



## **Dorado AUV Operations Engineer (2 positions)**

The Monterey Bay Aquarium Research Institute (MBARI) is recruiting for two technical positions in its autonomous underwater vehicle (AUV) group. Reporting to the AUV Supervisor, the incumbents ensure that MBARI's oceanographic equipment (primarily autonomous underwater vehicles) operate efficiently, effectively, and reliably. The incumbents assist in the design, development, testing, and at-sea operation of MBARI's fleet of Dorado autonomous underwater vehicles and associated scientific payloads. Primary technical responsibilities for both positions include design and development of custom mechanical and embedded systems (both hardware and software) for actuation, data acquisition, control, and energy storage. The incumbents are also responsible for the safe at-sea operation of autonomous vehicles, both locally in the Monterey Bay as well as on research expeditions.

### Mechanical Position:

Duties involve the design, operation, maintenance, and repair of equipment as assigned. This includes integration of new instrumentation into vehicles, sustaining engineering on existing vehicle platforms, research cruise planning and preparation, mobilization, and at-sea operations. Areas of technical responsibility include design and integration of electrical hardware and mechanical assemblies, shipboard operations planning, and expedition planning and logistics (including export control processes). In addition, the incumbent will participate in vehicle launch and recovery and other associated on-deck work as needed.

An Associate's degree, or equivalent, in a relevant engineering or scientific discipline, plus a minimum of 5 years of relevant experience in oceanographic instrumentation or a related field is required. Experience in one or more of the following areas is desired: mechanical design (using Solidworks or other CAD software) and fabrication (manual, CNC and additive fabrication, welding). Experience in the development, integration, and operation of bio-acoustic and/or geophysical sonar systems is highly desired. Previous at-sea experience in the launch and recovery of oceanographic systems is also desired.

### Software Position:

Incumbent undertakes a variety of support work in the planning, design, and fabrication of autonomous underwater vehicles, and has primary responsibility for the operation, maintenance, and repair of such equipment as assigned. Incumbent is responsible for the implementation of custom Linux kernels and high level robotic control applications for onboard computers, as well as developing custom microcontroller firmware for various subsystems. Typical applications require custom communications protocols using TCP/UDP, as well as CAN and other serial interfaces (I2C, RS232, SPI, etc). Responsibilities also include integration of new instrumentation and advanced software algorithms into vehicles, as well as provides engineering on existing vehicle platforms, provides research cruise planning and preparation, mobilization and at-sea operations.

A minimum of a bachelor's degree, or equivalent, in a relevant engineering or scientific discipline, plus relevant experience in embedded systems development or related field is required. Must be able to appropriately scale and apply formal and informal engineering methodologies. Experience designing microprocessor-based systems for robotic control applications, as well as a demonstrated skill in implementing embedded hardware and software for high-reliability, low power systems, is required. Experience in developing custom Linux distributions using Yocto or similar build systems is required. Experience using high level control frameworks such as Robot Operating System (ROS) or similar is highly desired. Experience in developing microcontroller applications on ARM Cortex-M3 or similar processors is highly desired.

Both positions require the willingness and ability to go to sea and work offshore for up to two months at a time, up to 150 days per year. The position requires the ability to lift up to 35 pounds. Must be able to work well as part of a team, independently and with diverse groups of people. Excellent communication and organizational skills are required.

Please submit your application material by e-mail to [jobs@mbari.org](mailto:jobs@mbari.org), or by mail to the below address, or by fax to (831) 775-1620.

MBARI, Human Resources  
Job Code: **AUV-Dorado**  
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MBARI is an equal opportunity and affirmative action employer. MBARI considers all applicants for employment without regard to race, color, religion, sex, national origin, age, disability, or covered veteran status in accordance with applicable federal, state, and local laws.

**EOE**

**MBARI Welcomes Diversity**