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EDUCATION: Ph.D. 2017 Oceanography, Université Laval, Canada
M.Sc. 2012 International Nature Conservation, Lincoln Univ., New Zealand;
Univ. of Göttingen, Germany
B.Sc. 2010 Biology, University of Göttingen, Germany

PROFESSIONAL EXPERIENCE:

2020-ongoing Research Associate, Hatfield Marine Science Center, Oregon State University
2017-2020 Postdoctoral Scholar, Hatfield Marine Science Center, Oregon State University
2013-2016 Volunteer data analyst for The Ocean Cleanup
2009 Research assistant, Max-Planck-Institute (MPI) for Biophysical Chemistry, Göttingen, Germany

PUBLICATIONS:

Briseño-Avena, C., Schmid, M.S., Swieca, K., Sponaugle, S., Brodeur, R., Cowen, R. (in review):
Three-dimensional cross-shelf zooplankton distributions off the Central Oregon Coast during anomalous oceanographic conditions. Progress in Oceanography.
Swieca, K., Sponaugle, S., Briseño-Avena, C., Schmid, M.S., Brodeur, R., Cowen, R.C. (in review)
Changing with the tides: fine-scale larval fish prey availability and predation pressure near a tidally-modulated river plume. Marine Ecology Progress Series.
Grigor, J.J., Schmid, M.S., Caouette, M., St.-Onge, V., Barthélémy, R., Brown, T. (in review):
Evidence for non-carnivorous diets in Arctic chaetognaths. Progress in Oceanography.
Schmid, M.S., Cowen, R.K., Robinson, K., Luo, J.Y., Briseño-Avena, C., Sponaugle, S. (2020): **Prey and predator overlap at the edge of a mesoscale eddy: fine-scale, in-situ distributions to inform our understanding of oceanographic processes.** Scientific Reports 10, 921.
<https://doi.org/10.1038/s41598-020-57879-x>.
Schmid, M.S. and Fortier, L. (2019): **The intriguing co-distribution of the copepods *Calanus hyperboreus* and *Calanus glacialis* in the subsurface chlorophyll maximum of Arctic seas.** Elementa: Science of the Anthropocene 7(1), p.50.
<http://doi.org/10.1525/elementa.388>.
Lieske, D.J., Schmid, M.S., Mahoney, M. (2018): **Ensembles of ensembles: combining the predictions from multiple machine learning methods.** In: Humphries, G., et al. (eds.) Machine Learning for Ecology and Sustainable Natural Resource Management. Springer, Switzerland, pp 109-121. https://doi.org/10.1007/978-3-319-96978-7_5.
Schmid, M.S., Maps, F., Fortier, L. (2018): **Lipid load triggers migration to diapause in Arctic *Calanus* copepods—insights from underwater imaging.** Journal of Plankton Research, 40:311-325. <https://doi.org/10.1093/plankt/fby012>.

- Huettmann, F., Craig, E.H., Herrick, K.A., Baltensperger, A.P., Humphries, G.R.W., Lieske, D., Miller, K., Mullet, T.C., Opper, S., Resendiz, C., Rutzen, I., Schmid, M.S., Suwal, M.K., Young, B. (2018): **Use of Machine Learning (ML) for Predicting and Analyzing Ecological and 'Presence Only' Data**. In: Huettmann, F., et al. (eds.) Machine Learning. Springer, Switzerland, pp 27-61. https://doi.org/10.1007/978-3-319-96978-7_2.
- Grigor J.J., Schmid, M.S., Fortier, L. (2017): **Growth and reproduction of the chaetognaths *Eukrohnia hamata* and *Parasagitta elegans* in the Canadian Arctic Ocean: Capital breeding versus income breeding**. Journal of Plankton Research, 39:910-929. <https://doi.org/10.1093/plankt/fbx045>.
- Schmid, M.S., Aubry, C., Grigor, J., Fortier, L. (2016): **The LOKI underwater imaging system and an automatic identification model for the detection of zooplankton taxa in the Arctic Ocean**. Methods in Oceanography, 15-16:129-160. <http://dx.doi.org/10.1016/j.mio.2016.03.003>.
- Kooi, M., Reisser, J., Slat, B., Ferrari, F., Schmid, M.S., Cunsolo, S., Brambini, R., Noble, K., Sirks, L-A., Linders, T.E.W., Schoeneich-Argent, R., Koelmans, A.A. (2016): **In Depth: correcting plastic sea surface measurements for vertical mixing**. Scientific Reports 6, 33882. <http://dx.doi.org/10.1038/srep33882>.
- Humphries, G.R.W., Flemming, S.A., Hammer, S., Hirata, K., Kappes, M.A., Kappes, P., Magnusdottir, E., Major, H., Mcduie, F., McOmber, K., Orben, R.A., Schmid, M.S., Wille, M. (2016) **Bridging the gap from student to senior scientist: recommendations for engaging early career scientists in professional biological societies**. Marine Ornithology 44: 157–166.
- Schmid, M.S., Aubry, C., Grigor, J., Fortier, L. (2015): ZOOMIE v1.0 (Zooplankton Multiple Image Exclusion). <https://dx.doi.org/10.5281/zenodo.17928>.
- Huettmann, F., Schmid, M.S., Humphries, G.R.W. (2015): **A first overview of open access digital data for the Ross Sea: complexities, ethics, and management opportunities**. Hydrobiologia, 761:97–119. <http://dx.doi.org/10.1007/s10750-015-2520-x>.
- Huettmann, F., Schmid, M.S. (2015): **A short introduction to tropical land- and seascapes and their wildlife conservation management**. In: Huettmann, F. (ed.) Central American Biodiversity: Conservation, Ecology, and a Sustainable Future. Springer, New York, pp 1-23. http://dx.doi.org/10.1007/978-1-4939-2208-6_1.
- Schmid, M.S., Baltensperger, A.P., Grigor, J., Huettmann, F. (2015): **Assessments of carbon stock hotspots in Nicaragua and Costa Rica**. In: Huettmann, F. (ed.) Central American Biodiversity: Conservation, Ecology, and a Sustainable Future. Springer, New York, pp 677-701, http://dx.doi.org/10.1007/978-1-4939-2208-6_30.
- Huettmann, F. and Schmid, M.S. (2014): **Climate change and predictions of pelagic biodiversity components**. In: De Broyer, C., et al. (eds.) Biogeographic Atlas of the Southern Ocean. Scientific Committee on Antarctic Research, Cambridge, pp. 390-396.
- Huettmann, F. and Schmid, M.S. (2014): **Climate change in the Arctic**. In: Hund, A. (ed.) Antarctica and the Arctic Circle: A Geographic Encyclopedia of the Earth's Polar Regions. Vol I. ABC-Clio, Santa Barbara, pp. 189-193.
- Baltensperger, A.P., Mullet, T., Schmid, M.S., Humphries, G.R.W., Kövér, L., Huettmann, F. (2013): **Seasonal observations and machine-learning-based spatial model predictions for the common raven (*Corvus corax*) in the urban, sub-arctic environment of Fairbanks, Alaska**. Polar Biology 36:1587–1599, <http://dx.doi.org/10.1007/s00300-013-1376-7>.

Cohen-Rengifo, M., Crafton, R.E., Hassenrück, C., Jankowska, E., Koenigstein, S., Sandersfeld, T., Schmid, M.S., Schmidt, M., Simpson, R., Sheward, R.M. (2013): **Module 1: marine ecosystems and climate change**. In: Dummermuth, A. and Grosfeld, K. (eds.) Climate change in the marine realm: an international summer school in the framework of the European Campus of Excellence. Reports on polar and marine research 662, Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, pp. 2-20.
https://doi.org/10.2312/BzPM_0662_2013.

AWARDS:

- 2016 John W. Davies Memorial Award from the Society of Naval Architects and Marine Engineers, Arctic Section (SNAME AS) for achievements in underwater imaging and machine learning
- 2016 Foundation Richard-Bernard Award for excellence in doctoral studies
- 2014 Best oral presentation, Québec-Océan Conference 2014, Rivière-du-Loup, Québec, Canada. Title: Automated zooplankton identification for Baffin Bay and adjacent waters
- 2013 Best poster presentation, Arctic Frontiers Conference 2013, Tromsø, Norway. Title: *In-situ* imaging of mesozooplankton in order to assess fine scale spatiotemporal variability

GRANTS, FELLOWSHIPS AND SCHOLARSHIPS:

- 2017 Fellowship from the Research Council of Norway to attend Emerging Leaders 2017 in conjunction with the Arctic Frontiers conference 2017, Tromsø (Norway).
- 2012 – 2014 Scholarship of Excellence in Scientific Leadership and Sustainable Development, Université Laval, Québec City (Canada).
- 2012 Grant from the Mercator Foundation to attend the international summer school on Climate Change in the Marine Realm at University of Bremen, Bremen (Germany).
- 2012 – 2015 Takuvik doctoral scholarship, Université Laval, Québec City (Canada).
- 2012 Grant from the NSF Office of Polar Programs for the IPY 2012 conference in Montreal (Canada).
- 2011 – 2012 Otto Bayer Fellowship from the Bayer Foundation for studies at the University of Alaska Fairbanks, Fairbanks (USA).
- 2011 PROMOS stipend from the German Academic Exchange Service for studies at the University of Alaska Fairbanks, Fairbanks (USA).
- 2011 – 2011 ISAP fellowship from the German Academic Exchange Service for studies at Lincoln University, Lincoln (New Zealand).
- 2010 Travel grant from the German Academic Exchange Service for studies at the University of Alaska Fairbanks, Fairbanks (USA).

CONFERENCES ORGANIZED:

- 2015 Co-organizer for the conference of the biology department (with invited speakers) at Université Laval, Canada.

CONFERENCE SESSIONS CHAIRED:

2020 Primary chair for session: Artificial Intelligence Systems for Advancing the Study of Aquatic Ecosystems; Ocean Sciences, San Diego, USA.

INVITED ORAL PRESENTATIONS:

Schmid, M.S. (2017): Underwater imaging, automatic identification, and ecology of plankton with a focus on the Arctic ecosystem. NOAA PMEL, EcoFOCI seminar series, Seattle, USA.
Schmid, M.S., Aubry, C., Grigor, J., Fortier, L. (2014): Zooplankton imaging with the Lightframe On-sight Keyspecies Investigation (LOKI) system. 5^{ème} Rencontre des Technologies Marines, Réseau National Technologies Marines et la Direction Technique de l'INSU, Benodet (France).

SELECTED ORAL PRESENTATIONS:

2019 PICES workshop W15, Victoria Conference Center, Victoria (Canada)
2018 Ocean Sciences, Oregon Convention Center, Portland (USA)
2017 Hatfield Marine Science Center Research Seminar, Oregon State University, Newport (USA)
2017 Arctic Frontiers, University of Tromsø, Tromsø (Norway)
2015 Colloque Biologie, Université Laval, Québec City (Canada)
2015 APECS Online Conference – New perspectives in the Polar Sciences (online)
2014 Arctic Change, Ottawa Convention Centre, Ottawa (Canada)
2014 Québec-Océan Annual Meeting, Hôtel Universel, Rivière-du-Loup (Canada)
2013 APECS webinar series - Eastern Arctic Research Webinar (online)
2013 Colloque Biologie, Université Laval, Québec City (Canada)
2012 ArcticNet Annual Conference, The Westin Bayshore, Vancouver (Canada)
2012 Midnight Sun Science Symposium, University of Alaska Fairbanks, Fairbanks (USA)
2011 Life Science Seminar Series, University of Alaska Fairbanks, Fairbanks (USA)

SELECTED POSTER PRESENTATIONS:

2020 Ocean Sciences, San Diego Convention Center, San Diego (USA)
2019 State of the Coast Conference, Salishan Resort, Gleneden Beach (USA)
2014 Arctic Change, Ottawa Convention Centre, Ottawa (Canada)
2013 ArcticNet Annual Conference, World Trade and Convention Centre, Halifax (Canada)
2013 Québec-Océan Annual Meeting, Hôtel Universel, Rivière-du-Loup (Canada)
2013 Arctic Frontiers, University of Tromsø, Tromsø (Norway)
2012 Québec-Océan Annual Meeting, Omni Mont-Royal Hotel, Montreal (Canada).
2012 International Polar Year (IPY) 2012 Conference, Palais des congrès convention center, Montreal (Canada)
2011 US Regional Association of the International Association for Landscape Ecology (US-IALE),

Portland Hilton, Portland (USA)

ADVISING:

- 2019 - ongoing Committee member, Joanna Lyle (M.Sc.), University of Oregon
- 2015 – 2016 Co-adviser, Kevin Gonthier (B.Sc.), Université Laval
- 2015 – 2016 Co-adviser, Claudie Lachance (B.Sc.), Université Laval

TEACHING:

- 2019 Guest Lecturer in BI-450: Marine Biology and Ecology, Oregon State University
- 2018 Guest Lecturer in Interdisciplinary Science 1, Vanderbilt University.
- 2018 Guest Lecturer in BI-450: Marine Biology and Ecology, Oregon State University
- 2017 Guest Lecturer in Interdisciplinary Science 1, Vanderbilt University.
- 2011 – 2012 Teaching assistant in tropical rainforest ecology, climate change and geographical information systems (GIS) in Nicaragua at the Ometepe field station of the Maderas Rainforest Conservancy.

SERVICE TO PROFESSION:

Reviewer for Scientific Reports, Progress in Oceanography, MDPI Remote Sensing, MDPI Sensors, Marine Ecology Progress Series, Earth System Science Data Discussions, Marine Biology Research

SELECTED SYNERGISTIC ACTIVITIES:

- 2014 –2016 Student representative of the PhD program in oceanography at Université Laval
- 2014 – 2016 Member of the ArcticNet Student Association outreach section
- 2012 – 2015 Board member of the Canadian National Committee of the Association of Polar Early Career Scientists (APECS)

SELECTED OUTREACH:

- 2019 Presenting to students on *Adventures in Plankton Ecology* as part of Career Day at the Hatfield Marine Science Center.
- 2018 Marine Science Day, an open house at the Hatfield Marine Science Center. Discussing marine science and technology with the public.
- 2018 Presentation for the Boy Scouts of America: *Oceanography Perspectives*; Hatfield Marine Science Center.
- 2018 Presentation for the volunteers of the Hatfield Marine Science Center Visitor Center: *Underwater imaging of fish larvae and their prey and predators – What is Hatfield’s Plankton Ecology lab working on?*
- 2018 Presenting to journalists from major news outlets on the NSF-

- funded MEZCAL: Mesozooplankton trophodynamics in the California Current project; Hatfield Marine Science Center.
- 2017 Marine Science Day, an open house at the Hatfield Marine Science Center. Discussing marine science and technology with the public.
- 2017 Judge at the Oregon Regional MATE ROV Competition.
- 2015 Judge at the Québec regional science fair.
- 2014 – 2016 Member of the ArcticNet Student Association outreach team.
- 2014 Presentation to and discussing with school children as part of Canada science day at the National Museum in Ottawa. *The Arctic Ocean, key species identification and climate change*.
- 2014 Blogging on science topics such as zooplankton and climate change. <http://blog.scienceborealis.ca/arctic-zooplankton-and-climate-change/>
- 2012 Participant in a discussion round with German Chancellor Dr. Angela Merkel on marine protected areas as part of her visit to Dalhousie University to foster German-Canadian collaboration.
- 2012 – 2015 Board member of the Canadian National Committee of the Association of Polar Early Career Scientists (APECS).
- 2012 Judging at the Interior Alaska Science Fair.
- 2011 - 2017 Aiding website coordinator for www.seabirds.net, in charge of research spotlights.

PROFESSIONAL CERTIFICATES:

- 1) Machine learning, Coursera, taught by Andrew NG, Stanford University
- 2) Introduction to interactive programming in Python (parts 1 and 2), Coursera, taught by Joe Warren et al., Rice University
- 3) R Programming, Coursera, taught by Roger Peng et al., Johns Hopkins University
- 4) Advanced Open Water Diver, PADI

PROFESSIONAL MEMBERSHIPS:

The Oceanography Society, Association of Polar Early Career Scientists (APECS)

ORGANIZING RESEARCH CRUISES:

- 2018-2019 Cruise coordinator for biannual research cruises (4 in total) as part of the NSF-funded project: MEsoZooplankton trophodynamics in the CALifornia Current (MEZCAL) onboard large UNOLS vessels such as R/V *Sikuliaq* and R/V *Atlantis*.

RESEARCH CRUISES:

- 2014 ArcticNet cruise onboard the NGCC *Amundsen* in the Canadian Arctic
- 2014 SUBICE cruise onboard USCGC *Healy* in the Chukchi Sea
- 2013 ArcticNet cruise onboard the NGCC *Amundsen* in the Canadian Arctic
- 2012 BaySys cruise onboard the NGCC *Pierre Radisson* in Hudson Bay
- 2011 Seward Line research cruise onboard the M/V *Tiglax* in the Gulf of Alaska

2008 Expedition 309 onboard the Fishery Research Vessel *Walther Herwig III*, North Sea

LANGUAGE SKILLS:

German

Mother tongue

English

Excellent written and oral command

French

Good written and oral command

Spanish

Basic written and oral command