**David Barclay** Woods Hole Oceanographic Institution 226 Woods Hole Rd., MS #11 Woods Hole, MA, 02543 dbarclay@whoi.edu

## **Biographical Information**

| Citizenship: Canadian: | Languages: Englis  | h. French (official      | lv bilingual) |
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| Education      |   |
|----------------|---|
| 2011           | University of California, San Diego, Ph.D. in Oceanography                                |
| 2005           | McGill University, Canada. B.Sc. Honors in Physics, minor in Music Technology.            |
| D 1 D          |   |
| Research E     | xperience   |
| 2012, December | Post Doctoral Scholar, Deep Ocean Exploration Institute, Woods Hole Oceanographic         |
|                | Institution.  |
|                | Advisor: Dr. Ying-Tsong Lin   |
| 2012, January  | Post-Doctoral Fellow, Physical Oceanography, Memorial University of Newfoundland          |
|                | and Dalhousie University.   |
|                | Supervisors: Dr. Len Zedel and Dr. Alex Hay   |
|                | Research topic: Sediment transport in coastal environments                                |
| 2005 - 2011    | Graduate Researcher, Acoustical Oceanography, Marine Physical Lab, Scripps                |
|                | Institution of Oceanography, University of California, San Diego.                         |
|                | Supervisor: Dr. Michael Buckingham.   |
|                | Thesis: Ambient Noise in the Deep Ocean   |
| 2004           | Undergraduate Researcher, Structured Surface Physics Lab, University of British           |
|                | Columbia, supervisor Dr. Lorne Whitehead.   |
| 2003           | Undergraduate Researcher, Dept. of Earth and Ocean Sciences, University of Victoria,      |
|                | supervisors Dr. Chris Garrett and Dr. Svein Vagle.  |
| 2002           | Undergraduate Researcher, Atmospheric physics, University of Toronto, supervisor          |
|                | Dr. Kim Strong.   |
| E old E        |   |
|                | Trence  |
| 2012           | instruments to lond on the trench floor   |
| 2012           | Instruments to fand on the trench floor.  |
| 2012           | Advocate beach, bay of Fundy, measured sediment transport and other hear shore            |
| 2011           | Mississing delta amina shief asignitist massured ambient noise area 750 miles of the      |
| 2011           | Mississippi dena ciuise, cinei scientisi, measured amolent noise over 750 miles of the    |
| 2011           | Hedel saionea cruise with National Geographic scientist aboard the M/V Super Emerald      |
| 2011           | Deen Sound arvise, shief scientist, donlayed 'Deen Sound' instruments in the Mariane      |
| 2009           | Trench during three week cruice aboard the D/V Develle                                    |
| 2000           | Northern Desifie Acoustic Laboratory, Dhilinning See Experiment, seionee porty and        |
| 2009           | deployments of 'Deep Sound' during four week emiss sheard the D/V Kile Moone              |
| 2005           | Make Experiment Vauai accepted small best operations deploying and operating the Fly      |
| 2003           | Dr. coouctio orrow  |
| 2002           | Dy acoustic allay.  |
| 2003           | Ocean Station Papa cruise, science party, recovered, turned around and re-deployed Air-   |
|                | Sea gas exchange array during a month long cruise adoard the CCGS John P. Tully.          |
| Teaching I     | Experience  |
| 2007           | Private group tutor for Scripps graduate students covering partial differential equations |
| 2003 - 2005    | Teaching Assistant, Department of Mathematics and Statistics, Tutorial lectures MATH      |
|                | 222 Calculus III, MATH 223 Linear Algebra, MATH 263 Ordinary Differential                 |
|                | Equations   |

| 2005 | McGill Mathematics Drop-in Help Desk, impromptu one-on-one tutoring on any    |
|------|---|
|      | undergraduate course offered by the Department of Mathematics and Statistics. |

| Awards      |   |
|-------------|---|
| 2012        | Deep Ocean Exploration Institution Post-Doctoral Scholar award, Woods Hole        |
|             | Oceanographic Institution.  |
| 2010        | Graduate Traineeship, Special Research Award in Ocean Acoustics, Office of Naval  |
|             | Research.   |
| 2010        | Acoustical Oceanography student presentation, second prize, Acoustical Society of |
|             | America, Cancun meeting.  |
| 2009        | University of California Ship Grant   |
| 2009        | Student Presentation honorable mention, Underwater Acoustic Measurements,         |
|             | Technology and Results, Nafplion, Greece.   |
| 2008        | Acoustical Oceanography student presentation, second prize, Acoustical Society of |
|             | America, Paris meeting.   |
| 2007        | Acoustical Oceanography, Best Student Paper, Acoustical Society of America, New   |
|             | Orleans meeting.  |
| 2005        | Doherty Entrance Fellowship, Scripps Institution of Oceanography, University of   |
|             | California, San Diego.  |
| 2004        | Outstanding Teaching Assistant, Faculty of Engineering, McGill University.        |
| 2002 - 2004 | Natural Sciences and Engineering Research Council of Canada Undergraduate Student |
|             | Research Award  |
| 2000 - 2004 | Hugh Brock Scholarship McGill University  |
|             |   |

## **Peer Reviewed Publications**

Barclay, D.R. and Buckingham, M.J. (2013), *Depth dependence of wind-driven, broadband ambient noise in the Philippine Sea*, J. Acoust. Soc. Am., 133, 1, pp 62-71.

- Barclay, D.R. and Buckingham, M.J. (2012), *The depth-dependence of the power spectral density and the vertical directionality of rain noise in the Philippine Sea*, J. Acoust. Soc. Am., Submitted
- Barclay, D.R., Simonet, F. and Buckingham, M. J., (2009), *Deep Sound: A Free-Falling Sensor Platform* for Depth-Profiling Ambient Noise in the Deep Ocean, Marine Technology Society Journal, 43, 144.
- Barclay, D.R. and Buckingham, M.J. (2009), *On the shapes of natural sand grains*, J. Geophys. Res., 114, B02209.
- Szylowski, M., Mossman, M., Barclay, D., and Whitehead, L. (2006), Novel fiber-based integrating sphere for luminous flux measurements, Rev. Sci. Instrum. 77, 063102

## **Invited Conference Presentations**

- Barclay, D.R. and Buckingham, M.J., (2011), *Rain noise in the deep ocean*, Underwater Acoustic Measurements, 4<sup>th</sup> International Conference, Kos, Greece.
- Barclay, D.R. and Buckingham, M.J., (2010), *Ambient noise in the Mariana Trench*, J. Acoust. Soc. Am., 128, 4, p. 2300.
- Barclay, D.R. and Buckingham, M.J., (2010), Ambient noise in the Mariana Trench, European Conference on Underwater Acoustics, Istanbul, Turkey.
- Barclay, D.R., Simonet, F., and Buckingham, M.J., (2010), Depth-profiling ambient noise in the deep ocean, J. Acoust. Soc. Am. Volume 127, 3, p. 1783.
- Barclay, D.R. and Buckingham, M.J., (2009), *Noise Profiling with 'Deep Sound'*, Underwater Acoustic Measurements, 3<sup>rd</sup> International Conference, Nafplion, Greece.

Barclay, D.R. and Buckingham, M.J., (2008), *Doppler Geo-Spectroscopy in the Makai Experiment*, J. Acoust. Soc. Am., 123, 5, p. 3364.

**Other Conference Presentations** 

- Barclay, D.R., Zedel, L., Hay, A.E., Stark, N., (2012), *The Simulation of Bedload ransport Measurement by Coherent Doppler Backscatter*, AGU Fall Meeting
- Barclay, D.R., Zedel, L., Hay, A.E., Stark, N., (2012), Simulating coherent Doppler backscatter from a moving bottom: measuring bedload transport, Can. Met. & Ocean. Soc. 46<sup>th</sup> congress
- Barclay, D.R. and Buckingham, M.J., (2009), Synthesizing the shape of sand grains, J. Acoust. Soc. Am., 125, 4, p. 2747.
- Barclay, D.R., Simonet, F., and Buckingham, M.J., (2008), Vertical profiling of ambient noise with 'Deep Sound', J. Acoust. Soc. Am., 124, 4, p. 2599.
- Barclay, D.R. (2008), Adaptive Characterization of Near and Far field Elements in the Soundscape, J. Acoust. Soc. Am., 123, 5, p. 3680. (poster)
- Barclay, D.R. and Buckingham, M., (2007) The effect of grain shape on the porosity of marine sediments, J. Acoust. Soc. Am., 122, 5, p. 2940.
- Barclay D.R. and Buckingham, M.J., (2006), Doppler spreading of aircraft harmonics in a shallow-water channel off Kauai, J. Acoust. Soc. Am., 120, 5, p. 3181.