Electrical Engineer I/II/Research Engineer

Job Summary

Woods Hole Oceanographic Institution is currently searching for an Analog Engineer for our open Engineer I/II or Research Engineer position in the Applied Ocean Physics & Engineering Department in our Advanced Engineering Laboratory. Join our robotics group designing underwater communications systems. Woods Hole Oceanographic Institution (WHOI) is a world leader in all things subsea, from groundbreaking ocean science and discoveries, to cutting edge subsea technology for the government. Here at WHOI you will work with world class scientist and engineers in a dynamic fast paced environment, to contribute to science and technology that makes a difference in our world.

This position is an Electrical Engineering position with emphasis on high speed analog circuitry. Embedded software and FPGA skills are a plus. Candidates will need to be able to work broadly in computing, digital circuitry, timing, imaging, DC power, A/D systems, general communications, wiring and cabling and other fields as needed. This is a regular, full-time, exempt position, and is eligible for benefits.
Essential Functions

• Architect, design and implement circuits and mix-signal systems
• Design of high speed and low-power systems, efficient power supplies and power amplifiers
• PCB design, layout, fabrication and testing processes
• Signals and Systems
• Debugging, testing and field deployment skills, including working with collaborators at sea or in field locations
• 1-2 month/year of sea duty anticipated

Engineer I

• This is an entry level position designed to encourage the connection and application of academic training to results-oriented projects in support of scientific and research activities. Initially this position will have direct supervision to achieve structured and assigned objectives.

Engineer II:

• With some supervision to achieve assigned objectives, identifies and participates in engineering projects in support of scientific and research activities through the demonstration of one or more specialized skills. Will be expected to work on tasks requiring creativity and independent thinking, along with a proven understanding of fundamental research and engineering principles.
Research Engineer:

- With little supervision, works creatively and independently to establish objectives, meet deadlines, and complete difficult engineering assignments by demonstrating full competency in one or more engineering areas; assists substantively in planning technical aspects of experiments, as well as design, testing, and use of major system components.

NON-ESSENTIAL FUNCTIONS:

- As deemed necessary by supervisor

Education & Experience

- Analog circuit design
- Printed circuit fabrication
- PCB layout software
- Cadence PCB Editor or Allegro preferred

DESIRED EDUCATION:

Engineer I:

- Engineering degree or other appropriate discipline with minimal work experience, or evidence of an established, specialized engineering skill gained through experience in the absence of a formal degree.

Engineer II:

- Master's degree in an engineering or appropriate field with minimal experience, or Bachelor's degree in engineering or appropriate field with several years of relevant experience

Research Engineer:

- Ph.D. in related engineering field, or Master's degree in an engineering or appropriate field with several years of related experience, or Bachelor's degree in an engineering or appropriate field with more than five years of related experience.
**Physical Requirements**

Physical duties for this position include but are not limited to, ability to lift less than 25-50lbs independently, 3 times per day; carry 25-50lbs, 4 times per day. Visual abilities to include peripheral, depth perception, and ability to distinguish basic colors. Hearing requirements include the ability to hear and respond to instructions, communicate effectively in loud areas (pier/dock, warehouse). Other physical tasks include occasional prolonged standing/walking; use of hands for basic /fine grasping and manipulation, kneeling, bending, and stooping. Will be exposed to dust or other irritants, grease and oils, excessive cold, excessive heat or humidity, odors, chemicals or specimens, high location, extended periods at sea, severe weather conditions, prolonged work hours, and electrical/mechanical/power equipment hazards. Physical duties are subject to change.

**Sea Duty**

May work at least 8 hours per day and, at times in excess of 12 hours per day, 7 days per week. Sleep and work hours can deviate from those on land. May be expected to work on watch schedule (such as 8 hours on and 8 hours off or 12 hours on and 8 hours off) for all or part of a cruise or to work as hours are needed to accomplish the planned work. May need to travel during holidays and for long distances to and from foreign ports. May experience rudimentary living and working conditions, with shared and basic living quarters and laboratories. May experience bad or extreme weather conditions, including heavy seas, winter weather or hot, tropical weather. Work on deck may occur in both hot and cold conditions around the clock. Sea conditions will lead to active ship motion. Should be able to climb steep and vertical ladders and able to enter and exit compartments through hatches, doors, and sills. Should be able to carry heavy gear and participate in the loading and unloading of the ship as well as in the activities on deck and in the labs during the cruise. Shipboard environment may include: confined areas, shared sleeping quarters (berths) and bathroom facilities, small and basic berthing, fixed meal times and basic menus. Modest levels of heating, cooling, ventilation, and illumination, limited or no email and internet access and limited off-duty and recreational facilities (library, lounge, movies). May be exposed to potential allergens and irritants, including paint fumes. May experience constant and intermittent loud noises, and slippery and uneven surfaces.