer will own the mechanical and mechatronic design of robotic instruments, arms, and sterile interfaces—from concept through preclinical testing.

Qualification:

BSc with significant experience or MSc/PhD preferred in Mechanical Engineering / Robotics / Biomedical Engineering or equivalent.

Experience:

Technical	● 3+ years of hands-on design experience with surgical robotics, medical devices, or high-precision electromechanical systems. ● Advanced proficiency in CAD (SolidWorks, Creo, or NX) including surface modeling, tolerance stack-ups (GD&T), and FEA (Simcenter, ANSYS, or Abaqus). ● Experience with motor selection, gearbox sizing, and joint torque budgeting. ● Understanding of control system integration (PID, feedforward, impedance control concepts — not necessarily writing production code, but able to specify interface requirements). ● Familiarity with embedded communication (CANopen, EtherCAT, SPI) for joint-level feedback.
Hands-on Abilities	● Ability to instrument prototypes with strain gauges, thermocouples, and encoders.

	● Experience with precision assembly (micro-fasteners, adhesives, bearing preload). ● Using oscilloscopes, multimeters, and motor drives for benchtop characterization.

Place of Duty: Assam Advanced Healthcare Innovation Institute (AAHII), IIT Guwahati campus.

Reporting: The Research Associate will work under the overall guidance of the Chief Operating Officer, AGIHF and technical supervision of Prof. PK Das, IIT Guwahati and Mr. Shashank Sharma, Roboss Pte Ltd.

Key Responsibilities:

Mechanism & Instrument Design	● Develop robotic arms and carts with integrated sensing, braking, and back drivability for force feedback or gravity compensation. ● Create quick-disconnect interfaces (sterile adapters, drape interfaces) between reusable robotic arms and single-use/disposable instruments. ● Select biocompatible materials (medical-grade stainless steel, titanium, PEEK, UHMWPE) and sterilization methods (autoclave, EtO, gamma radiation, hydrogen peroxide plasma). ● Design cable-driven, gear-driven, or tendon-driven transmissions with minimal backlash and friction.
Mechatronics & Actuation	● Specify micro motors (Maxon, Faulhaber, Portescap) with integrated encoders, harmonic drives, cable drives, or lead screws for precise motion. ● Collaborate with electrical engineers on embedded PCBs for joint-level control, temperature sensing, and hall effect sensors. ● Integrate force/torque sensors (e.g., strain gauge-based) at the instrument tip or wrist for haptic feedback or safety monitoring. ● Design fail-safe brakes (spring-engaged, electromagnetically released) for gravity-loaded joints.
System Integration & Testing	● Build functional prototypes using precision machining, EDM, laser cutting, and multi-jet fusion (MJF)/SLA 3D printing. ● Create Design Verification Plans and Test Method Validation documentation.
Surgeon Collaboration	● Observe live surgical procedures (simulated or wet lab) to understand user needs and ergonomic pain points. ● Rapidly iterate based on surgeon feedback regarding instrument feel, access angles, and clutching/engagement forces.

What we offer:

- Competitive Salary as per industry standards and norms applicable, based on qualification and experience.
- Opportunity to work on real-world robots that ship to hospitals
- Access to cutting-edge hardware
- Flexible hours

How to Apply:

Please submit your resume and a portfolio (max 6 pages or link) showcasing a surgical or high-precision mechatronic designs you personally led. For each, include:

- CAD renderings/photos of physical hardware.
- A brief explanation of the clinical need.