

CV Mirjam Sophia Gleßmer

Education

- 2007 – 2010 **Doktor rer. nat. in Physical Oceanography**, Kiel University, Germany
- 2006 – 2011 **Master of Higher Education**, University of Hamburg, Germany
- 2001 – 2006 **Diploma in Physical Oceanography**, University of Hamburg, with minor subject shipbuilding and ocean engineering at Hamburg University of Technology, Germany

Professional experience

- Since **Senior Lecturer in Academic Development**
01.2022 Center for Engineering Education, Lund University, Sweden
- Leading academic development workshops for, and consulting, PhD students and faculty on many different topics
 - Supervising student employees on individual research projects
 - Research in the areas of co-creation and student sense of belonging
- Since **Adjunct Associate Professor in Geoscience Education**
01.2021 Geophysical Institute, University of Bergen, Norway (associated with the Norwegian Centre for Excellence in Education *iEarth*)
- Working with teachers on further developing and evaluating their teaching
 - Conception and delivery of workshop on Geoscience Education & Communication for PhD students
- 01.2019 – **Programme Manager of science communication project “GEO-Tag der Natur”**
12.2021 GEO-Tag der Natur e.V. at Gruner + Jahr, Hamburg, Germany
- Strategic development and operational lead of the programme; communication with various stakeholder groups including politicians, NGOs, teachers, publishers
- 01.2013 – **Self-employed consultant on educational development and science communication**
12.2021 Mostly at Kiel University and at several technical universities in Germany
- Design, delivery and evaluation of >60 in-person or virtual, 90min—3day workshops for faculty (PhD students to professors) on teaching in higher education (e.g. introduction to university teaching, active learning, hybrid teaching, field- and laboratory courses, building supportive communities) and science communication (e.g. on social media)
 - Coaching of university teachers (PhD students to professors)
- 10.2016 – **Research Scientist in Science Communication**
12.2018 Leibniz Institute for Science and Mathematics Education at Kiel University, Germany
- Head of school laboratory on physics of the climate system at Kieler Forschungswerkstatt**
- Development, implementation, and operational lead of a 1-day program for high schools
 - Supervising students and guiding research theses in physics education (7 Master, 3 PhD)
- Scientific Coordination of the Kiel Science Outreach Campus**
- Operational lead of a portfolio of projects on science communication research and practice, including the Kiel Science Outreach Campus (since 01.2018)
 - Providing strategic oversight of project funds, project outputs, products, reporting
 - Managing staff (11 PhD students, 4 postdocs, 12 undergraduate assistants, 1 administrative assistant) and external experts
 - Internal and external stakeholder communication, including social media strategies, digital and print products, in-person science communication activities
- 10.2013 – **Coordinator of Teaching Innovation** (Mechanical Engineering & Naval Architecture)
09.2016 Centre for Teaching and Learning, Hamburg University of Technology, Germany
- Coaching of university teaching staff to deliver high quality and innovative teaching
 - Workshop lead for university teaching staff on active learning in STEM higher education
 - Publications of online and print materials for teachers on STEM education topics

- 01.2011 – **Postdoctoral Fellow in Physical Oceanography**
09.2013 Geophysical Institute (associated with Bjerknes Centre for Climate Research), University of Bergen, Norway
- Course responsible for Bachelor and Master level courses in physical oceanography
 - Delivery of trainings for science educators on hands-on experiments in teaching
- 07.2006 – **Researcher in Physical Oceanography**
12.2010 Leibniz Institute of Marine Sciences at Kiel University, Germany
04.2005 – **Research Project in Physical Oceanography**
06.2006 Southampton Oceanography Centre, UK

Languages and international experience

German native language, **English** full professional proficiency, **Norwegian** professional working proficiency, **Swedish** who knows, **French** limited working proficiency.

My own stays abroad (as seen from Germany, where I had all my education and professional experience that is not mentioned in the list below. As seen from Sweden, I have collected international experience for all my life until January 2022):

- Senior lecturer at Lund University, Lund, Sweden (since 2022)
- Part-time adjunct associate professor at University of Bergen, Norway (since 2021)
- Science communication expert at HydraLab, Grenoble, France (2017)
- Postdoctoral researcher at the Geophysical Institute, University of Bergen, Norway (2011–2013)
- Research stay at the National Oceanography Centre, Southampton, UK, for my Diploma thesis (2005–2006)

Teaching qualifications

In addition to my Master of Higher Education from the University of Hamburg (2011) and many short courses before that, I have recently attended courses in new areas related to higher education:

- **“Leading Educational Change — through SoTL”** (Oct 2021–June 2022, 3 weeks of full-time work), co-organized by the two Norwegian Centers for Excellence in Teaching iEarth and BioCEED.
- **“Readership course”** (Spring 2022, 3 weeks of full-time work), LTH
- **“PhD supervisor course”** (Spring 2021), UiB
- **“Cruise leader course”** (Spring 2021; qualification to lead research cruises on Norwegian research ships), Institute of Marine Research Academy, Bergen, Norway

Teaching awards

- **Tandem-Fellowship** (2015, €30.000; with Dr. Christian Seifert) for innovative teaching in higher education by Stifterverband für die Deutsche Wissenschaft
- **Best poster award** (2016, with Dr. Christian Seifert). At *Sixth International Symposium of Engineering Education*, Sheffield, UK.

Teaching experience

Teaching oceanography in undergraduate university education (as course responsible)

- 2019–2021 **Dynamics of the Ocean and Atmosphere** (GEOF213, with Dr. Elin Darelus and Dr. Camille Li, University of Bergen, Norway);
Master in Meteorology and Oceanography
- 2012–2013 **Introduction to Oceanography** (GEOF130, University of Bergen, Norway);
Bachelor in Meteorology and Oceanography
- 2012–2013 **Understanding the Coast and the Ocean** (CMM31, University Centre of the Westfjords, Iceland);

	Master in Coastal and Marine Management
2012—2013	Field Course in Oceanography (GEOF332, University of Bergen, Norway); Master in Meteorology and Oceanography
2011—2012	Dynamical Oceanography (GEOF330, University of Bergen, Norway); Master in Meteorology and Oceanography
2012	Introduction to Atmosphere-Ocean Dynamics (GEOF110, University of Bergen, Norway); Bachelor in Meteorology and Oceanography

Teaching university staff about university teaching

Starting in 2014, I have developed and led more than 50 workshops on university teaching, with the target audience ranging from PhD students, new teachers, academic staff, to new professors. Some workshops were taught in a team. Recent examples include:

- Introduction to teaching and learning at LTH (3 week equivalent, taught with T. Roxå, 10.2022; with J. Löfgreen and T. Roxå, 03.2022 at LTH)
- Teaching sustainability (LTH, 09.-12.2022)
- University didactics in a nutshell (3 day equivalent, taught 10 times between 10.2020 and 10.2021 at Kiel University)
- Taking ownership of your mentoring (3 hour equivalent, taught 8 times since 2014 for many different audiences)
- Virtual laboratories and field courses (1 day equivalent, taught 6 times between 11.2020 and 4.2021 at Kiel University)

Teaching science communication

I have taught science communication with a focus on social media in 15 workshops since 2019, mostly for Kiel University and PhD networks of German Science Foundation agencies.

Supervision

I am currently supervising 5 student employees (3 at UiB, 2 at LTH).

I have previous experience as main supervisor for one Bachelor, six Master, and one PhD student in physics/geoscience didactics.

Mentoring

I have both formal and informal mentoring experiences. Formal roles include

- **Mentor to PhD students within KiSOC** (2016-2017)
- **CyberMentor** (2011–2013). Online mentoring of students interested in mathematics, informatics, natural and applied sciences.
- **MentorNet** (2010–2013). E-Mentoring Network for Diversity in Engineering and Science, mentoring students online.

Editor on journals with educational focus

- **Associate Editor** for all topics relating to education at *Oceanography* (peer-reviewed journal on everything related to ocean science, including teaching, since 2022)
- **Associate Editor** at *Geoscience Communications* (peer-reviewed science communication research, 2020–2022)
- **Associate Editor** at *Frontiers for Young Minds* (science communication aimed at teenagers, 2019–2022)
- **Editing** of a book for climate studies at the Master level (for the Cluster of Excellence "Integrated Climate System Analysis and Prediction" (CliSAP), Hamburg, Germany, 2016)
- **Associate Editor** at *Journal of Geoscience Education* (2014–2016)

Externally funded educational development work

Educational development work has been the focus of my job at the Centre for Teaching and Learning, Hamburg University of Technology, Germany (2013-2016), where I initiated, developed, supported the implementation, and evaluated about 20 teaching innovation projects throughout the faculty of Mechanical Engineering & Naval Architecture. It is also what I do now in my job at LTH. Additionally, I have contributed to many externally funded educational development projects, which I have applied for in collaboration with the teachers, and then worked on as freelance educational developer (except in the first three cases, which I am working on as part of my employment at UiB).

“Cultivating a sense of belonging in introductory geosciences” (2022—2023). Research project to map the state of belonging in introductory geosciences in Norway, and investigate interventions. PI Mirjam Glessmer. Funded by iEarth seed funding at 50k NOK

“Amplifying student voices on teaching and learning” (2022—2023). Project to include student authors on iEarth’s blog. PI Mirjam Glessmer. Funded by iEarth seed funding at 50k NOK

“Co-creation to promote active learning and communities of practice” (2021—2024). Project to implement co-creation of teaching and learning at the Geophysical Institute, UiB, PI Kjersti Daae. Funded by the Norwegian Directorate for Higher Education and Competence (HK-dir) at 5 866 545 NOK

“Ocean currents in a tank: dry theory to juicy reality” (2019—2020). Using hands-on group works in theoretical ocean & atmosphere dynamics (2019, 5.024€) and transferring the whole system online (2020, 4.000€), PI Dr. Torge Martin, funded by PerLe through German Federal Ministry of Education and Research (BMBF).

“Development and evaluation of co-creation of laboratory courses across different cohorts” (2019—2022). Funding for a teaching innovation project at bachelor level. PIs Dr. Elin Darelus & Dr. Kjersti Daae, funded by UiB’s Olsen legat at 95k NOK.

Bjerknes Visiting Fellowship (2018) to develop science communication with Dr. Elin Darelus (at the Bjerknes Centre for Climate Research, Bergen, Norway)

“Science communication” (2017–2019). Development, implementation and evaluation of an in-person 3-day training course and an online training for Forschungs- und Technologietransfer-Verbund Leibniz-Nordost, Germany. Funded in full, as one work package in a larger proposal, by the German Federal Ministry of Education and Research (BMBF) at €53.000.

“Introduction to meteorology: More than just facts” (2017-2018). Funding for a teaching innovation project for a Bachelor levels course in meteorology. PI S. Tegtmeier. Funded by PerLe through German Federal Ministry of Education and Research (BMBF). Funded at 4270€.

“Protecting the environment! At any cost?” (2017-2018). Funding for a teaching innovation project for a Bachelor level course in economics, “Research seminar in environmental economics: Protecting the environment! At any cost?”. PI K. Rehdanz. Funded by PerLe through German Federal Ministry of Education and Research (BMBF). Funded at 3569,40€.

“aTANTion” (2017–2018). Development of an Open Science blog format to support science communication in the aTANTion citizen science project. Funded in full by seed money of the Leibniz-Forschungsverband Science 2.0 at €4.950.

“Topographic barriers and warm ocean currents controlling Antarctic ice shelf melting” (2017–2021). Work package on science outreach within the project “Topographic barriers and warm ocean currents controlling Antarctic ice shelf melting”. PI Dr. E. Darelus. Funded by FRINATEK of Norges Forskningsråd.

“Providing opportunities for individual practice and assessment in a large undergraduate mathematics course” (2015–2019). Tandem-Fellowship for innovative teaching in higher education, with Dr. Christian Seifert. Funded by Stifterverband für die Deutsche Wissenschaft at €30.000.

“Teaching scales in the climate system” (2015). Funding to develop an interdisciplinary e-book in the project “Teaching scales in the climate system”. PI Dr J. Baehr. Funded by ClISAP Ideas Competition.

“Experimentally understanding El Nino” (2015-2016). Funding for a teaching innovation project for a Master’s course in physical oceanography. PI Dr. J. Lübbecke. Funded by PerLe through German Federal Ministry of Education and Research (BMBF).

Experimental materials for my laboratory course (2012, March). Funded by felleslegat for geofysisk forskning, University of Bergen.

Publications of an educational nature

Peer-reviewed articles

Daae, K., and **Glessmer, M.S.** (2022). Collaborative sketching to support sensemaking: If you can sketch it, you can explain it. *Oceanography*, <https://doi.org/10.5670/oceanog.2022.208>.

Glessmer, M.S., and Daae, K. (2021). Co-creating learning in oceanography. *Oceanography* 34(4), <https://doi.org/10.5670/oceanog.2021.405>.

Glessmer, M. S. (2020). How to teach motivating and hands-on laboratory and field courses in a virtual setting. *Oceanography* 33(4):130–132, Doi: 10.5670/oceanog.2020.417.

Gleißner, M. (2018). Wenn die Flüsse aufwärts fließen – Doppeldiffusive Vermischung im Ozean. *Naturwissenschaften im Unterricht – Chemie*, Volume 166, 39–42.

Glessmer, M. S., & de Wet, P. D. (2018). Supporting conceptual understanding of the Coriolis force through laboratory experiments. *Current – The Journal of Marine Education*, Volume 31-2, 25–33.

Glessmer, M. S. (2017). Wie die Sonne Meeresströmungen antreibt. *Physikalische Meereskunde. Plus Lucis*, 3/2017, 36–40.

Glessmer, M. S., & Janßen, C. F. (2017). Using an interactive Lattice Boltzmann solver in fluid mechanics instruction. *Computation*, 5(3), 35. Doi: 10.3390/computation5030035

Glessmer, M. S., & Lüth, T. (2016). Lernzieltaxonomische Klassifizierung und gezielte Gestaltung von Fragen. *Zeitschrift für Hochschulentwicklung*, 11(5). Doi: 10.3217/zfhe-11-05/12

Børsen, T., Antia, A. N., & **Glessmer, M. S.** (2013). A case study of teaching social responsibility to doctoral students in the climate sciences. *Science and Engineering Ethics*, 19(4), 1491-1504. Doi: 10.1007/s11948-013-9485-9

Glessmer, M. S., Wang, Y., & Kontak, R. (2012). Networking as a tool for Earth Science women to build community and succeed. *Eos, Transactions American Geophysical Union*, 93(41), 406-407. Doi: 10.1029/2012EO410011

Thesis

Glessmer, M. S. (2011). *Analyse und Weiterentwicklung von Lehrkonzepten in der Ausbildung von Doktoranden der Klimawissenschaften zur Verantwortung von Wissenschaftlern* („Analysing and developing teaching concepts in doctoral education of climate scientists regarding societal responsibility of scientists“, Master’s thesis). University of Hamburg, Germany.

Book chapter

Glessmer, M. S., Adams, A., Hastings, M. G., & Barnes, R. T. (2015). Taking ownership of your mentoring: lessons learned from participating in the Earth Science Women’s Network. In G. D. Wright (Ed.), *The Mentoring Continuum: From Graduate School Through Tenure*. Syracuse, USA: Graduate School Press of Syracuse University

Edited

Scheffold, M., Achermann, D., Behrens, J., Brüggemann, M., Frisius, T., **Glessmer, M.**, Hense, I., Kaleschke, L., Kutzbach, L., Rödder, S., Scheffran, J., & Baehr, J. (2018). Scales in the Climate System. An example of interdisciplinary teaching and learning. E-book, available at <https://scales-course.cen.uni-hamburg.de/main-script/teaching-scales-in-the-climate-system/>

Glessmer, M. S., Knutzen, S., & Salden, P. (Eds.) (2015). *Die Spannung steigern. Laborpraktika didaktisch gestalten*. Schriften zur Didaktik der Ingenieurwissenschaften Nr. 3, Hamburg, Germany

Production of textbooks and teaching resources

I run a blog on learning and teaching in STEM (“Adventures in Oceanography and Teaching”, mirjamglessmer.com/blog), and have published over 1,300 blog posts since 2013. Most of the teaching resources I produce are either posted there directly, or linked to.

Large productions of teaching resources I have been involved in include

- **Consulting** on development of the Massive Open Online Course “One Planet, One Ocean” (for the Cluster of Excellence “Future Ocean”, Kiel, Germany, 2016)
- **Images** for a Chinese textbook (2021) <https://mirjamglessmer.com/2021/07/06/when-you-post-pictures-of-your-coffee-on-the-internet-and-end-up-in-an-oceanography-textbook/>, and for the book “Bugs, Drugs and Three-pin Plugs; Everyday Science, Simply Explained” by Andrew Morris: <https://www.routledge.com/Bugs-Drugs-and-Three-pin-Plugs-Everyday-Science-Simply-Explained/Morris/p/book/9781032224923>

Contribution to *הוראה באקדמיה* („Teaching in the Academy“), Issue No 6

- Ask your students to take a picture to help them connect theoretical lecture content to the reality of their everyday life (2016, April).

Contributions to *In the Trenches*, the news magazine of the National Association of Geoscience Teachers

- The Coolest Mixing Process in the Ocean (2016, April).
- A Very Simple Experiment for Understanding Global Ocean Circulation (2016, January).

Peer-reviewed conference papers

Riedel, U., Simon, S., Sankowski, O., **Glessmer, M. S.**, & Krause, D. (2017). Open assignments in a first year student project. In J. C. Quadrado, J. Bernadino & J. Rocha (Eds.), *Proceedings of the 45th SEFI Annual Conference 2017 “Education Excellence for Sustainability”* (p. 1077–1084). Brussels, Belgium.

Glessmer, M. S., & Seifert, C. (2017). E-assessment to increase the perceived importance of mathematics in the introductory phase of engineering education via bridging tasks. In J. C. Quadrado, J. Bernadino & J. Rocha (Eds.), *Proceedings of the 45th SEFI Annual Conference 2017 “Education Excellence for Sustainability”* (p. 1549–1556). Brussels, Belgium.

Kruse, K., Dostal, L., **Glessmer, M. S.**, Konchakova, N., & Seifert, C. (2017). Conception of online e-assessment exercises for math courses with elements from mechanical engineering. In G. Kammasch, H. Klaffke & S. Knutzen (Eds.), *Technische Bildung im Spannungsfeld zwischen Beruflicher und Akademischer Bildung. Die Vielfalt der Wege zur technischen Bildung. Referate der 11. Ingenieurpädagogischen Regionaltagung 2016 an der Technischen Universität Hamburg vom 23.–25. Juni 2016* (pp. 232–236). Siegen, Germany: Universität Siegen – UniPrint.

Riedel, U., **Glessmer, M. S.**, Meeuw, H., Beckmann, G., Simon, S., Fiedler, B., & Krause, D. (2017). Entwicklung eines freiwilligen und darauf aufbauend eines verpflichtenden Projekts in der Studieneingangsphase – lessons learned. In G. Kammasch, H. Klaffke & S. Knutzen (Eds.), *Technische Bildung im Spannungsfeld zwischen Beruflicher und Akademischer Bildung. Die Vielfalt der Wege zur technischen Bildung. Referate der 11. Ingenieurpädagogischen Regionaltagung 2016 an der Technischen Universität Hamburg vom 23.–25. Juni 2016* (pp. 269–275). Siegen, Germany: Universität Siegen – UniPrint.

Janßen, C. F., & **Glessmer, M. S.** (2017). Using an interactive simulation tool for inquiry-based teaching in fluid mechanics. In G. Kammasch, H. Klaffke & S. Knutzen (Eds.), *Technische Bildung im Spannungsfeld zwischen Beruflicher und Akademischer Bildung. Die Vielfalt der Wege zur technischen Bildung. Referate der 11. Ingenieurpädagogischen Regionaltagung 2016 an der Technischen Universität Hamburg vom 23.–25. Juni 2016* (pp. 302–305). Siegen, Germany: Universität Siegen – UniPrint.

Konchakova, N., **Glessmer, M. S.**, & Heyden, E. (2017). Individual preparation for the mechanics exam with help of e-assessment system. In G. Kammasch, H. Klaffke & S. Knutzen (Eds.), *Technische Bildung im Spannungsfeld zwischen Beruflicher und Akademischer Bildung. Die Vielfalt der Wege zur technischen Bildung. Referate der 11. Ingenieurpädagogischen Regionaltagung 2016 an der Technischen Universität Hamburg vom 23.–25. Juni 2016* (pp. 306–309). Siegen, Germany: Universität Siegen – UniPrint.

Glessmer, M. S., Lüth, T., & Seifert, C. (2016). Ein Entscheidungsbaum als Werkzeug für die Erstellung guter Fragen In W. Paravicini & J. Schnieder (Eds.): *Hanse-Kolloquium zur Hochschuldidaktik der Mathematik 2015, Beiträge zum gleichnamigen Symposium am 13. & 14. November 2015 an der Universität zu Lübeck*, (pp. 51–63). Münster, Germany: WTM-Verlag.

Glessmer, M. S., Seifert, C., Dostal, L., Konchakova, N., & Kruse, K. (2016). Individualisierung von Großveranstaltungen. Oder: Wie man Ingenieurstudierenden die Mathematik schmackhaft macht. In W. Paravicini & J. Schnieder (Eds.): *Hanse-Kolloquium zur Hochschuldidaktik der Mathematik 2015, Beiträge zum gleichnamigen Symposium am 13. & 14. November 2015 an der Universität zu Lübeck*, (pp. 64–75). Münster, Germany: WTM-Verlag.

Glessmer, M. S., Seifert, C., Dostal, L., Konchakova, N., & Kruse, K. (2016). Providing opportunities for individual practice and assessment in a large undergraduate mathematics course. In P. Kapranos (Ed.): *Proceedings of the Sixth International Symposium of Engineering Education* (pp. 13–20). Padstow, UK: TJ International.

Glessmer, M. S., Lüth, T., & Seifert, C. (2016). Using a modification of Bloom's taxonomy to design multiple-choice questions to practice different kinds of knowledge and specific cognitive processes. In P. Kapranos (Ed.): *Proceedings of the Sixth International Symposium of Engineering Education* (pp. 326–333). Padstow, UK: TJ International.

Glessmer, M. S., & Brose, A. (2014). Misalignment of everyday and technical language. In *Frontiers in Education Conference, 2014 IEEE* (pp. 1–4). Madrid, Spain: IEEE.

Glessmer, M. S., Pick, M.-A., & Göttisch, P. (2014). Enabling backchannel communication between a lecturer and a large group. In *Proceedings of the 42nd SEFI Conference* (pp. 1–8). Birmingham, UK: SEFI.

Contributions to conferences on education

Aurnou, J. M., Barik, A., Church, W., Cohanin, K., Ganguly, I., **Glessmer, M. S.**, Gonzalez, A. O., Hawkins, E. K., Hill, S. A., Khoo, N., Lora, J. M., and Moscoso, J. (2022, December) “DIYnatics: An Active Learning, Scalable Climate Sciences Teaching Platform”. Poster presented at the AGU Fall Meeting, Chicago, US.

Abdelaziz, O.Y., **Glessmer, M.S.**, Sandström, I. (2022, November) “Interdisciplinarity and Lifelong Learning in Doctoral Education for Sustainable Development: Case Study, Agenda-2030 Graduate School”. Presentation at the Lund University Conference on Teaching and Learning.

Glessmer, M.S., Forsyth, R., Nilsson, Å.K., Roxå, T. (2022, November) “How to teach students who are not mini-mes (and don't want to be)”. Roundtable at the Lund University Conference on Teaching and Learning.

Daae, K., **Glessmer, M. S.**, Skavang, J. Q. (2021, October). “Learning together (in a community of practise) across courses”. Presentation at the virtual conference of the International Society for the Scholarship of Teaching and Learning (<https://issotl.com/issotl21/>).

Glessmer, M. S., Dreeßen, J., Kuhwald, K. (2021, September). *Combining digital methods and real experiences in field trip – an example for a smartphone-based coastal protection tour*. Virtual oral presentation at Enhancing Fieldwork Learning Online Showcase Event 2021.

Glessmer, M. S., Daae, K., Darelus, E., Martin, T., Lübbecke, J. (2020, September). #BergenWaveWatching: Field work right outside our students’ homes. Virtual poster presented at the Teaching & Learning SIG online for the Enhancing Fieldwork Learning #FieldWorkFix, Chester, UK.

Glessmer, M. S., Daae, K., Darelus (2020, September). #KitchenOceanography: *Bringing physical oceanography into students’ homes*. Virtual poster presented at the Teaching & Learning SIG online for the Enhancing Fieldwork Learning #FieldWorkFix, Chester, UK.

Martin, T., **Glessmer, M. S.**, Darelus, E., Appelhans, Y. (2020, February). ED11B-10 - *Telling ocean science stories on social media*. E-Lightning talk and poster presented at the Ocean Sciences Meeting, San Diego, USA.

Riedel, U., **Glessmer, M. S.**, Meeuw, H., Beckmann, G., Simon, S., Fiedler, B., & Krause, D. (2017, September). *Open Assignments in a First-Year Students' Project*. Presentation at 45th SEFI annual conference, Azores, Portugal.

Glessmer, M. S., & Seifert, C. (2017, September). *Enhancing mathematics in introductory phase of engineering education via bridging e-assessment*. Presentation at 45th SEFI annual conference, Azores, Portugal.

Glessmer, M. S., & Lennartz, S. (2017, July). *Public aTANTion! A citizen science project investigating the influence of sunscreen on the Baltic Sea*. Poster presented at Advances in Integrated Ocean Research towards Sustainable Development, Kiel, Germany.

Glessmer, M. S., & Lübbecke, J. (2017, July). *What do we need to know to predict ENSO? Student-centered learning in a Master course in Climate Physics*. Poster presented at Advances in Integrated Ocean Research towards Sustainable Development, Kiel, Germany.

Lübbecke, J., & **Glessmer, M. S.** (2017, April). *What do we need to know to predict ENSO? Student-centered learning in a Master course in Climate Physics*. PICO presentation at the European Geosciences Union General Assembly, Vienna, Austria.

Glessmer, M. S., & Janßen, C. F. (2016, July). *An interactive simulation tool for inquiry-based teaching in fluid mechanics*. Presentation at the 13th International Conference for Mesoscopic Methods in Engineering and Science, Hamburg, Germany.

Glessmer, M. S., & Seifert, C. (2016, July). *Providing opportunities for individual practice and assessment in a large undergraduate mathematics course*. Presentation at the Sixth International Symposium of Engineering Education, Sheffield, UK.

Glessmer, M. S., Lüth, T., & Seifert, C. (2016, July). *Using a modification of Bloom's taxonomy to design multiple-choice questions to practice different kinds of knowledge and specific cognitive processes*. Poster presented at the Sixth International Symposium of Engineering Education, Sheffield, UK. (Best Poster award winner)

Konchakova, N., **Glessmer, M. S.**, & Heyden, E. (2016, June). *Individual Preparation for the Mechanics Exam with Help of E-Assessment-System*. Poster presented at the 11. Ingenieurpädagogische Regionaltagung 2016, Hamburg, Germany.

Janßen, C. F., & **Glessmer, M. S.** (2016, June). *Using an interactive simulation tool for inquiry-based teaching in fluid mechanics*. Poster presented at the 11. Ingenieurpädagogische Regionaltagung 2016, Hamburg, Germany.

Riedel, U., **Glessmer, M. S.**, H., Beckmann, G., Simon, S., Fiedler, B., & Krause, D. (2016, June). *Entwicklung eines freiwilligen und darauf aufbauend eines verpflichtenden Projekts in der Studieneingangsphase -- lessons learned*. Presentation at the 11. Ingenieurpädagogische Regionaltagung 2016, Hamburg, Germany.

Kruse, K., Dostal, L., **Glessmer, M. S.**, Konchakova, N., & Seifert, C. (2016, June). *Conception of Online E-Assessment Exercises for Math Courses with Elements from Mechanical Engineering*. Presentation at the 11. Ingenieurpädagogische Regionaltagung 2016, Hamburg, Germany.

Baehr, J., Behrens, J., Brüggemann, M., Frisius, T., **Glessmer, M. S.**, Hartmann, J., ... & Scheffran, J. (2016, April). *Teaching Scales in the Climate System: An example of interdisciplinary teaching and learning*. Poster presented at the European Geosciences Union General Assembly, Vienna, Austria.

Glessmer, M. S., & Seifert, C. (2015, November). *Studiengang-spezifisches üben innerhalb von Großveranstaltungen*. Presentation at Hanse-Kolloquium zur Hochschuldidaktik der Mathematik 2015 Lübeck, Lübeck, Germany.

Glessmer, M. S., Lüth, T., & Seifert, C. (2015, November). *Multiple-Choice Fragen auf unterschiedlichen Kompetenzniveaus entwickeln*. Presentation at Hanse-Kolloquium zur Hochschuldidaktik der Mathematik 2015 Lübeck, Lübeck, Germany.

Glessmer, M. S., Lüth, T., & Seifert, C. (2015, October). *Studiengang-spezifisches Assessment trotz Großveranstaltungen*. Presentation at 4. Lehr-/Lernkonferenz im Rahmen des Programms „Fellowships für Innovationen in der Hochschullehre“, Smart Teaching – Better Learning! Digitales Lehren und Lernen an Hochschulen. Berlin, Germany.

Glessmer, M. S., Pick, M.-A. & Götsch, P. (2014, November). *Der Einsatz eines Backchannel-Tools an der TU Hamburg-Harburg*. Presentation at IPW, Siegen, Germany.

Glessmer, M. S., & Brose, A. (2014, October). *Misalignment of everyday and technical language*. Presentation at IEEE Frontiers In Education, Madrid, Spain.

Glessmer, M. S., & Richter, K. (2014, October). *Conducting oceanographic tank experiments in a traditional classroom*. Presentation at EMSEA14, Gothenburg, Sweden.

Glessmer, M. S., Pick, M.-A., & Göttisch, P. (2014, September). *Enabling backchannel communication between a lecturer and a large group*. Presentation at SEFI, Birmingham, UK.

Braker, G., Wang, Y., **Glessmer, M. S.**, & Kirchgaessner, A. (2014, May). *The ESWN network as a platform to increase international collaboration between women in the Earth Sciences*. Poster presented at European Geosciences Union General Assembly, Vienna, Austria.

Glessmer, M. S., Adams, M., de Boer, A. M., Hastings, M. & Kontak, R. (2013, April). *The ESWN webpage as a tool to increase international collaboration in the Earth Sciences*. Presentation at European Geosciences Union General Assembly, Vienna, Austria.

Glessmer, M. S., Antia, A. N. & Børsen, T. (2010, October). *Prepared for social responsibility? Report from a Ph.D. retreat at the University of Kiel*. Presentation and poster at International Workshop Preparing for Social Responsibility. Teaching ethics, peace and sustainability to students in science and engineering, Delft, The Netherlands.

International collaborations on education

- **Norwegian Centre for Integrated Earth Science Education iEarth** (iEarth.no)
Through iEarth, where I hold a 20% adjunct associate professorship, I have gained a network of inspiring colleagues, that has led to significant relationships, and substantially strengthened existing ones with the Geophysical Institute at UiB. Together with Kjersti Daae, I received funding from HK-dir for a project on co-creation, for which I work another 20% at UiB.
- **Sehoya Cotner** and team. Through a course on “leading educational change”, co-organized by iEarth and BioCEED, I started working with Sehoya Cotner and her team, which has so far resulted in 3 submitted conference presentation and one submitted article, plus several ongoing studies.
- **DIYnamics team** (<https://diynamics.github.io>)
The DIYnamics Team is an informal network of geophysical fluid dynamics teachers that meets monthly to discuss DIY solutions for rotating fluid dynamic experiments and their implementation in teaching and learning. I have been part of the DIYnamics team since 2019.
- Want to collaborate? Just get in touch! ☺

Oceanography CV Mirjam S. Gleßmer

Theses in oceanography

Glessmer, M. S. (2010). *A model-based investigation of transport pathways of thermocline waters to the ocean surface, with a focus on tropical oxygen minimum zones* (doctoral dissertation). Kiel University, Germany.

Glessmer, M. S. (2006). *Impact of double-diffusive mixing on upper-ocean properties* (diploma thesis). University of Hamburg, Germany.

Peer-reviewed publications in oceanography

Wåhlin, A.K., Steiger, N., Darelius, E., Assmann, K. M., **Glessmer, M. S.**, Ha, H. K., Herraiz-Borreguero, L., Heuzé, C., Jenkins, A., Kim, T. W., Mazur, A. K., Sommeria, J., Viboud, S. (2020) Ice front blocking of ocean heat transport to an Antarctic ice shelf. *Nature* 578, 568–571. Doi: 10.1038/s41586-020-2014-5

Glessmer, M. S., Eldevik, T., Våge, K., Nilsen, J. E. Ø., & Behrens, E. (2014). Atlantic origin of observed and modelled freshwater anomalies in the Nordic Seas. *Nature Geoscience*, 7(11), 801. Doi: 10.1038/ngeo2259

Eldevik, T., Risebrobakken, B., Bjune, A. E., Andersson, C., Birks, H. J. B., Dokken, T. M., Drange, H., **Glessmer, M. S.**, Li, C., Nilsen, J. E. Ø., Otterå, O. H., Richter, K., & Skagseth, Ø. (2014). A brief history of climate – the northern seas from the Last Glacial Maximum to global warming. *Quaternary Science Reviews*, 106, 225–246. Doi: 10.1016/j.quascirev.2014.06.028

Glessmer, M. S., Eldevik, T., Våge, K., Øie Nilsen, J. E., & Behrens, E. (2014). Atlantic origin of observed and modelled freshwater anomalies in the Nordic Seas. *Nature Geoscience*, 7(11), 801–805.

Glessmer, M. S., Park, W., & Oschlies, A. (2011). Simulated reduction in upwelling of tropical oxygen minimum waters in a warmer climate. *Environmental Research Letters*, 6(4), 045001. Doi: 10.1088/1748-9326/6/4/045001

Glessmer, M. S., Eden, C., & Oschlies, A. (2009). Contribution of oxygen minimum zone waters to the coastal upwelling off Mauritania. *Progress in Oceanography*, 83(1), 143–150. Doi: 10.1016/j.pocean.2009.07.015

Glessmer, M. S., Oschlies, A., & Yool, A. (2008). Simulated impact of double-diffusive mixing on physical and biogeochemical upper ocean properties. *Journal of Geophysical Research: Oceans*, 113(C8). Doi: 10.1029/2007JC004455