

**About Lane Abrams:**

Lane Abrams has been a member Alvin Group, part of the Woods Hole Oceanographic Institution, since 1991. In this capacity, he has been the primary Electrical Engineer for the DSV Alvin submersible's systems. This includes battery and power systems, control, instrumentation, data and video systems, propulsion and cabling. His expertise includes analog and digital circuit design and schematic capture, computer and microcontroller programming, circuit board layout, enclosure design, assembly, integration and testing. He is also familiar with at-sea operations and troubleshooting and repair, having participated in numerous cruises and voyages. He also has specific familiarity with the unique concerns of interest to underwater systems such as power and volume limitations, leaks and grounds, and pressure tolerance.

