

CURRICULUM VITAE

Alan Gardner

Research Engineer

Applied Ocean Physics + Engineering

LOSOS 113

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RESEARCH INTERESTS:

Precision timing, autonomous ocean bottom instrumentation, micro-power design, high efficiency power conversion, sensor calibration

PROFESSIONAL EXPERIENCE:

Research Engineer, Ocean Bottom Seismograph Lab, WHOI, 2014 - Present

Engineer II, Ocean Bottom Seismograph Lab, WHOI, 2008 - 2014

Engineer Assistant III, WHOI, 2004 - 2008

Engineer Assistant II, WHOI, 2003 - 2004

Engineer Assistant I, WHOI, 2002 - 2003

Assistant Manager, Radioshack, 2000-2002

PROFESSIONAL AFFILIATIONS:

Member, Institute Electrical and Electronics Engineers / Oceanic Engineering Society, 2012 – Present

Member, Institute of Navigation, 2016 - Present

PAPERS IN REFEREED JOURNAL:

Gardner, Alan T., Hanan N. Karam, Ann E. Mulligan, Charles F. Harvey, Terence R. Hammar and Harold F. Hemond. "A Differential Pressure Instrument with Wireless Telemetry for In-Situ Measurement of Fluid Flow across Sediment-Water Boundaries." *Sensors* 9(1) (2009): 404-429.

PAPERS PRESENTED AT MEETINGS:

Gardner, A.T.; Collins, J.A., " A Second Look at Chip Scale Atomic Clocks for Long Term Precision Timing: Four Years in the Field," *Oceans, 2016*, Conference to take place September 19-22.

Gardner, A.T.; Collins, J.A., "Advancements in high-performance timing for long term underwater experiments: A comparison of chip scale atomic clocks to traditional microprocessor-compensated crystal oscillators," *Oceans, 2012*, vol., no., pp.1,8, 14-19 Oct. 2012

OTHER REPORTS AND PRESENTATIONS:

Alan Gardner, *WHOI OBS Battery Systems*, *WHOI OBS Connectors*, and *WHOI OBS Media Selection*, Presented at the 2016 Incorporated Research Institutions for Seismology Technical Interchange Meeting, April 12, 2016, in Palm Springs, CA

Alan Gardner, *Challenges of precise timing underwater*, and *Challenges of Ocean Bottom Broadband Deployments: Leveling Systems*, Presented at the 2015 Incorporated Research Institutions for Seismology Technical Interchange Meeting, April 27, 2015, in Albuquerque, NM

John W. Bailey, Alan Gardner and Alan D. Chave, *Power Architectures for Constant Current Systems*, Presented at The 4th International Workshop on Scientific Use of Submarine Cables, 2006

A. Chave, J. Bailey, A. Gardner, *H2O Communications Technical Documentation*, Prepared for NSF review meeting, December 2003

CRUISE PARTICIPATION AND FIELD WORK:

August 2017: Yellowstone Lake, Yellowstone National Park. Deploy 10 OBS.
August 2016: Yellowstone Lake, Yellowstone National Park. Recovery 2 OBS.
May 2016: M/V Umbra; San Juan, PR to San Juan, PR. Lead recovery of 6 OBS.
Nov – Dec 2016: R/V Marcus Langseth; Piraeus, Greece to Heraklion, Greece. Lead deployments and recoveries of 30 OBS.
August 2015: R/V Oceanus; Newport, OR to Newport. Lead recovery of 24 OBS.
May 2015: USCGC Oak; San Juan, PR to Charleston, SC. Lead deployment of 6 OBS.
April 2015: R/V Endeavor; N Kingstown, RI. Lead recovery of 30 OBS.
July 2014: R/V Oceanus; Newport, OR to Newport. Lead deployment of 24 OBS.
May 2014: R/V Oceanus; Newport, OR to Newport. Lead recovery of 21 OBS.
April 2014: R/V Endeavor; N Kingstown, RI to Narragansett, RI. Lead deployment of 30 OBS.
September 2013: R/V Oceanus; Newport, OR to Newport. Lead recovery of 30 OBS.
August 2013: R/V Oceanus; Newport, OR to Newport. Lead deployment of 23 OBS.
June 2013: R/V Oceanus; Newport, OR to Newport. Lead recovery of 23 OBS.
December 2013: R/V Connecticut; Woods Hole to Woods Hole. Lead recovery of 12 and redeployment of 5 OBS.
September 2012: R/V Melville; San Diego to San Diego. Lead deployment of 30 OBS.
August 2012: R/V Oceanus; Newport, OR to Newport. Lead deployment of 25 OBS.
May 2012: R/V Oceanus; Newport to Newport. Lead recovery of 25 OBS.
November 2011: R/V Wecoma; Newport to Newport. Lead deployment of 25 OBS.
June 2011: R/V Wecoma; Newport to Newport. Lead recovery of 10 OBS.
Oct - Nov 2009: R/V Roger Revelle; Guam to Tonga to Fiji. Deploy 31 OBS.
Jan – Mar 2009: R/V Marcus Langseth; Tonga to Fiji. Lead OBS deployments and recoveries.

Mar - Apr 2008: R/V New Horizon; Puntarenas, Costa Rica. Participate in over 90 OBS deployments and recoveries.

Dec 2007-Jan '08: R/V Thomas Thompson; San Diego to San Diego. Deploy 40 OBS.

Aug 2007: USCGC Dauntless; Mayaguez, PR to San Juan, PR. Recover 5 OBS

Feb 2007: R/V Celtic Voyager; Galway, Ireland. Operate Towed-EM system.

Jan 2007: Field work; Waquoit Bay National Estuarine Research Reserve. Recover, offload data, service, and redeploy Differential Pressure Loggers.

Oct-Nov 2006: Field work; Waquoit Bay National Estuarine Research Reserve; Test DP Loggers, deploy for winter.

Sep 2006: R/V Kairei; Guam to Tokyo, Japan. Recover Magneto-Telluric instruments.

July 2006: R/V Celtic Voyager; Dublin, Ireland to Dublin, Ireland. Operate Towed-EM system.

Feb 2005: R/V Magnus Heinason; Faroe Islands. Recover Magneto-Telluric instruments.

Feb 2005: R/V Sonne; Valdivia, Chile to Talcahuano, Chile. Recover Magneto-Telluric instruments.

Dec 2004: R/V Sonne; Valparaiso, Chile to Valdivia, Chile. Deploy Magneto-Telluric instruments.

Jul 2004: R/V Pelican; Cocodrie, LA. Operate Towed-EM system.

Sep-Oct 2003: Field work; Makaha Telephone Station, Makaha, HI. Installation and operation of Hawaii-2 Observatory shore equipment.

Aug 2003: R/V Gyre; Gulfport to Galveston. Operate Towed-EM system.

Apr 2003: R/V Connecticut; Woods Hole to Woods Hole. Operate Towed-EM system.

SUPERVISION AT WHOI:

2008 - Present Timothy Kane, Senior Engineering Assistant I, G+G Department

Summers 2016+2017 Emma Brimdyr, Lab Assistant 1, G+G Department

Summer 2013 Mathew Chamberlain, Temporary Engineering Assistant II, G+G Department

EDUCATION:

2011 Small Project Organization Workshop, Presented by Ray Sheen, PMP, from Worcester Polytechnic Institute at WHOI.

2004 Woods Hole Oceanographic Institution, Woods Hole, MA: Perl Fundamentals

2001 Radioshack Manager-In-Training Program, Nashua, NH: Management and Accounting

1998 - 2000 Carnegie Mellon University, Pittsburgh, PA: Mathematics, Physics, Philosophy, Music

1996 - 1998 Boston University, Boston, MA: Calculus, Biology, English, Latin

1997 - 1998 Boston University Academy, Boston, MA: Researched, wrote, and defended a thesis concerning the behavior of a family of functions in the complex plane