

Scientific curriculum vitae – Irina Polovodova Asteman

Full name: Irina Polovodova Asteman

Date of Birth: October 22nd, 1980

Citizenship: Swedish / Russian

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Webpage: <https://scholar.google.com/citations?user=zYUsawcAAAAJ&hl=en>,
https://www.researchgate.net/profile/Irina_Polovodova_Asteman

HIGHER EDUCATION DEGREES

2005 -2008: **Doctor of Natural Sciences in Geology and Palaeontology** (GEOMAR and Christian-Albrechts-University of Kiel, Germany), July 16th 2008. PhD thesis “Benthic foraminifera and environmental change in the south-western Baltic Sea”; supervisor: Prof. Dr Wolf-Christian Dullo

2002-2004: **Master of Science in Geography and Environmental Studies with emphasis on hydrometeorology** (St.-Petersburg State University, Faculty of Geography and Geoecology, Russia); June 15th 2004. Master thesis “Possible ecological consequences from impact of oil and gas industry for the benthic communities of the Barents Sea” (“a sandwich-program” in a master education between universities of St.-Petersburg & Bremen).

2002-2004: **Master of Science in Polar and Marine Research Applied in Geosciences** (University of Bremen, Germany); October 27th 2004. Master thesis “Possible ecological consequences from impact of oil and gas industry for the benthic communities of the Barents Sea” (“a sandwich-program” in a master education between universities of St.-Petersburg & Bremen).

1998-2002: **Bachelor of Science in Geography and Environmental Studies** (Saint-Petersburg State University, Faculty of Geography and Geoecology, Russia). Bachelor thesis “Comparative assessment of radioactive and chemical pollution levels in the Barents Sea”.

POSTDOCTORAL WORK

2009 – 2011: **Postdoc (100%) at Marine Geology Group; Dept. Earth Sci.; University of Gothenburg, Sweden** Project “Gullmar Fjord, a unique archivist for winter and summer temperatures, and climate changes during the last 2,500 years».

July 2008 – April 2009: **Postdoc (100%), IFM-GEOMAR, Kiel, Germany;** Project “Marine calcifiers and shell loss in Kiel Bight: evidence for ocean acidification?”

OTHER ACADEMIC POSITIONS

2017 - present: *Researcher*, Dept. of Marine Sci., Univ. of Gothenburg, Sweden

2014-2016: *Senior researcher; Uni Climate, Uni Research AS, Bergen, Norway.*

Project CLIMLINK: *Climate forcing factors for marine environmental change during the mid and late Holocene - a link between the eastern Atlantic and the Baltic Sea.*

2014-2016: *guest lecturer*, Dept. of Earth Sci., Univ. of Gothenburg, Sweden

2011-2014: *Lecturer* (temporary post, 50-70%), Dept. of Earth Sci., Univ. of Gothenburg, Sweden

2007-2008: *PhD Student position*, GEOMAR, Division of Palaeoceanography; CAU Univ. of Kiel; Germany

2006-2007: *Research/Teaching Assistant (PhD student position)*, Laboratory of Geoecology and Environmental monitoring, Faculty of Geography & Geoecology, St.-Petersburg State University, Russia

2005-2006: *Visiting Scientist (DAAD Scholarship)/PhD Student*, GEOMAR, Kiel, Germany

GRANTS AND SCHOLARSHIPS

2009-2011: Postdoctoral fellowship of Department of Earth Sciences; University of Gothenburg, Sweden

2008-2009: Research Grant of Excellence Cluster "Future Ocean" for a 10-months postdoc, GEOMAR, Kiel, Germany

2007-2008: Research Grant of Otto-Schmidt Laboratory for Polar and Marine Research, AARI, St.-Petersburg for a 3-month research stay at GEOMAR, Kiel, Germany

2006: Scholarship of Nordic Marine Academy (NMA) to attend the course «Foraminifera – Biodiversity and Ecology» (Univ. of Bergen, Norway)

2005-2006: German Academic Exchange Service (DAAD) scholarship for a 1-year research visit to GEOMAR, Kiel, Germany

2002-2003: Scholarship of the St.-Petersburg City Hall, St.-Petersburg, Russia

PROJECT EXPERIENCE

CLIMLINK: CLIMATE FORCING FACTORS FOR MARINE ENVIRONMENTAL CHANGE DURING THE MID AND LATE HOLOCENE - A LINK BETWEEN THE EASTERN ATLANTIC AND THE BALTIC SEA - Polish-Norwegian Collaboration Program; From Norway main researcher responsible for data collection, 2014-2016.

GULLMAR FJORD, A UNIQUE ARCHIVIST FOR WINTER AND SUMMER TEMPERATURES, AND CLIMATE CHANGES DURING THE LAST 2,500 YEARS – Swedish Research Council (VR 621-2007-4369) and Lamm Foundation; Main researcher (postdoc) responsible for data collection 2007-2011.

MARINE CALCIFIERS AND SHELL LOSS IN THE FLENSBURG FJORD (SW BALTIC SEA). LIVING BENTHIC COMMUNITIES UNDER THE RISK DUE TO OCEAN ACIDIFICATION? – Excellence Cluster "Future Ocean", Kiel, Germany; Personal Postdoc project. 2009-2010.

ECOLOGICAL QUALITY ASSESSMENT IN A MODERATE POLLUTED ENVIRONMENT: A CASE STUDY FROM THE KIEL BIGHT (SW BALTIC SEA) - DAAD, Otto-Schmidt Laboratory (AARI, St.-Petersburg) and the German Research Council (DFG DU 129-33. Project co-leader and WP leader, 2005-2008.

GUEST LECTURES, INVITED TALKS AND SEMINARS

2016: *Biological Aspect of Climate Change: alien species & habitat shifts in marine realm* - Bjerknes Centre for Climate Research, Research Group 6: Natural Climate Variability – Extending the Instrumental Record; Bergen, Norway.

2014: *Two millennia of climate and environmental changes recorded by a multi-proxy record from Gullmar Fjord (Swedish west coast)* – Colloquium at the Geophysical Institute; Bergen, Norway.

2013: *The Little Ice Age: evidence from sediment record in Gullmar Fjord, SW Sweden*; Earth-System-Science-Seminar at Department of Earth Sciences, University of Gothenburg.

2010: *The Medieval Warm Period vs. Recent Warming as Inferred from benthic foraminiferal record (Gullmar Fjord; SW Sweden)*; internal seminar on research highlights 2010 at Department of Earth Sciences, University of Gothenburg.

2009: *Foraminifera as proxies of environmental change (SW Baltic Sea)*; guest-lecture in frame of Marine Micropaleontology course at Department of Earth Sciences, University of Gothenburg.

2009: *Benthic foraminifera and environmental change in the SW Baltic Sea*; invited talk at Laboratory for Recent and Fossil Bio-Indicators (University of Angers; France).

TEACHING EXPERIENCE

In total > **600 teaching-hours** taught in the following courses:

- Sedimentology, Stratigraphy and Dating (BSc level)
- Environmental Geology (MSc level)
- Marine Micropaleontology (BSc)
- Historical Geology (BSc)
- Marine Geology (BSc)
- Paleoceanography and Marine Micropaleontology (MSc)
- Stable isotope tools in Earth System Sciences (PhD course)

FIELDWORK & OTHER EXPERIENCE:

Altogether I have an experience of 11 weeks of sea-going excursions and expeditions. Below I provide the detailed summary of fieldwork and other experience related to the position.

2009-2013: Sediment sampling in fjords at the Swedish west coast and in the Skagerrak-Kattegat area (Gothenburg University, R/V Skagerrak, R/V Nereus, R/V Oscar von Sydow; Sweden)

Oct 2005-May 2008: Sediment sampling in Kiel and Flensburg fjords (GEOMAR, R/V Polarfuchs, R/V Littorina, Kiel, Germany)

July 2007: Fieldwork and sampling of soils & plants to study heavy metals contamination levels from mining and smelting industry (South Ural, Sibay, Russia).

Oct, 2006: Sediment sampling in Raunefjord (R/V Hans Brattström, Norway) in frame of the International course «Foraminifera – Biodiversity and Ecology» at the Marine Biological Station Espesgrend, University of Bergen, Norway

March 2004: Foraminiferal analysis of sediment samples from the Arabian Gulf. IFM-GEOMAR (Kiel, Germany).

Sept 2003: Educational fieldwork: biological, geobotanical, geological and climatic observations (Ny-Alesund, Svalbard).

July 2001-2002: Fieldwork and sampling of soils & plants to study heavy metals contamination levels from non-ferrous smelter “Severonikel” (Murmansk region, Russia)

June 2001: Urban air quality assessment and study of long-lived radionuclide levels in air aerosols of St.-Petersburg City and the potential influence on human health; Research Institute of Radiation Hygiene (St.-Petersburg, Russia).

PEER-REVIEW ASSIGNMENTS

- Reviewer for journals: *Environmental Science & Technology*; *Estuarine, Coastal & Shelf Science*; *Journal of Foraminiferal Research*, *Journal of Micropalaeontology*, *The Holocene*, *Journal of Micropaleontology*, *Journal of Marine Systems*.
- Proposal reviewer for: National Science Centre (Poland)

Complete list of publications

§ Publications included in PhD thesis

Peer-reviewed journal articles:

- 2017** Nordberg, K., Polovodova Asteman, I., Gallagher, T.M., Robijn, A. Recent oxygen depletion and benthic faunal change in shallow areas of Sannäs Fjord, Swedish west coast. *Journal of Sea Research* in press: <https://doi.org/10.1016/j.seares.2017.02.006>
- Polovodova Asteman, I., Risebrobakken, B., Moros, M., Binczewska, A., Dobosz, S., Jansen, E., Sławińska, J., Bąk, M., Late Holocene paleoproductivity changes driven by the Baltic Sea

outflow: a multi-proxy study in the Norwegian Trench and Skagerrak (North Sea). Accepted for publication in *Boreas* 19/04/2017.

Binczewska, A., Moros, M., **Polovodova Asteman, I.**, Sławińska, J., Bąk, M., 2017. Changes in the salt water inflows into the Bornholm Basin (SW Baltic Sea) over the last 7 100 years: evidence from the sediment record. Resubm after minor revision, *Boreas* 05/04/2017.

- 2016** **Polovodova Asteman, I.**, Schönfeld, J., 2015. Recent invasion of the foraminifer *Nonionella stella* Cushman and Moyer 1930 in northern European waters: evidence from the Skagerrak and its fjords. *Journal of Micropaleontology* 35, 20-25 doi:10.1144/jmpaleo2015-007
- Harland, R., **Polovodova Asteman, I.**, Morley, A., Morris, A., Harris, A., Howe, J.A., 2016. Latest Quaternary palaeoceanographic change in the eastern North Atlantic based upon a dinoflagellate cyst ecostratigraphy. *Heliyon* 2, e00114.
- 2015** **Polovodova Asteman, I.**, Hanslik, D., Nordberg, K., 2015. An almost completed pollution – recovery cycle reflected by sediment geochemistry and benthic foraminiferal assemblages in a Swedish-Norwegian Skagerrak fjord. *Marine Pollution Bulletin* 95, 126-140.
<http://dx.doi.org/10.1016/j.marpolbul.2015.04.031>
- 2013** **Polovodova Asteman, I.**, Nordberg, K., Filipsson, H.L., 2013: The Little Ice Age: evidence from the sediment record in Gullmar Fjord, west coast of Sweden. *Biogeosciences* 10, 1275–1290.
- Polovodova Asteman, I.**, Nordberg, K., 2013: Foraminiferal fauna from a deep basin in Gullmar Fjord: the influence of seasonal hypoxia and the North Atlantic Oscillation. *Journal of Sea Research* 79, 40-49.
- Harland, R., **Polovodova Asteman, I.**, Nordberg, K., 2013. A two-millennium dinoflagellate cyst record from the Swedish Skagerrak sill fjord. *Palaeogeography, Palaeoclimatology, Palaeoecology* 392, 247-260.
- 2012** Haynert, K., Schönfeld, J., **Polovodova Asteman, I.**, Thomsen, J., 2012. The benthic foraminiferal community in a naturally CO₂-rich coastal habitat of the SW Baltic Sea. *Biogeosciences* 9, 4421-4440.
- 2011** Haynert K., Schönfeld J., Riebesell, U., and **Polovodova I.**, 2011. Biometry and dissolution features of the benthic foraminiferal species *Ammonia aomoriensis* at high pCO₂, *Marine Ecology Progress Series*, 432, 53–67.
- Polovodova, I.**, Nordberg, K., and Filipsson, H., 2011. The benthic foraminiferal record of the Medieval Warm Period and the Recent Warming in the Gullmar Fjord, Swedish west coast. *Marine Micropaleontology* 81 (3-4), 95-106.
- 2010** Schweizer, M., **Polovodova, I.**, Nikulina, A., and Schönfeld, J., 2010. Molecular identification of *Ammonia* and *Elphidium* species (Foraminifera, Rotaliida) from the Kiel Fjord (SW Baltic Sea) with rDNA sequences; *Helgoland Marine Research*, 65, 1-10; DOI 10.1007/s10152-010-0194-3.
- 2009** § **Polovodova, I.**, Nikulina, A., Schönfeld, J., and Dullo, W.-Ch., 2009. Recent benthic foraminifera in the Flensburg Fjord: distribution and response to environmental change; *Journal of Micropaleontology*, 28, 131-142
- 2008** § Nikulina, A., **Polovodova, I.** and Schönfeld, J., 2008. Foraminiferal response to environmental changes in Kiel Fjord, SW Baltic Sea: *eEarth*, 3, 37-49.
- § **Polovodova, I.** and Schönfeld, J., 2008. Foraminiferal test abnormalities in the western Baltic Sea; *Journal of Foraminiferal Research*, 38 (4), 318-336.

Monographs and book chapters:

- **Binczewska, A., Polovodova Asteman, I.**, Farmer, E.J., 2015. Foraminifers (Benthic). In: *Harff, J., Meschede, M., Petersen, S., Thiede, J. (eds) Encyclopedia of Marine Geosciences*. DOI 10.1007/978-94-007-6644-0. Springer Netherlands. Online ISBN 978-94-007-6644-0
- **Polovodova Asteman, I.** 2012. Benthic foraminifera and environmental change: a case study from the SW Baltic Sea, SVH Verlag, 128 pp. (*published PhD thesis*)

- **Polovodova Asteman, I.** 2008. Benthic foraminifera and environmental change in the SW Baltic Sea (unpublished PhD thesis); available online at: http://eldiss.unikiel.de/macau/receive/dissertation_diss_00002997

Popular science presentations:

- 2009/01/22: Radio podcast on NDR1 Welle Nord (Kiel, Germany) in Ostseemagazin/ Baltic Sea Journal: "Saubere Förden in Schleswig-Holstein/The almost pollution-free fjord in Schelswig-Holstein".
- 2009/01/03: Article on heavy metal pollution in Kiel Fjord in a local newspaper Kieler Nachrichten/Kiel News: "Kiel – eine wirklich erfrischende Stadt/Kiel is such a refreshing city" (Kiel, Germany)

CONFERENCE CONTRIBUTION (first author-only):

- **Polovodova Asteman, I.**, Binczewska, A., Dobosz, S., Jansen, E., Moros, M., Risebrobakken, B., Slawinska, J., 2016. *Determining changes in the Baltic Sea outflow during the late Holocene based on organic carbon, stable carbon isotopes and benthic foraminifera*. Talk, Foraminiferal and Nannofossil Joint Spring Meeting, Angers, France, June 19-24th
- **Polovodova Asteman, I.**, Binczewska, A., Dobosz, S., Jansen, E., Moros, M., Risebrobakken, B., Slawinska, J., 2016. *Determining changes in the Baltic Sea outflow during the late Holocene based on organic carbon, stable carbon isotopes and benthic foraminifera*. Poster, International Conference on Paleooceanography, Utrecht, Netherlands, August 19th – September 2nd.
- **Polovodova Asteman, I.**, Risebrobakken, B., Bak, M., Binczewska, A., Dobosz, S., Jansen, A. Kaniak, M. Moros, K. Perner, J. Slawinska, 2015. *CLIMLINK: Climate forcing factors for marine environmental change during the mid- and late Holocene – a link between the NE Atlantic and the Baltic Sea*. Poster, EGU 2015 (Vienna, Austria), April, 12-17th.
- **Polovodova Asteman, I.**, Harland, R., Filipsson, H.L., Nordberg K., 2014. *Detailing the Little Ice Age on the Swedish west coast: a multi-proxy study of a sediment record from Gullmar Fjord*, oral presentation. International Symposium on Foraminifera "FORAMS 2014"(University of Concepcion, Chile), January 19-24th
- **Polovodova, I.**, Nordberg K., and Filipsson, H.L., 2010. *High resolution foraminiferal stratigraphy and climatic variations over the last ca. 2500 years: Evidence from Gullmar Fjord and Skagerrak-Kattegat area*; oral presentation. International Symposium on Foraminifera "FORAMS 2010"(University of Bonn, Germany), September 5-10th
- **Polovodova, I.**, Nordberg K., and Filipsson, H.L., 2010. *Medieval warm period and recent warming as inferred from benthic foraminiferal stratigraphy of the Gullmar Fjord basin, west coast of Sweden*; poster. The Micropalaeontological Society's Foraminifera and Nannofossil Groups Joint Spring Meeting 2010 (Imperial College, London, UK), June 28th
- **Polovodova, I.**, Heinze, J., and Schönfeld, J., 2009. *Foraminiferal shell loss in the Kiel Bight (SW Baltic Sea): evidence for the ocean acidification?*; poster. The Micropalaeontological Society's Foraminifera and Nannofossil Groups Joint Spring Meeting 2009 (ETH Zürich, Switzerland), June 4-6th
- **Polovodova, I.**, Heinze, J., and Schönfeld, J., 2009. *Foraminiferal shell loss in the Kiel Bight: Evidence for the ocean acidification?*; poster. Retreat of the Excellence Cluster "Future Ocean" 2009 (Salzau, Germany), March 31st
- **Polovodova, I.**, Schönfeld, J., Dullo, W-Ch., 2008. *Foraminiferal test abnormalities as proxies of environmental change*; poster. The Micropalaeontological Society's Foraminifera and Nannofossil Groups Joint Spring Meeting 2008 (Tübingen, Germany), May 15-17th
- **Polovodova, I.**, Nikulina, A., Schönfeld, J., Belozersky, G, 2007. *Recent benthic foraminifera in moderate polluted environment: a case study from Kiel Fjord*; oral presentation. The Micropalaeontological Society's Foraminifera and Nannofossil Groups Joint Spring Meeting 2007 (Angers, France), June 7-8th
- **Polovodova, I.**, Nikulina, A., 2007. *Population dynamics of living benthic foraminifera in the Kiel Bight*; oral presentation. Conference «From geology to biosphaerology» (Kiev, Ukraine), February 21-22nd

- **Polovodova, I.**, Nikulina, A., Belozerskiy, G.N., Schönfeld, J., 2006. *Recent benthic foraminifera assemblages and geochemistry in the Flensburg Fjord*; oral presentation. 4-rth International conference "Ecological and hydrometeorological problems of cities and industrial regions" (Saint-Petersburg, Russia), October 25-27th
- **Polovodova, I.**, 2005. *Natural background assessment before oil and gas exploration in the Barents Sea*; poster. 3-rd Italian-Russian Symposium "Quality and management of water resources" (Saint-Petersburg, Russia), July 16-18th
- **Polovodova, I.** and Belozerskiy, G.N., 2003. *Radiation and non-radiation impact in the Barents Sea*; poster. International Conference "Mobility of students and programmes flexibility in the prospect of the European unification of the training processes in ecology and environmental sciences" (Palermo, Italy); July 2003.
- **Polovodova, I.** and Belozerskiy, G.N., 2002. *Comparative assessment of Barents Sea pollution by radionuclides, cadmium and mercury*; oral presentation. 2nd International Conference "Ecological and hydrometeorological problems of the cities and industrial regions" (Saint-Petersburg, Russia), September 2002.

COMPETENSE DEVELOPMENT COURSES

- Control techniques in communication (2016), Uni Research/Forskerforbundet, Bergen, Norway
- Project Management (2015), Uni Research, Bergen, Norway
- Supervision in postgraduate programmes (2013); 5 credits, GU, Gothenburg, Sweden
- Teaching and Learning in Higher Education 2: discipline specific pedagogic (2013); 5 credits, GU, Gothenburg, Sweden

LANGUAGES

- Russian (native speaker)
- English (fluent)
- Swedish (fluent)
- German (fluent)
- Norwegian (good skills)
- Ukrainian (good skills)