

ANDREW D. BOWEN

Principal Engineer
Deep Submergence Laboratory
abowen@whoi.edu

Woods Hole Oceanographic Institution
Woods Hole, MA 02543
(508) 289-2643 /Fax: (508) 457-2191

I. PROFESSIONAL PREPARATION:

1980 B.S., University of Rhode Island (Mechanical/Ocean Engineering)
1978-1980 Research Assistant, Department of Physical Oceanography, Graduate School of Oceanography, University of Rhode Island

II. APPOINTMENTS:

2011-Present Principal Engineer, Deep Submergence Laboratory, Department of Applied Ocean Physics and Engineering, Woods Hole Oceanographic Institution
1998-2011 Research Specialist, Deep Submergence Laboratory, Department of Applied Ocean Physics and Engineering, Woods Hole Oceanographic Institution
1985-1998 Research Engineer, Deep Submergence Laboratory, Department of Applied Ocean Physics and Engineering, Woods Hole Oceanographic Institution
1981-1985 Mechanical Engineer, Benthos, Inc.
1980-1981 Mechanical Engineer, Hydro Products, Inc.

III. MOST RELEVANT PRODUCTS:

Bowen, A.D., M.V. Jakuba, N.E. Farr, J. Ware, C. Taylor, D. Gomez-Ibanez, C.R. Machado, and C. Pontbriand (In press) "An Un-Tethered ROV for Routine Access and Intervention in the Deep Sea." MTS/IEEE OCEANS 2013 Conference, San Diego, CA, 23-26 Sept.

Bowen, A., Jakuba, M., Yoerger, D., Whitcomb, L.L., Kinsey, J.C., Mayer, L., and German, C.R. Nereid ui: A light-tethered remotely operated vehicle for under-ice telepresence. In Proceedings Arctic Technology Conference, Houston TX, December 2012.

Bowen, A., Jakuba, M., Yoerger, D., German, C., Kinsey, J.C., Whitcomb, L.L., Mayer, L. (2012). Lightly tethered unmanned underwater vehicle for under-ice exploration. *Aerospace Conference, 2012 IEEE*, pp.1-12, 3-10 March 2012, doi: 10.1109/AERO.2012.6187038.

Camilli, R., Di Iorio, D., Bowen, A., Reddy, C.M., Techet, A.H., Yoerger, D.R., Whitcomb, L.L., Seewald, J.S., Sylva, S.P., Fenwick, J. (2011) Acoustic measurement of the Deepwater Horizon Macondo well flow rate. Proceedings of the National Academy of Sciences; published as part of Science Applications in the Deepwater Horizon Oil Spill Special Feature at <http://www.pnas.org/> on September 8, 2011 (doi: 10.1073/pnas.1100385108).

Gomez-Ibáñez, D., Taylor, C.L., Heintz, M.C., Howland, J.C., Yoerger, D.R., Bowen, A.D., Whitcomb, L.L. (2010). Energy management for the Nereus hybrid underwater vehicle, *OCEANS 2010*, pp.1-9, 20-23 Sept. 2010 (doi: 10.1109/OCEANS.2010.5663885).

Bowen, A., Yoerger, D., Fletcher, B., Whitcomb, L. (2009). Journey to the Challenger Deep: Fifty Years Later with the Nereus Hybrid Remotely Operated Vehicle. *Journal of the Marine Technology Society*, 43(5): 65-76.

IV. OTHER PRODUCTS:

Bowen, A., Yoerger, D., Taylor, C., McCabe, R., Howland, J., Gomez-Ibanez, D., Kinsey, J., Heintz, M., McDonald, G., Peters, D., Young, C., Buescher, J., Fletcher, B., Whitcomb, L., Martin, S., Webster, S. and Jakuba, M. (2009). The Nereus hybrid underwater robotic vehicle”, *Underwater Technology*, 28(3): 79-89.

Bowen, A., Yoerger, D., Taylor, C., McCabe, R., Howland, J., Gomez-Ibanez, D., Kinsey, J., Heintz, M., McDonald, G., Peters, D., Fletcher, B., Young, C., Buescher, J., Whitcomb, L., Martin, S., Webster, S., Jakuba, M. (2008). The Nereus Hybrid Underwater Robotic Vehicle for Global Ocean Science Operations to 11,000 m Depth. In *Proceedings of IEEE/MTS Oceans 2008, Quebec*, September 15-18, 2008, pp. 1-10.

Young, C., Whitcomb, L.L., Yoerger, D., Bowen, A., Grosenbaugh, M., Bingham, B. The Hybrid Remotely Operated Vehicle (HROV): New Challenges and Opportunities (2005). Underwater Intervention 2005 Conference Proceedings, Association of Diving Contractors, Marine Technology Society, Washington, D.C.

Bowen, A., Yoerger, D., Whitcomb, L., Fornari, D. (2004). Exploring the Deepest Depths: Preliminary Design of a Novel Light-Tethered Hybrid ROV for Global Science in Extreme Environments. *Journal of the Marine Technology Society*, 38(2): 92-101.

Webster, S. and Bowen, A. (2003). Feasibility Analysis of an 11,000 m Vehicle with a Fiber Optic Microcable Link to the Surface. *IEEE/MTS OCEANS 2003*, pp 2469-2474.

V. SYNERGISTIC ACTIVITIES:

1. Manager Unmanned Deep Submergence Operations Group
2. Project Engineer for Hybrid Remotely Operated Vehicle
3. Project Engineer for JASON II and Isis
4. Mechanical Design Engineer for JASON Junior Remotely Operated Vehicle System
5. Over 40 oceanographic ROV/AUV cruises as an Expedition Leader or senior team member

VI. COLLABORATORS:

Brian Bingham (Univ. of Hawaii); James Buescher (USN SPAWAR); Richard Camilli (WHOI); Mark Chaffey (MBARI); Judith Fenwick (WHOI); Barbara Fletcher (USN SPAWAR); Daniel Fornari (WHOI); Daniel Gomez-Ibanez (WHOI); Gwyn Griffiths (Southampton Oceanography Center); Mattahew Heintz (WHOI); Jonathan Howland (WHOI); Michael Jakuba (WHOI); Paul Johnson (Univ of Washington); David Kelley (Univ of Washington); James Kinsey (WHOI); Stephen Martin (USN-SPAWAR); Robert McCabe (WHOI); Glenn McDonald (WHOI); Donald Peters (WHOI); Christopher Reddy (WHOI); Jeffrey Seewald (WHOI); Sean Sylva (WHOI); Christopher Taylor (WHOI); Alexandra Techet (MIT); Barry Walden (WHOI); Sarah Webster (Johns Hopkins University); Louis Whitcomb (Johns Hopkins University); R Williams (UK Dept of Transport); Dana Yoerger (WHOI); C Young (USN SPAWAR)