

Svenja Ryan

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APPOINTMENTS

Assistant Scientist , Woods Hole Oceanographic Institution	Sep 2023 – present
Research Associate III , Woods Hole Oceanographic Institution Supervision: Glen Gawarkiewicz (co-advised by Caroline Ummenhofer)	Sep 2022 – Aug 2023
Postdoctoral Investigator , Woods Hole Oceanographic Institution NSF funded project: Salinity Maximum Intrusions Advisors: Glen Gawarkiewicz (co-advised by Caroline Ummenhofer)	Mar 2022 – Aug 2022
Postdoctoral Fellow/Scholar , Woods Hole Oceanographic Institution Funded through a Feodor Lynen Research Fellowship by the Alexander von Humboldt Foundation, Germany with support from the WHOI Postdoctoral Scholar Program Advisors: Caroline Ummenhofer (co-advised by Glen Gawarkiewicz)	Jun 2019 – Feb 2022
Research Assistant , Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research	June 2018 – Dec 2018
Maternity leave Sep 2020 – Jul 2021 Jul 2025 – Oct 2025 <i><u>Official leave taken does not reflect the full impact of life events.</u></i>	

EDUCATION

PhD in Physical Oceanography of the Polar Oceans Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, Bremerhaven, Germany <i>Thesis: “On the Flow of Modified Warm Deep Water toward the Filchner Ronne Ice Shelf, Weddell Sea, Antarctica”.</i> (Advisor: Prof. Dr. Torsten Kanzow)	2015 – 2018
Master of Science in Climate Physics GEOMAR, Helmholtz Centre for Ocean Research Kiel, Kiel, Germany <i>Thesis: “The Eastern Inflow of the Warm Water Pool into the Weddell Gyre”</i> (Advisor: Prof. Dr. Martin Visbeck)	2012 - 2014
Bachelor of Science in Physics of the Earth System GEOMAR, Helmholtz Centre for Ocean Research Kiel, Kiel, Germany <i>Thesis: “Near surface currents and hydrography of the Central Irminger Sea”</i> (Advisor: Dr. Johannes Karstensen)	2009 - 2012

AWARDS & FELLOWSHIPS

Outstanding Reviewer Award for AGU journal JGR Oceans (2024)	May 2025
Research stipend from the Alexander von Humboldt Foundation for research visit at Geomar in Kiel, Germany	Mar-Apr 2025
Travel grant for US CLIVAR Workshop: Optimizing Ocean Observing networks for Detecting the Coastal Climate Signal, Boulder, CO	Sep 2024
Registration waiver, per diem and support for accommodation to attend the	Feb 2020

Annual Meeting in 2020 by the Australian Meteorological and Oceanographic Society

Feodor-Lynen Research Fellowship for Postdoctoral Researchers (24 months) by the Alexander von Humboldt Foundation + Half WHOI Postdoc Scholarship	Feb 2019
Outstanding Student Poster and Pico Award, European Geoscience Union (EGU) General Assembly (free EGU admission the following year, free publication in one of the EGU journals)	Apr 2017
Student bursary for attendance at 'Fluid Dynamics of Sustainability and the Environment' summer school at Ecole Polytechnique, Paris, France	Apr 2015

PEER-REVIEWED PUBLICATIONS (* supervised publication, † shared first authorship)

- 1) Wimberly, F., **S. Ryan**, A. Ellertson Church, M. Sanderson, G. Maynard, and L. Stoltz. (2026). Cape Cod Ocean Watch. *Benefits of Ocean Observing Catalog* (BOOC) 4 (1): 1., <https://doi.org/10.15351/3068-2320.1144>
- 2) Gawarkiewicz G.G. , L. L. Taenzer, A. Silver, **S. Ryan**, E. Green, A. Gangopadhyay, R. Musgrave, F. Bahr, A. Kukulya, and N. Yoder (2025), Mapping of a Mid-Depth Salinity Maximum Intrusion South of New England in June 2021 and Implications for Cross-Shelf Exchange, *Journal of Geophysical Research: Oceans* 130 (6): e2024JC021536, <https://doi.org/10.1029/2024JC021536>
- 3) Farchadi, N., L.H. McDonnell, **S. Ryan**, R.L. Lewison, C.D. Braun (2025), Marine heatwaves are in the eye of the beholder. *Nat. Clim. Chang.* 15, 236–239, <https://doi.org/10.1038/s41558-025-02257-6>
- 4) **Ryan, S.**, C.C. Ummenhofer, and G.G. Gawarkiewicz (2024), Seasonal and Interannual Salinity Variability on the Northeast U.S. Continental Shelf: Insights from Satellite Sea Surface Salinity and Implications for Stratification, *Journal of Geophysical Research: Oceans* 129 (11): e2024JC021534, <https://doi.org/10.1029/2024jc021534>
- 5) Sen Gupta A, **S. Ryan** and V. Hernaman. (2023) Editorial: Advances in marine heatwave interactions. *Front. Clim.* 5:1177781. <https://doi.org/10.3389/fclim.2023.1177781>
- 6) Großelndemann*†, H., **S. Ryan†**, C.C. Ummenhofer, T. Martin, A. Biastoch (2022), Marine Heatwaves and Their Depth Structure on the Northeast U.S. Continental Shelf, *Frontiers in Climate*, 4:857937, <https://doi.org/10.3389/fclim.2022.857937>
- 7) Zhang, Y., N. Yoder, B. Kieft, A. Kukulya, B.W. Hobson, **S. Ryan**, and G. G. Gawarkiewicz (2022), Autonomous Tracking of Salinity-Intrusion Fronts by a Long-Range Autonomous Underwater Vehicle, *IEEE Journal of Oceanic Engineering*, <https://doi.org/10.1109/JOE.2022.3146584>
- 8) Perez*, E., **S. Ryan**, M. Andres, G.G. Gawarkiewicz, C. C. Ummenhofer, J. Bane, S. Haines (2021), Understanding Physical Drivers of the 2015/16 Marine Heatwaves in the Northwest Atlantic, *Sci Rep* 11, 17623, <https://doi.org/10.1038/s41598-021-97012-0>
- 9) Oosthuizen, W.C., R. R. Reisinger, M. Bester, D. Steinhage, H. Auel, H. Flores, R. Knust, **S. Ryan**, H. Bornemann (2021), Habitat-based density models of pack-ice seal distribution in the southern Weddell Sea, Antarctica. *Mar Ecol Prog Ser* 673:211-227, <https://doi.org/10.3354/meps13787>
- 10) Janout, M. A., H. H. Hellmer, T. Hattermann, O. Huhn, **S. Ryan**, J. Sültenfuss, S. Østerhus, L. Stulic, M. Schröder, T. Kanzow (2021), FRIS revisited in 2018: FRIS Revisited in 2018: On the Circulation and Water Masses at the Filchner and Ronne Ice Shelves in the Southern Weddell Sea, *Journal of Geophysical Research: Oceans*, 126 (6), <https://doi.org/10.1029/2021JC017269>
- 11) Labrousse, S., **S. Ryan**, F. Roquet, B. Picard, C.R. McMahon, R. Harcourt, M. Hindell, H. Le Goff, A. Lourenco, Y. David, JB. Salleé (2021), Weddell seal behavior during an exceptional oceanographic event in the Filchner-Ronne Ice Shelf in 2017, *Antarctic Science*, 33 (3), pp. 252-264, <https://doi.org/10.1017/S0954102021000092>
- 12) **Ryan, S.**, C.C. Ummenhofer, G. Gawarkiewicz, P. Wagner, M. Scheinert, A. Biastoch, C.W. Böning (2021), Depth structure of Ningaloo Nino/Nina events and associated drivers, *Journal of Climate*, 34 (5), 1767–1788, <https://doi.org/10.1175/JCLI-D-19-1020.1>
- 13) Ummenhofer, C.C., **S. Ryan**, M.H. England, M. Scheinert, P. Wagner, A. Biastoch, C.W. Böning (2020), Late 20th Century Indian Ocean Heat Content Gain Masked by Wind Forcing, *Geophysical Research Letters*, 47 (22), <https://doi.org/10.1029/2020GL088692>

- 14) **Ryan, S.**, H.H. Hellmer, M. Janout, E.D. Darelius, L. Vignes, M. Schröder (2020), Exceptionally Warm and Prolonged Flow of Warm Deep Water Toward the Filchner-Ronne Ice Shelf in 2017, *Geophysical Research Letters*, 47 (13), <https://doi.org/10.1029/2020GL088119>
- 15) Caccavo, J.A., J.R. Ashford, **S. Ryan**, C. Papetti, M. Schröder, L. Zane (2019), Spatially-based population structure and life history connectivity of the Antarctic silverfish along the southern Weddell Sea shelf, *Marine Ecology Progress Series*, 624: 195-212, <https://doi.org/10.3354/meps13017>
- 16) Nachtsheim, D., **S. Ryan**, M. Schröder, L. Jensen, W. C. Oosthuizen, M. N. Bester, W. Hagen, H. Bornemann (2019), Winter foraging hotspots of Weddell seals (*Leptonychotes weddellii*) in the southern Weddell Sea, *Progress in Oceanography*, 173, 165-179, <https://doi.org/10.1016/j.pocean.2019.02.013>
- 17) Daae, K., E. Darelius, I. Fer, S. Østerhus, **S. Ryan** (2018), Wind Stress Mediated Variability of the Filchner Trough Overflow, Weddell Sea, *Journal of Geophysical Research: Oceans*, <https://doi.org/10.1002/2017JC013579>
- 18) **Ryan, S.**, T. Hattermann, E. Darelius, and M. Schröder (2017), Seasonal cycle of hydrography on the eastern shelf of the Filchner Trough, Weddell Sea, Antarctica, *Journal of Geophysical Research: Oceans*, 122, 6437-6453, <https://doi.org/10.1002/2017JC012916>
- 19) **Ryan, S.**, M. Schröder, O. Huhn, and R. Timmermann (2016), On the warm inflow at the eastern boundary of the Weddell Gyre, *Deep-Sea Research Part I: Oceanographic Research Papers*, 107, 70-81, <https://doi.org/10.1016/j.dsr.2015.11.002>

OTHER PUBLICATIONS

Ryan, S. (2018): On the flow of Modified Warm Deep Water toward the Filchner Ronne Ice Shelf, Weddell Sea, Antarctica, Bremerhaven, 171 pp. *PhD thesis at the University of Bremen*, <https://elib.suub.uni-bremen.de/peid/D00106826.html>

MEDIA COVERAGE

PBS News Hour interview, Sep 2026 - [Link](#)
 WHOI press release on Ryan et al., 2024 - [Link](#)
 WHOI press release on Farchadi et al., 2025 - [Link](#)
 EOS editors highlight Feb 2025 - [Link](#)
 Feature article about me and my work in IAPSO-ECS newsletter - [Link](#)
 China Dialogue, Marine Heatwaves, Jul 2023 - [Link](#)
 NBC news, Marine Heatwaves, Ocean Warming, Jul 2023 - [Link](#)
 Weather Nation TV, Marine Heatwave Atlantic 2023, Jul 2023 - [Link](#)
 Cape Cod Times, Ocean Warming, May 2023 - [Link](#)
 Vineyard Gazette, Offshore Ocean Observatory, Feb 2023 - [Link](#)
 Boston Globe, Gulf of Maine Warming, Feb 2023 - [Link](#)
 Falmouth Enterprise, Art Science Collab, Jan 2023 - [Link](#)
 WHOI press release on Ryan et al., 2021 - [Link](#)
 Profile article in WHOI Oceanus Sep 2020 - [Link](#)
 Project presentation Oceanhackweek 2020 - [Link](#)
 Science Magazine Editor's Choice, Ryan et al., 2020 - [Link](#)

STUDENTS

Member of Thesis Committee of Madeline Sowinski (JP, Advisor Ted Maksym)	Aug '26 - present
Supervision JP student Finn Wimberly	Jun '26 – present
Co-Supervision of SSF student Savannah Russell	Jun-Aug 2026

Member of Master thesis committee Collin Beirne (Advisor Tiago Bilo) University of Maine	Oct '25 – present
Member PhD committee of Valentina Volkova (Advisor Prof. Torsten Kanzow), Alfred Wegener Institute	since 2024
Member of Thesis Committee of Elena Perez (JP; Advisor M. Andres))	since 2024
Supervision Bachelor Thesis Lotte Sandring (Geomar, Kiel, Germany) Title: "Surface Expressions of Dense Shelf Water Overflows – Characterising Sea Surface Height Variability in the Ross Sea during the SWOT era"	Apr – Jun 2026
Supervision second generals project JP student Madeline Sowinski Title: "Low-Frequency Variability of the Weddell Gyre in a High Resolution MESACLIP Simulation"	Oct '25 – May '26
Co-supervision of Finn Wimberly (Research Assistant II)	Oct'24-May'26
Supervision of Guest Student Lotte Sandring (Geomar, Kiel, Germany)	June-Aug 2025
Senior thesis advisor Haakon Pihlaja (Pomona College)	Jan – Apr 2025
Member of Postdoc Committee of Carolina Camargo (WHOI)	2024-2025
Supervision of Summer Student Fellow Haakon Pihlaja	May-Aug 2024
Supervision of Guest Student Conor Padmanabhan	May-Aug 2024
Co-supervision of two 'Blue Economy' students from UMass Dartmouth	Jan-May 2024
Co-supervision of Summer Student Fellow Ashley Scheffler	Summer/Fall 2022
Member PhD committee of Lucie Vignes (Advisor Jean-Baptiste Sallée), L'OCÉAN, Paris, France	2018 – 2021
Supervision of remote summer project (instead of originally planned RISE Worldwide summer fellowship at WHOI) of German undergraduate student Hendrik Großelindemann (GEOMAR), and followed by a Bachelor Thesis (Title: "Marine Heatwaves on the Northeast US continental shelf")	June-Dec 2020 Mar-Aug 2021
Co-supervision of Summer Student Fellow Elena Perez, in particular was responsible for all technical and coding matters	Summer/Fall 2020
Assistance with mentoring undergrad student (Nathaniel Cresswell) and high school student (Mari McCarthy).	Summer/Fall 2019
Supervision of Cameroonian female student, Babette Tchonang, from Nippon Foundation-POGO Centre of excellence (NF-POGO CofE) for her final two-months long project in physical oceanography	Summer 2017

TEACHING

Co-teacher (with Isabela LeBras) for 'Introduction to Observational Oceanography (12.808)	Fall 2025
Co-teacher (with Isabela LeBras) for 'Introduction to Observational Oceanography (12.808)	Fall 2024
Guest lecture in 'Climate Variability and Diagnostics' (12.680, led by C. Ummenhofer) Title: "High latitude processes in a changing climate"	Oct 2024
Supervision of German undergraduate student for 3 months summer project at WHOI (funded through RISE Worldwide fellowship)	Summer 2022
Guest lecture in 'Climate Variability and Diagnostics' (12.680, led by C. Ummenhofer) Title: "High latitude processes in a changing climate"	Nov 2021
Instructor for Python Course, WHOI Summer Student Fellow Program (led by Harriet Alexander)	Jul 2021
Helper for Data Carpentry for Oceanographers Python workshop series	Oct 2020
Instructor for Matlab tutorial WHOI Summer Student Fellow Program	Jun 2020
Teaching Assistant for 'Climate Variability and Diagnostics' in MIT-WHOI Joint Program. Turned all Matlab tutorials into Matlab Live Scripts and modified content, gave guest lecture and helped with assignments.	Fall 2019

EXPERIENCE AT SEA

8 days on <i>RV Endeavor</i> (EN690) to Southern New England Continental Shelf	Aug/Sep 2022
10 weeks on <i>RV Polarstern</i> (PS96) deploying moorings, CTDs in southern Weddell Sea (Filchner Ronne Ice Shelf), Antarctica.	2015/2016
11 weeks on <i>RV Polarstern</i> (PS82) deploying moorings, CTDs in southern Weddell Sea (Filchner Ronne Ice Shelf), Antarctica.	2013/2014
8 weeks on <i>RV Polarstern</i> (PS81), deploying moorings, CTDs to Antarctic Peninsula, (Larsen Ice Shelf).	Jan-Mar 2013
3 days on <i>RV Alkor</i> , teaching assistant for student training cruise in the Baltic	Sep 2012
5 days on <i>RV Alkor</i> , student training cruise in the Baltic	Sep 2011

CONFERENCE PROCEEDINGS (*supervised presentation)

- Ryan, S.**, M. Sowinski, *Coupled Low-Frequency Variability of the Weddell Gyre and Sea Ice in MESACLIP*, Oral presentation (remote) at the CESM Annual Workshop, Boulder CO, Jun 2026
- McDonnell, L.H., Fachadi, N., **S. Ryan**, R.L. Lewison, C.D. Braun, *Marine Heatwaves Through the Predator's Eye: Defining Events for Migratory Species in a Dynamic Ocean*, ASLO-SIL Joint Meeting Montreal, Quebec, Canada, May 2026
- Ryan, S.**, L. Sandring, W. Zhang, *Episodic submesoscale cross-shelf exchange at the Mid-Atlantic Bight shelf break revealed by SWOT*, Oral presentation at Ocean Sciences Meeting, Glasgow, UK, Feb 2026
- Ryan, S.**, C.C. Ummenhofer, D. Ehrens, *Marine Heatwaves – Kinetic sculptures translate ocean research and foster community engagement*, Oral presentation at Ocean Sciences Meeting, Glasgow, UK, Feb 2026
- Urtiaga-Chasco*, I., C.C. Ummenhofer, **S. Ryan**, M.D. Pérez Hernández, *Persistent Northward Displacement of the Gulf Stream under Anthropogenic Warming*, Poster presentation at Ocean Sciences Meeting, Glasgow, UK, Feb 2026
- Huguenin, M, **S. Ryan**, C.C. Ummenhofer, M. England, *Decadal Pacific teleconnections to the Weddell and Ross Sea and their link to dense shelf water production*, poster presentation at Ocean Sciences Meeting, Glasgow, UK, Feb 2026
- Huguenin, M, **S. Ryan**, C.C. Ummenhofer, M. England, *Linking the recent decrease in Weddell Sea dense shelf water formation to shifts in the Interdecadal Pacific Oscillation*, Oral presentation at European Geoscience Union (EGU) General Assembly, Vienna, Austria, Apr 2025
- Pihlaja*, H., **S. Ryan**, *Unraveling the 2023 record high temperatures in the eastern subtropical North Atlantic*, Poster presentation at AGU Fall Meeting, Washington D.C, Dec 2024
- Ummenhofer, C.C., **S. Ryan**, D. Ehrens, *Colorful kinetic sculptures of marine heatwaves create new pathways for community engagement*, Poster presentation at AGU Fall Meeting, Washington D.C, Dec 2024
- Ryan, S.**, C.C. Ummenhofer, D. Ehrens, *Synergy in art-science collaborations: Finding a common language to convey ocean research through art*, Oral presentation at European Geoscience Union (EGU) General Assembly, Vienna, Austria, Apr 2024
- Ryan, S.**, C.C. Ummenhofer, G.G. Gawarkiewicz, *A fresh perspective on salinity variability on the Northwest Atlantic continental shelf*, Poster presentation at European Geoscience Union (EGU) General Assembly, Vienna, Austria, Apr 2024
- Ryan, S.**, C.C. Ummenhofer, G.G. Gawarkiewicz, L. Lobert., R. Parfitt, *The role of salinity for modulating stratification and marine heatwave characteristics on the Northeast U.S. continental shelf*, Oral presentation at Ocean Sciences Meeting, New Orleans, USA, Feb 2024
- Ryan, S.**, C.C. Ummenhofer, D. Ehrens, *Marine Heatwaves, From Research to 3D kinetic sculptures*, poster at Ocean Sciences Meeting, New Orleans, USA, Feb 2024
- Scheffler* A., C.C. Ummenhofer, **S. Ryan**, *Oxygen Variability and Trends in the California and Humboldt Upwelling Systems Linked to Atmospheric Forcing*, poster at Ocean Sciences Meeting, New Orleans,

USA, Feb 2024

Gawarkiewicz G.G., L. Taenzer, **S. Ryan**, A. Silver, A. Gangopadhyay, E. Green, R.C. Musgrave, Mapping of a Salinity Maximum Intrusion South of New England, Oral presentation at Ocean Sciences Meeting, New Orleans, USA, Feb 2024

Ryan, S., C.C. Ummenhofer, D. Ehrens (2023), *Marine Heatwaves – Ocean Research Through Art*, European Geoscience Union (EGU) General Assembly, Vienna, Austria, Apr 2023 (presented by Caroline Ummenhofer)

Scheffler*, A., C.C. Ummenhofer, **S. Ryan** (2023), *Intensifying and Expanding Oxygen Minimum Zones in the California and Humboldt Upwelling Systems Linked to Changes in the Hadley Circulation*, Poster presentation at American Meteorological Society (AMS) Annual Meeting, Jan 2023 (student award winner)

Ryan, S., C.C. Ummenhofer, G.G. Gawarkiewicz (2022), *Seasonal to Interannual Variability of Salinity on the Northeast U.S. continental shelf*, AGU Fall Meeting, Dec 12-16, 2022, Chicago, IL, USA

Ryan, S., G. Gawarkiewicz (2022), *Onshore migrations of the Shelfbreak Front in the Mid-Atlantic Bight*. Oral presentation at European Geoscience Union (EGU) General Assembly, Apr 3 - 8, 2022, Vienna, Austria.

Großelindemann*, H., **S. Ryan**, C.C. Ummenhofer, T. Martin, A. Biastoch (2022), *Marine Heatwaves and their Depth Structures on the Northeast US Continental Shelf*. Oral presentation at European Geoscience Union (EGU) General Assembly, Apr 3 - 8, 2022, Vienna, Austria.

Großelindemann*, H., **S. Ryan**, C.C. Ummenhofer, T. Martin, A. Biastoch (2022), *Marine Heatwaves and their Depth Structures on the Northeast US Continental Shelf*. Oral presentation at Ocean Sciences Meeting, Feb 27 – Mar 4, 2022, virtual conference (presented by myself)

Ryan, S., H. Großelindemann, C.C. Ummenhofer, G.G. Gawarkiewicz, T. Martin, A. Biastoch, D. Ehrens (2021), *Marine Heatwaves off the Northeast U.S. coast*. Poster presentation at Pattullo Conference, Oct 24 - 27, 2021, Airlie Center in Warrenton, VA

Perez*, E., **S. Ryan**, M. Andres, G. Gawarkiewicz, P. Wagner, M. Scheinert, A. Biastoch, C.W. Böning (2020), *Understanding Physical Drivers of the 2016 Marine Heatwave in the Northwest Atlantic*. Poster presentation at AGU Fall Meeting, Dec 1 – 17, 2020, virtual conference

Ryan, S., C.C. Ummenhofer, G. Gawarkiewicz, P. Wagner, M. Scheinert, A. Biastoch, C.W. Böning (2020), *Variability of Marine Heatwave Events in the Southeast Indian Ocean*, Poster presentation at the Ocean Sciences Meeting, Feb 16 - 21, 2020, San Diego, California, USA

Ryan S., C.C. Ummenhofer, G. Gawarkiewicz, M. Scheinert, A. Biastoch, C.W. Böning (2020), *Drivers and depth-structure of Ningaloo Niño/Niña using an Ocean General Circulation Model*. Oral presentation at the Australian Meteorological and Oceanographic Society (AMOS): 27th Annual Conference and the International Conference on Indian Ocean Meteorology and Oceanography, Feb 10 – 14, 2020, Perth, Australia

Hellmer, H.H., **S. Ryan**, M. Schröder, M. Janout, E. Darelus (2019), *Unprecedented Strong Modified Warm Deep Water Flow towards Filchner Ronne Ice Shelf in 2017*. Oral presentation at European Geoscience Union (EGU) General Assembly, Apr 7 - 12, 2019, Vienna, Austria.

Ryan, S., H.H. Hellmer, M. Schröder, M. Janout, E. Darelus (2018), *Reoccurrence of a Strong Modified Warm Deep Water Flow toward the Filchner Ronne Ice Shelf*. Oral presentation at the 32nd International Forum for Research into Ice Shelf Processes (FRISP), Sep 3 -6, 2018, Aussois, France

Ryan, S., M. Schröder, R. Timmermann, T. Hattermann, T. Kanzow (2018), *On the Modified Warm Deep Water Flow toward the Filchner Ronne Ice Shelf*. Poster presentation at European Geoscience Union (EGU) General Assembly, Apr 8 - 13, 2018, Vienna, Austria.

Ryan, S., M. Schröder, R. Timmermann, T. Hattermann, T. Kanzow (2018), *On the Modified Warm Deep Water Flow toward the Filchner Ronne Ice Shelf: Observations and Model Results*. Oral presentation at the Ocean Sciences Meeting, Feb 11 - 16, 2018, Portland, Oregon, USA

Darelus, E., I. Fer, S. Østerhus, J.B. Salleé, **S. Ryan** (2017), *Seasonal outflow of Ice Shelf Water across the Filchner Ice Shelf front*. Poster presentation at the 31st International Forum for Research into Ice Shelf Processes (FRISP), June 19 - 22, 2017, Bergen, Norway

- Ryan, S.**, R. Timmermann, M. Schröder (2017), *Towards new eddy-resolving simulations with FESOM in the southwestern Weddell Sea*. Poster presentation at the 31st International Forum for Research into Ice Shelf Processes (FRISP), June 19 - 22, 2017, Bergen, Norway
- Ryan, S.**, T. Hattermann, E. Darelius, M. Schröder (2017), *Seasonal hydrography at the eastern Flank of the Filchner Trough*. Poster presentation at European Geoscience Union (EGU) General Assembly, Apr 23 – 28, 2017, Vienna, Austria.
(Winner of the Outstanding Student Poster and Pico Award)
- Ryan, S.**, M. Schröder, T. Hattermann, E. Darelius (2016), *Seasonal variability on the eastern shelf of the Filchner Depression from 2-year long moored measurements, Weddell Sea*. Oral presentation at the 30th International Forum for Research into Ice Shelf Processes (FRISP), Oct 3 - 6, 2016, Gothenburg, Sweden.
- Bornemann, H., C.W.C. Oosthuizen, D. Steinhage, M. Schröder, **S. Ryan**, R.R. Reisinger, M.N. Bester (2016), *Antarctic Pack Ice Seals and oceanographic features at the Filchner Outflow System in the southern Weddell Sea*. Poster presentation at XXXIV SCAR Biennial Meetings & 2016 Open Science Conference, August 19 - September 1, 2016, Kuala Lumpur, Malaysia
- Nachtsheim, D., **S. Ryan**, M. Schröder, L. Jensen, C.W.C. Oosthuizen, M.N. Bester, H. Bornemann (2016): *Winter foraging hotspots and habitat use of Weddell seals (*Leptonychotes weddellii*) at the Filchner Outflow System, southern Weddell Sea*. Poster presentation at XXXIV SCAR Biennial Meetings & 2016 Open Science Conference, August 19 - September 1, 2016, Kuala Lumpur, Malaysia

SELECTED SEMINARS

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| Woods Hole Oceanographic Institution (WHOI), Physical Oceanography seminar
Title: <i>A decadal perspective on the Northwest Atlantic: Slope Sea Variability and connections to recent observed trends</i> . | Jun 2026 |
| Seminar at Ocean Dynamics and Physical Oceanography departments,
GEOMAR Helmholtz Center for Ocean Research, Kiel, Germany
Title: <i>A Decadal Perspective on the Northwest Atlantic: Revisiting the Linkages Between Large-Scale and Regional Ocean Processes</i> | Apr 2025 |
| Seminar at Ocean Dynamics and Physical Oceanography departments,
GEOMAR Helmholtz Center for Ocean Research, Kiel, Germany
Title: <i>Seasonal and Interannual Salinity Variability on the Northeast U.S. Continental Shelf: Insights from Satellite Sea Surface Salinity and Implications for Stratification</i> | Aug 2024 |
| Lunch seminar at COFDL (Coastal Ocean and Fluid Dynamics Lab), AOP&E department
at WHOI
Title: <i>New insights into seasonal to interannual salinity variability on the Northeast U.S. continental shelf and slope</i> | Mar 2024 |
| Lunch seminar in Department of Earth, Atmospheric and Planetary Sciences at
Massachusetts Institute of Technology (MIT)
Title: <i>A Multi-scale, Multi-process View of the Northeast U.S. continental shelf</i> | Nov 2023 |
| Lunch seminar in Department of Estuarine and Ocean Sciences seminar,
School of Marine Sciences and Technology (SMST), invited
Title: <i>New insights into seasonal to interannual salinity variability in the Mid-Atlantic Bight and implications for stratification</i> | Nov 2023 |
| Research seminar for Assistant Scientist, WHOI
Title: <i>From AMOC to Salinity Intrusions: A Multi-scale, Multi-process View of the Northwest Atlantic</i> | Apr 2023 |
| Buoy lunch seminar in the Physical Oceanography department at WHOI
Title: <i>Battling at multiple fronts – the quest to understand ocean variability on the Northeast U.S. continental shelf</i> | Jan 2023 |
| Colloquium for Assistant Professor, School of Marine Sciences, University of Maine
Title: <i>Marine Heatwaves and their Depth Structure on the Northeast U.S. Continental Shelf</i> | Oct 2022 |
| Woods Hole Oceanographic Institution (WHOI), Physical Oceanography seminar
Title: <i>Diving beneath the surface: Regional studies of marine heatwaves and their</i> | Jun 2022 |

depth structure

W1 Junior Professorship Colloquium, GEOMAR Helmholtz Center for Ocean Research, Kiel, Germany Title: <i>Looking beneath the surface: Regional studies of marine heatwaves and their depth structure</i>	Mar 2022
Lunch seminar in Department of Estuarine and Ocean Sciences seminar, School of Marine Sciences and Technology (SMAST), <i>invited</i> Title: <i>Marine Heatwaves and their Depth Structure on the Northeast U.S. Continental Shelf</i>	Feb 2022
Climate seminar at the Alfred Wegener Institute (AWI), Helmholtz Center for Polar and Marine Research, Bremerhaven Germany Title: <i>Marine Heatwaves and their Depth Structure on the Northeast U.S. Continental Shelf</i>	Jan 2022
Marine heatwave group Australia as part of the CLEX ARC Centre of Excellence Title: <i>Depth Structure of Ningaloo Niño/Niña and associated drivers</i>	Apr 2021
Lunch seminar in Department of Estuarine and Ocean Sciences seminar, School of Marine Sciences and Technology (SMAST), <i>invited</i> Title: <i>Regional Drivers and depth-structures of Marine Heatwaves</i>	Jan 2021
Woods Hole Oceanographic Institution (WHOI), Physical Oceanography seminar Title: <i>Strong and prolonged flow of warm water toward the Filchner-Ronne Ice Shelf in 2017</i>	Mar 2020
Seminar at Scottish Association for Marine Science (SAMS), Oban, Scotland, <i>invited</i>	Jan 2019

OUTREACH ACTIVITIES

Art-Science Exhibit at Cape Cod Cultural Center “Ocean Fever” Incl. Artist – Scientist talk	Apr 2026
Collaboration with Cape Cod Art Center on exhibition “Documenting Change” Incl. Science talk addressing participating artists	Apr/May 2026
Collaboration with Cape Cod Art Center on exhibition “Warming Seas”	Mar/Apr 2025
Ocean Encounters virtual series from Woods Hole Oceanographic Institution Title: “Restless Seas: How ocean currents shape weather, climate, and life (link to event recording)	Sep 2024
Meet and Greet Scientist and Artist, Coffee Obsession, Falmouth, MA	May 2024
After-hour series talk at the Cape Cod Museum of Natural History in Brewster Title: Marine Heatwaves – Fevers of the Seas	Sep 2023
Ocean Encounters virtual series from Woods Hole Oceanographic Institution Title: “Heat waves: Extreme heat on land – and in the ocean” (link to event recording)	Sep 2022
Guest at Morning Speaker Program at Our Sister’s School in New Bedford (link to website)	Sep 2022
Artist Talk with Deb Ehrens as part of <i>the Art drive</i> (link to website)	Aug 2022
Invited panelist for Earth Day 2022 webinar, hosted by the German and French Consulate in Boston (link to event recording)	Apr 2022
Professional Development Webinar on Interdisciplinary Storytelling: Art & Science featuring the Marine Heatwave project hosted by Massachusetts Institute of Technology & Nord Anglia Education (link to event recording)	Mar 2022
Talk at McAllister Gallery Docent visit to the Woods Hole Oceanographic Institution	Aug 2021
Public talk about Art-Science project at South Coast Surface Design, New Bedford, MA	June 2021

OTHER ACTIVITIES

Co-Organized informal WHOI SWOT discussion group	Jun ’26 - present
Hosted and organized Our Sister’s School visit to Cape Cod Commercial Fishermen Alliance in Chatham	May 2025

Research visit (6 weeks) at GEOMAR, Helmholtz Centre for Ocean Research, Kiel, Germany (Research division: Ocean Circulation and Climate Dynamics)	Mar-Apr 2025
Hosted Our Sister's School visit to WHOI	Nov 2024
SYNERGY II project, Working in pairs of scientist and artist (Deb Ehrens, link to website) to communicate our science through art (link to website)	2020 - present
Exhibitions in Falmouth Art Center (May 2021, Jan 2023), New Bedford (June 2021), University of Rhode Island, Providence Campus (June 2022), Coffee Obsession Falmouth (Jan-May 2024)	2021-present
Research visit (2.5 weeks) at GEOMAR, Helmholtz Centre for Ocean Research, Kiel, Germany (Research division: Ocean Circulation and Climate Dynamics)	Jan 2022
Participation in Oceanhackweek (1 week, remote), organized by University of Washington eScience Institute (presented results of group project link , GitHub repository)	Aug 2020
Research visit (2 weeks) University of New South Wales, Australia	Feb 2020
Participation (2 weeks) in rotating-tank experiments at the Coriolis platform at LEGI, Grenoble, France as part of the TOBACO project (Topographic barriers controlling warm water inflow and Antarctic ice shelf melting), led by Dr. Elin Darelus and Prof. Anna Wålin.	Sep 2017
Two-week summer school 'Fluid Dynamics of Sustainability and the Environment', École Polytechnique, Paris, France (link to website)	Jul 2017
One-week summer school in ocean/atmosphere time series analysis: theory and practice II (Hands-on Matlab practice) University of Oslo.	May 2017
Course lecturer: Dr. Jonathan Lilly, Course Leader: Prof. Joseph LaCasce	
Research stay (4 weeks) at the Geophysical Institute, University of Bergen hosted by Dr. Elin Darelus and Dr. Svein Østerhus.	May 2016
Various contracts as student research assistant, GEOMAR, Helmholtz Centre for Ocean Research, Kiel, Germany.	2009 – 2014

ACADEMIC SERVICE

PhD Thesis reviewer, University of Tasmania, Australia	Jun 2026
Member of Search Committee Editor in Chief, Journal of Geophysical Research (AGU)	Jun-Sep 2026
Member of Search Committee Department Administrator, PO WHOI	Jun 2026
Member of WHOI-MIT Joint Program Selection Committee	2024-present
Co-convenor for session "Marine Heatwaves: drivers, impacts and interactions" at European Geoscience Union (EGU) General Assembly, Vienna, Austria.	Apr 2024
Invited panelist for NASA proposal review panel to assist with ROSES PO-22 solicitation	Sep 2022
Co-Editor for Special Issue on Marine Heatwaves, in <i>Frontiers of Climate</i> (led by Sarah Perkins-Kirkpatrick, UNSW, Sydney, Australia)	2021/2022
Member of the WHOI Postdoctoral Association (PO representative)	2021/2022
Member of seminar coordinator team for Physical Oceanography department at WHOI	2021/2022
Participation in IAPSO Early Career Scientist group review of IPCC AR6,	2021
Judge for Student Presentation Evaluation Program at Ocean Sciences, San Diego	2020
Judge for Outstanding Student Poster and PICO (OSPP) award at the European Geophysical Union, General Assembly, Vienna, Austria,	2018 & 2022
Reviewer for: Nature, Nature Climate Change, Nature Communications, Geophysical Research Letters, Progress in Oceanography, Journal of Geophysical Research: Oceans, Journal of Climate, Ocean Science, Ocean Modelling, Journal of Advances in Modeling of Earth Systems (JAMES), Atmosphere-Ocean, Intergovernmental Panel on Climate Change (IPCC), State of the Planet – Copernicus, NSF Physical Oceanography Panel (2024, 2025)	

