

Job Opportunity at the Naval Research Laboratory

The Plasma Physics Division at the Naval Research Laboratory in Washington, DC is looking for three exceptionally qualified applicants to build a plasma sensor for flight on the International Space Station. The project requires the design and construction of the circuit boards that comprise the instrument, as well as development of the flight software and the ground station, as described below. If interested, apply via the NRL Pathways program (see bottom of page for contact info). The effort will last about 18 months. Applicant should be able to commit to at least 12 hours per week during semesters and full time when classes are not in session. Applicants must be US citizens.

Position #1, Board Design Design several electronics boards using op amps, mixers, oscillators, bus transceivers, analog converters, microcontrollers, and other integrated circuits to measure signals in the 0-10MHz range. Should have some familiarity with typical communication protocols used to connect microcontrollers to the other chips on a board. Must be able to read and understand electrical schematics, manufacturer datasheets, and application notes for the various components used on the boards. Will be required to capture schematics and do board layout in Cadsoft Eagle. Will be involved in all phases of board design, layout, documentation, procurement, testing, and operation.

Position #2, Firmware Write C code for an embedded microcontroller to control oscillators, bus transceivers, analog converters, temperature sensors and other devices. Also write C code for the embedded microcontroller to implement the communications protocols with the international space station. Should have some familiarity with typical communication protocols used to connect microcontrollers to the other chips on a board. Must be able to read and understand electrical schematics, manufacturer datasheets, and application notes for the various components used on the boards. Will be involved in all phases of software design, including specification, implementation, documentation, testing and operation.

Position #3, Ground Station Write Python or LabVIEW code to implement a ground station capable of receiving data packets from the International Space Station data stream. Will be required to read and interpret various standards documents and interface specifications to properly decode the data stream. Should be familiar with typical networking standards such as UDP and TCP. Should be familiar with the concepts of a relational database, the HDF file format, and the FITS file format. Will be involved in all phases of ground station design, including specification, implementation, documentation, testing, and operation.

Send resume and questions to George Gatling at george.gatling@nrl.navy.mil

Applicants **MUST** also apply through usajobs.gov on **7, 8, or 9 June 2016**:

1. Access USAJOBS via <http://www.usajobs.gov/> to create an account (may be done in advance).
2. On **7, 8, or 9 June 2016**, in the "Keyword" box on the Home page, enter "NRL Intern".
3. Select the NRL Intern position for electrical engineer.
4. Click "Apply Now".