

Oskar Glowacki

Marine Physical Laboratory

Scripps Institution of Oceanography

La Jolla, CA 92093-0206

Tel: (858) 822-0313, e-mail: oglowacki@ucsd.edu

PROFESSIONAL PREPARATION

University of Gdansk, Oceanography - Physical oceanography, B.Sc. 2010

University of Gdansk, Oceanography - Marine Physics, M.Sc. 2012

Institute of Geophysics PAS, Earth Sciences - Geophysics, Ph.D.(Honors) 2017

APPOINTMENTS

May 2018 – present Postdoc Scripps Institution of Oceanography

June, 2017 – April, 2018 Assistant Professor Institute of Geophysics PAS

PEER-REVIEWED PUBLICATIONS

Glowacki, O., Deane, G.B., Moskalik, M. (2018). *The Intensity, Directionality, and Statistics of Underwater Noise From Melting Icebergs*, Geophys. Res. Lett., 45(9), 4105-4113.

Moskalik, M., Cwiakala, J., Szczucinski, W., Dominiczak, A., Glowacki, O., Wojtysiak, K., Zagorski, P. (2018). *Spatiotemporal changes in the concentration and composition of suspended particulate matter in front of Hansbreen, a tidewater glacier in Svalbard*, Oceanologia, 60(4), 446-463.

Glowacki, O., Moskalik, M., Deane, G.B. (2016). *The impact of glacier meltwater on the underwater noise field in a glacial bay*, J. Geophys. Res. Oceans, 121(12), 8455–8470.

Glowacki, O., Deane, G.B., Moskalik, M., Tegowski, J., Blondel, P. (2015). *Two-element acoustic array gives insight into ice-ocean interactions in Hornsund Fjord, Spitsbergen*, Pol. Polar Res., 36(4), 355–367.

Glowacki, O., Deane, G. B., Moskalik, M., Blondel, P., Tegowski, J., Blaszczyk, M. (2015). *Underwater acoustic signatures of glacier calving*, Geophys. Res. Lett., 42(3), 804–812.

Deane, G. B., Glowacki, O., Tegowski, J., Moskalik, M., Blondel, P. (2014). *Directionality of the ambient noise field in an Arctic, glacial bay*, J. Acoust. Soc. Am., 136 (5), EL350-356.

Herman, A., Glowacki, O. (2012). Variability of sea ice deformation rates in the Arctic and their relationship with basin-scale wind forcing, The Cryosphere, 6, 1553–1559.

PEER-REVIEWED BOOK CHAPTERS

Bialik, R. J., Szilo, J., Karpinski, M., Rajwa-Kuligiewicz, A., Glowacki, O. (2015). *The bed topography and discharge measurements in the Swiderskie Islands Nature Reserve, the Vistula River, Poland*, In Geoplanet: Earth and Planetary Sciences, Stochastic Flood Forecasting System: The Middle River Vistula Case Study.

Glowacki, O., Moskalik, M. (2014). *Application of Passive Hydroacoustics in the Studies of Sea-Ice, Icebergs and Glaciers: Issues, Approaches and Future Needs*, In Geoplanet: Earth and Planetary Sciences, 60th Anniversary of the Institute of Geophysics: Achievements, History and Challenges in Geophysics.

REFEREED PROCEEDINGS

Deane G. B., Glowacki, O., Tegowski, J., Moskalik, M., Blondel, P. (2014). *Measurements of the noise field directionality in an Arctic, glacial fjord*, 2nd International Conference and Exhibition on Underwater Acoustics, Book of Proceedings, Rhodos, Greece.

Tegowski, J., Deane, G.B., Blondel, P., Glowacki, O., Moskalik, M. (2014). *An acoustical study of gas bubbles escaping from melting growlers*, 2nd International Conference and Exhibition on Underwater Acoustics, Book of Proceedings, Rhodos, Greece.

Bialik, R., Karpinski, M., Rajwa, A., Glowacki, O. (2014). *Characterization of basic fluvial dunes parameters: a field study in the Vistula river, Poland*, 3rd IAHR Europe Congress, Book of Proceedings, Porto, Portugal.

RESEARCH PROJECTS

Measuring the melt rate of glacier ice with underwater noise, 2018-2019, National Science Foundation, EAGER grant, \$299,853, co-investigator

Studying underwater calving events with ambient noise oceanography, 2018-2020, Ministry of Science and Higher Education of Poland, Mobility Plus Program, \$93,000, PI

Application of underwater acoustics in the study of sea ice in the Hornsund Fjord, Spitsbergen, 2014-2017, National Science Centre of Poland, \$42,000, PI

Acoustic methods in detection and analyzing of calving events at the Hans Glacier front, July-September 2013, Arctic Field Grant – Research Council of Norway, \$7,000, PI

Use of ambient sounds for passive hydroacoustic monitoring of calving processes at the Hans Glacier front, Hornsund Fjord, Spitsbergen, 2012 – 2015, National Science Centre of Poland, \$180,000, co-investigator

CONFERENCE CONTRIBUTIONS

Glowacki, O. (2018), *Studying Melting Icebergs with Ambient Noise Oceanography*, Acoustical Society of America Meeting, Minneapolis, May 7-11 (co-chair, oral presentation)

Glowacki, O. (2017), *An acoustic study of sea ice behavior in a shallow, Arctic bay*, Acoustical Society of America Meeting, Boston, USA, June 25-29 (oral presentation – invited).

Glowacki, O., Moskalik, M., Deane, G. B. (2016), *Melting tidewater glaciers create subsurface acoustic waveguides*, International Symposium on Interactions of Ice Sheets and Glaciers with the Ocean, La Jolla, USA, July 10-15 (oral presentation).

Glowacki, O. (2016), *Application of passive underwater acoustics in the study of marine-terminating glaciers*, 36th Polar Symposium “Progress in polar research – new experiences and challenges”, Lublin, Poland, June 8-11 (oral presentation - invited).

Glowacki, O., Tegowski, J., Deane, G. B., Moskalik, M., Blondel, Ph. (2015), *Passive underwater acoustics gives insight into glacier–ocean interactions*, Contemporary Ice Sheet Dynamics, Cambridge, UK, August 16-21 (oral presentation).

Glowacki, O., G. B. Deane, M. Moskalik, P. Blondel, J. Tegowski (2014), *Directivity of Underwater Sounds Generated in the Vicinity of Tidewater Glaciers*, American

Geophysical Union (AGU) Fall Meeting, San Francisco, California, USA, December 14-19 (poster).

Glowacki, O., G. B. Deane, M. Moskalik, P. Blondel, J. Tegowski (2014), *Acoustic signatures of different calving modes: results from spectral analysis*, 35th Polar Symposium: Diversity and State of Polar Ecosystems, June 4–7, Wroclaw (oral presentation).

Glowacki, O., G. B. Deane, M. Moskalik, J. Tegowski, P. Blondel (2014), *Hydroacoustic study of glacier calving events in Hornsund fjord, Spitsbergen*, Ocean Science Meeting, Honolulu, Hawaii, USA, February 23-28 (poster).

Glowacki, O., M. Moskalik, A. Prominska (2013), *Simulation of the sound propagation in an Arctic fjord: general patterns and variability*, The Arctic Science Summit Week (ASSW), Krakow, April 13-19 (poster).

Glowacki, O., A. Herman (2012), *Sea ice deformation rates in the Arctic: from wind-driven synoptic variability to seasonal trends*, American Geophysical Union (AGU) Fall Meeting, San Francisco, California, USA, December 2-7 (poster).

Glowacki, O., A. Herman (2012), *Deformation rates of the Arctic Ocean ice cover: trends, variability and relationship with large-scale wind forcing*, Joint ART-APECS Science Workshop, Sopot, Poland, October 23-26 (poster).

HONORS AND AWARDS

Award of the Polish Prime Minister for the PhD thesis; 2018 – \$6,500

PhD degree awarded with honors; 2017

Professor Kacper Rybicki's prize for the outstanding scientific achievements in the field of geophysics; IG PAS; 2016 – \$6,000

Director's Prize for the outstanding publication activity in 2015; IG PAS; 2016

FELLOWSHIPS

October 1, 2015 – September 30, 2016	Centre for Polar Studies in Poland	\$15,000
October 1, 2014 – September 30, 2015	Centre for Polar Studies in Poland	\$12,000

TEACHING EXPERIENCE

Lectures given for PhD students at the Institute of Geophysics Polish Academy of Sciences – ‘Application of MATLAB programming language in geophysical research’, 20 hours, 2016

OTHER PROFESSIONAL ACTIVITIES

1. Reviewer for scientific journals - *Remote Sensing, Polar Science*
2. Participant of several research cruises, including optical research on Atlantic Ocean transect from Punta Arenas, Chile to Bremerhaven, Germany in 2012
3. Participant of 5 research campaigns to the Arctic at the Polish Polar Station – Hornsund fjord, Svalbard
4. Chairman of the PhD students’ council at the Institute of Geophysics PAS, 2014-2016
5. Chairman of the oceanographic student research group at the University of Gdansk, 2009-2012

MEMBERSHIPS

Acoustical Society of America (ASA)	2016 – present
International Glaciological Society	2015 - 2016
Association of Polar Early Career Scientists (APECS)	2012 - present
American Geophysical Union (AGU)	2012 - 2014

RESEARCH INTERESTS

- Underwater ambient noise in polar regions
- Dynamics of marine-terminating glaciers
- Ice-ocean interactions in the context of climate shifts
- Sea-ice processes and properties
- Propagation of underwater noise in glacial bays
- Calving-generated surface waves
- Extreme natural events and geohazards