MARK F. BAUMGARTNER
Biology Department
Woods Hole Oceanographic Institution
Woods Hole, MA 02543
Phone: (508) 289-2678, email: mbaumgartner@whoi.edu

PROFESSIONAL PREPARATION

University of Notre Dame, South Bend, Indiana, Mathematics and Computer Science, B.S., 1990.
University of Southern Mississippi, Hattiesburg, Mississippi, Marine Science, M.S., 1995.
Oregon State University, Corvallis, Oregon, Biological Oceanography with Statistics minor, Ph.D., 2002.

APPOINTMENTS

Woods Hole Oceanographic Institution, Biology Department, Woods Hole, Massachusetts. Senior Scientist (2019-present), Associate Scientist with Tenure (2014-2019), Associate Scientist (2009-2014), Assistant Scientist (2005-2009), Postdoctoral Investigator (2004-2005), Ocean Life Institute Postdoctoral Scholar (2002-2004).

Oregon State University, College of Oceanic and Atmospheric Sciences, Corvallis, Oregon. NASA Earth System Science Fellow (1999-2002), NASA Space Grant Fellow (1998-1999).

Woods Hole Oceanographic Institution, Physical Oceanography Department, Woods Hole, Massachusetts. Research Associate (1996-1998); Research Assistant (1995-1996).

National Marine Fisheries Service, Stennis Space Center, Bay St. Louis, Mississippi. Computer Specialist (1992-1995).

PRODUCTS (10 Relevant Publications; full list at www.whoi.edu/sites/mbaumgartner)

Baumgartner, M.F., K. Ball, J. Partan, et al. 2021. Near real-time detection of low-frequency baleen whale calls from an autonomous surface vehicle: Implementation, evaluation, and remaining challenges. *Journal of the Acoustical Society of America* 149:2950-2962.

Baumgartner, M.F., J. Bonnell, P.J. Corkeron, et al. 2020. Slocum gliders provide accurate near real-time estimates of baleen whale presence from human-reviewed passive acoustic detection information. *Frontiers in Marine Science* 7:100, doi: 10.3389/fmars.2020.00100.

Baumgartner. M.F., J. Bonnell, S.M. Van Parijs, et al. 2019. Persistent near real-time passive acoustic monitoring for baleen whales from a moored buoy: system description and evaluation. *Methods in Ecology and Evolution* 10:1476–1489, doi: 10.1111/2041-210X.13244.

Baumgartner, M.F. and A.M. Tarrant. 2017. The physiology and ecology of diapause in marine copepods. *Annual Review of Marine Science* 9:387–411.

Baumgartner, M.F., F.W. Wenzel, N.S.J. Lysiak and M.R. Patrician. 2017. North Atlantic right whale foraging ecology and its role in human-caused mortality. *Marine Ecology Progress Series* 581:165-181.

Baumgartner, M.F., T. Hammar, and J. Robbins. 2015. Development and assessment of a new dermal attachment for short-term tagging studies of baleen whales. *Methods in Ecology and Evolution* 6:289-297.

Baumgartner, M.F., K.M. Stafford, P. Winsor, H. Statscewich, and D.M. Fratantoni. 2014. Glider-based passive acoustic monitoring in the Arctic. *Marine Technology Society Journal* 40(5):40-51.

Baumgartner, M.F., D.M. Fratantoni, T.P. Hurst, M.W. Brown, T.V.N. Cole, S.M. Van Parijs, and M. Johnson. 2013. Real-time reporting of baleen whale passive acoustic detections from ocean gliders. *Journal of the Acoustical Society of America* 134:1814-1823.

Baumgartner, M.F. and S.E. Mussoline. 2011. A generalized baleen whale call detection and classification system. *Journal of the Acoustical Society of America* 129:2889-2902.

Baumgartner, M.F., N.S.J. Lysiak, C. Schuman, J. Urban-Rich, and F.W. Wenzel. 2011. Diel vertical migration behavior of *Calanus finmarchicus* and its influence on right and sei whale occurrence. *Marine Ecology Progress Series* 423:167-184.

Table 1. Awards for the PI, Mark Baumgartner, over the past 5 years.

Start	End	Funder	Amount	Title
06/01/2017	05/31/2021	Office of Naval Research via University of Concepcion	$84,711	Whales in Estuaries: Glider Surveys and Fixed Time Series for Explaining Distribution
01/23/2018	04/30/2019	Island Foundation	$125,000	Enabling Rope-less Fishing: Acoustic Location Marking and Remote Release of Traps
03/01/2018	08/31/2018	New England Aquarium	$25,204	Bottom-stowed Spooled Rope Dock Testing
07/01/2018	06/30/2021	NOAA-NMFS	$294,224	Sanctuary Soundscapes
07/15/2018	11/30/2023	Office of Naval Research via University of Washington	$111,729	Understanding Community Composition of Marine Mammals in the Northern Indian Ocean Using Visual and Passive Acoustic Methods
07/16/2018	08/31/2020	Flora Family Foundation	$52,500	Near Real-time Monitoring of Whales in the New York Bight
07/18/2018	02/28/2023	Office of Naval Research	$347,516	The Wide-Band Detection and Classification System
10/01/2018	11/30/2019	U.S. Navy via HDR	$199,956	Glider Surveys for Near Real-Time Detection of Baleen Whales off Cape Hatteras
12/01/2018	11/30/2020	WHOI Innovative Technology Award	$99,539	Developing Remote Gear Location Marking to Support Ropeless Fishing
02/01/2019	06/30/2020	New England Aquarium	$147,015	Testing a Ropeless Fishing Prototype for Eliminating Large Whale Entanglements in Pot Fishing Gear
02/01/2019	01/31/2029	Equinor via Wildlife Conservation Society	$4,966,974	Near Real-time Monitoring for Large Whales in the New York Wind Energy Area
08/01/2019	06/30/2024	NOAA-NMFS	$1,319,606	Passive Acoustic Monitoring from Autonomous Platforms
10/01/2019	09/30/2021	U.S. Navy via HDR	$199,875	Glider Surveys for Near Real-Time Detection of Baleen Whales off Cape Hatteras
10/23/2019	12/31/2023	Orsted	$2,342,040	Marine Mammal Real Time Automated Detection and Oceanographic Sampling Project
12/15/2019	06/30/2022	State of Maryland via University of Maryland	$370,459	Near Real-time Passive Acoustic Monitoring of Baleen Whales in the Maryland Wind Energy Area
01/01/2020	03/31/2023	Sea World	$900,000	Ending Lethal Fishing Gear Entanglements by Advancing Buoyless Fishing
08/13/2020	06/30/2023	U.S. Navy via HDR	$466,470	Near Real-Time Whale Detection off Cape Hatteras
07/01/2021	06/30/2023	Alaska Ocean Observing System	$30,000	An Arctic Marine Mammal Observing System
07/01/2021	06/30/2026	Northeastern Regional Association of Coastal Ocean Observing Systems	$174,459	NERACOOS: A Responsive Ocean Observing System for the Changing Northeast Region
10/01/2021	09/30/2024	CMA-CGM	$1,168,000	Near Real-Time Passive Acoustic Whale Monitoring Near Norfolk, Virginia
03/01/2022	02/29/2024	U.S Wind via University of Maryland	$207,187	Near Real-Time Passive Acoustic Monitoring of Baleen Whales in the Maryland Wind Energy Area
04/01/2022	03/31/2023	Rutgers University	$39,976	Slocum Glider Surveys in New Jersey waters
08/01/2022	07/31/2025	Office of Naval Research	$34,603	Passive Acoustic Monitoring of Ocean Sounds, Meteorology, and Marine Mammals from Long-endurance Expendable Profiling Floats
08/01/2022	09/30/2023	Office of Naval Research	$174,693	DMON Portable Range Engineering
08/10/2022	08/31/2023	WHOI private donor	$31,372	Ultra-low-power Wakeup Receiver for Buoyless Fishing

JOHN N. KEMP
Group Operations Leader
Department of Applied Ocean Physics and Engineering
Woods Hole Oceanographic Institution
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EDUCATION:

Massachusetts Maritime Academy (Nights)	Mechanical Engineering	1978
Bridgewater State University	Mechanical Engineering	1977
Massachusetts Maritime Academy	Mechanical Engineering	1976-1977

PROFILE:

Provides more than 40 years' seagoing expertise in the area of mooring development and deployment, prototype design of new mooring components and technologies, recovery cruises, and at-sea operations on a large variety of vessels, both foreign and domestic. Locations span from the equator to the Arctic.

PROFESSIONAL EXPERIENCE:

2012-present Group Operations Leader, Mooring Operations and Engineering, Woods Hole Oceanographic Institution, Woods Hole, MA

1998-2012 Senior Engineering Assistant II, Mooring Operations and Engineering, Woods Hole Oceanographic Institution, Woods Hole, MA

1989-1998 Senior Engineering Assistant I, Mooring Operations and Engineering, Woods Hole Oceanographic Institution, Woods Hole, MA

1986-1989 Research Assistant III, Mooring Operations and Engineering, Woods Hole Oceanographic Institution, Woods Hole, MA

1983-1986 Research Assistant II, Mooring Operations and Engineering, Woods Hole Oceanographic Institution, Woods Hole, MA

1980-1983 Research Assistant I, Mooring Operations and Engineering, Woods Hole Oceanographic Institution, Woods Hole, MA

1978-1980 Laboratory Assistant II, Mooring Operations and Engineering, Woods Hole Oceanographic Institution, Woods Hole, MA

AWARDS:

1995 Co-recipient of the Woods Hole Oceanographic Institution's (WHOI's) annual Penzance Award, which is given to a group "for sustained exceptional performance, for outstanding representation of the WHOI spirit, and for major contributions to the personal and professional lives of our staff."

PUBLICATIONS:

Worcester, Peter F. & Dzieciuch, Matthew & A. Colosi, John & Proshutinsky, Andrey & A. Krishfield, Richard & D. Nash, Jonathan & **N. Kemp, John**. (2017). The 2016–2017 deep-water Canada Basin Acoustic Propagation Experiment (CANAPE): A preliminary report. The Journal of the Acoustical Society of America. 142. 2713-2713. 10.1121/1.5014899.

Badiey, Mohsen & Eickmeier, Justin & Muenchow, Andreas & T. Lin, Y & Duda, Timothy & **Kemp, John** & Dzieciuch, Matthew & Worcester, Peter. (2016). Sound propagation from the

Canadian Basin to the Chukchi shelf during Summer 2015. Journal of the Acoustical Society of America. 139. 2198-2198. 10.1121/1.4950549.

Bombar, Deniz & Taylor, Craig & T. Wilson, Samuel & C. Robidart, Julie & Rabines, Ariel & Turk-Kubo, Kendra & **N. Kemp, John** & M. Karl, David & P. Zehr, Jonathan. (2015). Measurements of nitrogen fixation in the oligotrophic North Pacific Subtropical Gyre using a free-drifting submersible incubation device. Journal of Plankton Research. 37. 10.1093/plankt/fbv049.

Worcester, Peter F. & M.A. Dzieciuch, A. Colosi, John & **N. Kemp, John**. (2014). Ambient noise in the Arctic Ocean measured with a drifting vertical line array. The Journal of the Acoustical Society of America. 136. 2149-2149. 10.1121/1.4899764.

Worcester, Peter F. & K Andrew, Rex & Baggeroer, Arthur & A Colosi, John & D'Spain, Gerald & Dzieciuch, Matthew & Heaney, Kevin & Howe, Bruce & **N Kemp, John** & Mercer, James & Stephen, Ralph & Van Uffelen, Lora. (2012). The North Pacific Acoustic Laboratory (NPAL) deep-water acoustic propagation experiments in the Philippine Sea.. The Journal of the Acoustical Society of America. 131. 3352. 10.1121/1.4708562.

Stephen, Ralph & Bolmer, Tom & Worcester, Peter & Dzieciuch, Matthew & Carey, Scott & Moskovitz, Brianne & McPeak, Sean & Campbell, Richard & Aaron, Ernest & **Kemp, John**. (2012). The ocean bottom seismometer augmentation of the Philippine Sea experiment. The Journal of the Acoustical Society of America. 131. 3352. 10.1121/1.4708564.

Worcester, Peter F. & K Andrew, Rex & Baggeroer, Arthur & A Colosi, John & D'Spain, Gerald & Dzieciuch, Matthew & Heaney, Kevin & Howe, Bruce & **N Kemp, John** & Mercer, James. (2010). Acoustic propagation and ambient noise in the Philippine Sea: The 2009 and 2010-2011 Philippine Sea experiments. The Journal of the Acoustical Society of America. 128. 2385. 10.1121/1.3508523.

Honjo, S., R.A. Krishfield, T.I. Eglinton, S.J. Manganini, **J.N. Kemp**, K. Doherty, J. Hwang, T.K. McKee, and T. Takizawa (2010) Biological pump processes in the cryopelagic and hemipelagic Arctic Ocean: Canada Basin and Chukchi Rise. Prog. Oceanogr. 85(3-4): 137-170.

Spaulding, Eric & Robbins, Matt & Calupca, Tom & Clark, Christopher & Tremblay, Tremblay & Waack, Amanda & Warde, Ann & **Kemp, John** & Newhall, Kristopher. (2009). An autonomous, near-real-time buoy system for automatic detection of North Atlantic right whale calls. The Journal of the Acoustical Society of America. 125. 2615. 10.1121/1.4783964.

Tremblay, Christopher & Calupca, Tom & Clark, Christopher & Robbins, Matt & Spaulding, Eric & Warde, Ann & **Kemp, John** & Newhall, Kristopher. (2009). Autonomous seafloor recorders and autodetection buoys to monitor whale activity for long-term and near-real-time applications.. The Journal of the Acoustical Society of America. 125. 2548. 10.1121/1.4783637.

Conference Papers:

Kukulya, Amy & Plueddemann, Albert & Austin, T & Stokey, Roger & Purcell, Michael & Allen, B & Littlefield, R & Freitag, Lee & Koski, P & Gallimore, E & Kemp, J & Newhall, K & Pietro, J. (2010). Under-ice operations with a REMUS-100 AUV in the Arctic. Autonomous Underwater Vehicles (AUV). 1 - 8. 10.1109/AUV.2010.5779661.