




Energy Inflow

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Dear project members of the TRR 181,

Spring has arrived, bringing the busy conference season - a great opportunity to make new connections and showcase your latest research.

It's time to dust off those slides and prepare for inspiring conversations.

Let's make the most of this season and keep the ideas blooming! 

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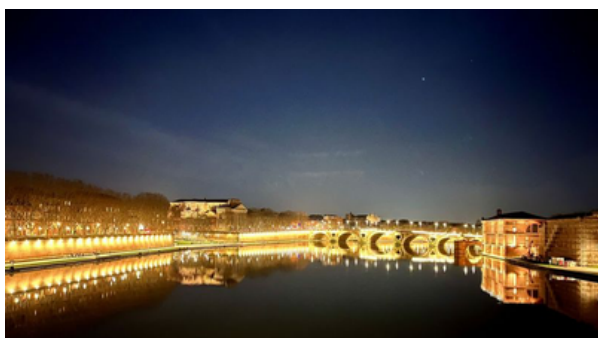


News You Shouldn't Miss

Nils Brüggemann Appointed Professor in Bremen

Nils Brüggemann, a current PL member of the TRR 181, has accepted a professorship at the Leibniz Centre for Tropical Marine Research (ZMT) in Bremen. In his new role, he will lead the TropEcS project, which focuses on modeling socio-economic and ecological processes in tropical coastal ecosystems. Nils' involvement in TRR projects will continue, we congratulate him on this new appointment and look forward to continued collaboration.

Research Stay in Toulouse, France by Henning Franke



In January 2026, Henning Franke, a Postdoctoral Researcher at the Max Planck Institute for Meteorology in Flensburg, visited the Laboratoire d'Etudes en Géophysique et Océanographie Spatiales in Toulouse to work on implementing the TOOCAN MCS tracking algorithm with his climate simulations. With support from local researchers, he was able to set up and test TOOCAN on his models during his stay. The visit provided him with new insights and was valuable for advancing his research on meso-scale convective systems. Read the full report [here](#).

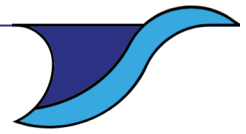
Ocean Sciences Meeting 2026 by Dr. Michael Cox



Postdoctoral researcher Dr. Michael Cox from the University of Hamburg recently returned from a successful trip to Glasgow and Edinburgh, where several members of the TRR 181 participated in Ocean Sciences Meeting 2026. A group travelled together from Hamburg to Scotland, combining scientific exchange with memorable cultural experiences. At the conference, TRR 181 members convened several well-attended sessions on internal and surface gravity waves, energy transfers in turbulence, and numerical challenges in ocean modelling. Alongside the full scientific programme, the team explored Glasgow's museums, university campus, and local cuisine. A follow-up week in Edinburgh included seminar talks, collaborative discussions, and visits to local landmarks. The trip strengthened international connections and sparked new research ideas, making it a productive and enjoyable start to the year for the TRR 181 team.

Read the full report [here](#).





Outreach

Art & Science Workshop Sparks New Collaborations

On 21 January, we held an Art & Science Workshop with six researchers and five artists from Hochschule für Musik und Theater Hamburg, aimed at fostering new collaborations. Participants shared their work through brief presentations, encouraging dialogue between science and the arts. As a result, four artist - researcher pairs have been formed, and will be developing additional projects this year. We look forward to seeing the innovative ideas that will emerge from these interdisciplinary efforts.



Mural as a Showcase for Scientific Research

Our TRR 181 mural in Eimsbüttel showcases how art and science can collaborate to communicate complex research in an engaging way. Over several workshops, the artists Innerfields worked closely with five researchers from the University of Hamburg and GEOMAR, leading to a draft design for the mural. We are planning to implement the final artwork in mid-June, with preparations underway, including scaffolding and building permits. We look forward to sharing updates on the progress and the final unveiling of this innovative project. Read the report [here](#).



Research-Inspired Exhibition



On 13 February, we hosted a workshop led by exhibition designer Oliver Gies as part of our ongoing development of a TRR 181 exhibition, which will be on display from 2028. The event brought together seven scientists from various institutions to discuss the artworks we have created in recent years, including paintings, performances, and musical pieces inspired by our research. The focus was on exploring themes and designing ways to communicate our science effectively through art. We look forward to sharing this interdisciplinary exhibition with a wider audience in the coming years.



Graduation Day!

Join us on **26 June at 4 p.m.** in Hamburg to celebrate Graduation Day for TRR 181. The event will include a small ceremony honoring our recent graduates and feature career talks from three TRR alumni, sharing their professional journeys since their time with the project. After the ceremony, everyone is welcome to a barbecue on the terrace at **Grindelberg 5**, providing a great opportunity to network and connect with fellow members.

We look forward to celebrate together!

Researcher Spotlight

Our Researcher Spotlight series features short interviews and photos to highlight the diverse roles and contributions of members within our community, providing insight into their work in our interdisciplinary research.

Dr. Mansi Singh



Role: Postdoctoral Researcher
Institution: Catholic University of Eichstätt-Ingolstadt
Subproject: M3 - Ocean Wave Modeling
Description: Mansi's expertise lies in the mathematical study of ocean waves and their role in climate change. In the interview, she shares her main research interests, and emphasizes the importance of international collaboration in addressing climate challenges.
[Read the full interview here.](#)

Dr. Han Wang



Role: Young Project Leader
Institution: University of Hamburg
Subproject: W2 - Subsurface Ocean Dynamics
Description: Han develops machine learning algorithms to analyze satellite data and studies interactions between currents, surface waves, and ocean dynamics from drifters. In the interview, she explains what drives her to study complex ocean systems and emphasizes how collaboration helps advance climate models.
[Read the full interview here.](#)

Jabeen Safeer



Role: PhD Student
Institution: University of Hamburg
Subproject: T2 - Surface Ocean Energetics
Description: Jabeen focuses on the energetics of the surface ocean and submesoscale interactions. She discusses what inspired her career, her transition from statistical to process-oriented oceanography, and her goal to improve climate modeling.
[Read the full interview here.](#)

Dr. Hugo Lévy



Role: Postdoctoral Researcher
Institution: Alfred Wegener Institute
Subproject: S1 - Diagnosis and Metrics
Description: Hugo works on improving ocean dynamics in climate models, especially subgrid-scale processes and seafloor topography, using optimization and interdisciplinary approaches. In the interview, he highlights what drives him to tackle societal challenges and the value of working together in research.
[Read the full interview here.](#)

Dr. Evridiki Chrysagi



Role: Young Project Leader

Institution: University of Hamburg

Subproject: T2 - Ocean Surface Layer Energetics

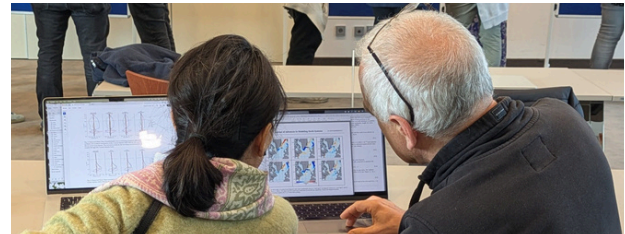
Description: Evridiki is a physical oceanographer focusing on small-scale ocean processes and their impact on climate and marine ecosystems. In the interview, she shares her research, what inspires her, and how cross-disciplinary teamwork deepens our grasp of climate systems.

[Read the full interview here.](#)

Interested in showcasing your research? We welcome anyone who would like to participate in the Research Spotlight series.

Please contact Alicja!

Get Inspired: Seminar Series Ahead



During the seminar series, guests present on topics relevant to TRR members. The events are held in a hybrid format, typically on Thursdays at 11 a.m. in Hamburg, with recordings available on our YouTube channel. Some (marked) seminars are offered exclusively online. All project members are welcome to suggest speakers. The next dates are 15 April ([Christian Franzke](#), *only online*), 23 April ([Jean Bidlot](#)), 7 May (Øyvind Breivik), 21 May (Shafer Smith) and 11 June (Jacques Vanneste).

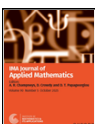
All project members are invited to suggest speakers.

Please contact Lioba!

Publications



Schmitt, M. (2024). Diurnal warm layers in the ocean: Dynamics, turbulence and atmospheric feedbacks. Universität Rostock. https://doi.org/10.18453/rosdok_id00005110



Paul Holst, Jens D M Rademacher, Well-posedness and long-term behaviour for a troposphere wave propagation model, IMA Journal of Applied Mathematics, Volume 90, Issue 5, October 2025, Pages 515–540, <https://doi.org/10.1093/imamat/hxaf027>



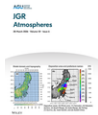
Mahó, S. I., Lunkeit, F., Vasylykevych, S., & Žagar, N. (2025). The effect of barotropic instability on mixed Rossby-gravity wave variability during the QBO phases. *Journal of Geophysical Research: Atmospheres*, <https://doi.org/10.1029/2025JD043925>



Anton A. Kutsenko; On some explicit integrals related to “fractal foothills”. *Chaos* 1 February 2026; 36 (2): 023123. <https://doi.org/10.1063/5.0298508>



Carpenter, J.R. (2026): Importance of the continuous spectrum in the excitation of sheared surface gravity waves. *Physical Review Fluids*, 11, 024804, <https://doi.org/10.1103/414c-z8fc>



Banerjee, T., Kim, Y. H., Voelker, G. S., Borchert, S., Kosareva, A., Kunkel, D., et al. (2026). The impact of non-orographic gravity waves on transport and mixing: Effects of oblique propagation and coupling to turbulence. *Journal of Geophysical Research: Atmospheres*, 131. <https://doi.org/10.1029/2025JD045270>

We invite you to share your recent publications so we can showcase your work on our website. **Please send the details!**

Get Ready: Upcoming Events



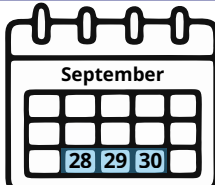
Spring School
Lauenburg



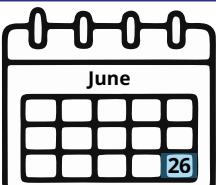
New TRR 181 Mural
Hamburg



Eddy Wave Meeting
Hamburg



Annual Retreat
Timmendorfer Strand



Graduation Day
Hamburg

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