





Energy Inflow #13 April 2020

Corona changes (almost) everything

A lot has happened since our last newsletter. A lot of work and effort went into our proposal and the preparation of the review and then - Corona! The review was cancelled last minute and, as we found out a few days ago, is not going to happen at all. Everyone is working at home and face new challenges. We are currently working together with some of our early-careers on creating a new online meeting and communications space for the TRR 181 that we want to use even after this special situation is coming to a new normal. As you may have noticed, we also used the time to work on a new newsletter layout.

We hope you like it and it can give you some distraction. Thank you all for preparing the review, all your work and effort. We hope to continue with the same spirit into the second phase! We will of course keep you updated.

What's in this issue :

Hamburg COMMODORE Conference

Winter School Report

TRR 181 Theater play: Oceanview Suite

Travel report from "Ocean Sciences 2020"

New publications

Something funny for the end



1 - Before everything was cancelled: All project members at the "final" rehearsal in Bremen in March 2020

COMMODORE Conference a full success



After the great success of the first COMMODORE Workshop in Paris, the second workshop was organised as the Hamburg COMMODORE Conference during January, 28-31 2020 at MARKK (Das Museum am Rothenbaum – Kulturen und Künste der Welt).

After the great success of the first [COMMODORE Workshop in Paris](#) (Meeting report [here](#)) the Hamburg COMMODORE Conference has been jointly organized by the SFB-TRR 181 "Energy Transfers in Atmosphere and Ocean", the [Leibniz Institute of Baltic Sea Research](#) (Warnemünde, Rostock) and [Inria](#) (Grenoble, France). This time, the venue was special: the Conference was hosted in the historical lecture hall of the impressive [Museum of Cultures and Arts](#) (MARKK) and the participants could roam through the exhibitions during the breaks.

During the four days (Jan 28-31), the focus of the COMMODORE Conference was on numerical solution techniques of the partial differential equations that govern the ocean circulation from coastal to large scales.

The almost 70 participants shared their experience on numerical model development, perspectives on future model developments and common test-cases to evaluate numerical models. Besides ocean modellers also atmospheric modellers and numerical mathematicians contributed to oral and poster presentations, during the latter the discussions profited a lot from drinks and snacks served in the poster hall directly besides an impressive Polynesian sailing boat. Discussions during the conference were vivid, engaged and partly controversial, and during three dedicated discussion slots, the topics of „Updates on the COMMODORE Initiative“, „Validation of large ocean model simulations“ and „Test cases for ocean models“ were debated in plenary.

In the closing remarks the organisers expressed their sadness about Brexit happening already nine hours after the end of the meeting and made some encouraging remarks towards the participants from Britain.

The atmosphere was very inspiring and it was felt that COMMODORE brings together a unique community where scientists can frankly present ideas about numerical methods, parameterisations and model development strategies. It was therefore decided to further continue COMMODORE as an international biannual workshop series. The next meeting will be in Boulder (Colorado) at NCAR during April 2022.

On our [workshop website](#) you can find the presentations with permission given to upload. Thanks to everyone who made this workshop happen!

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Last but not least: Winter School in Ratzeburg



From February 4-6 our early career scientists met in Ratzeburg for our annual Winter School. This was the last winter school for this phase.

The first day of our Winter School was dedicated to science. We started with a Q&A session about the science done in the project. The PIs, Postdocs and PhDs tried to answer questions people never dared to ask, like "What is baroclinic or barotropic?". The questions were collected anonymously beforehand using an online survey tool. During the session, we used the online tool Mentimeter so that the participants could continue to ask follow up questions anonymously. The feedback for this session was highly positive and clarified some terms and processes. Because of this feedback, we plan on including these kind of session more often.

After the Q&A, our PhDs and Postdocs chosen to present their work during the review had their first practice round. We all learned that 5-minute presentations are much harder to do than you would think, because you have to break down the science a lot. Nevertheless, with a little bit more practice we are sure to have a successful review in March.

During the next two days, our PhDs and Postdocs had two workshop days on "Scientific Writing" and "Getting the message across with graphs" held by Jean-luc Doumont. As the last time during the retreat, Jean-luc inspired everyone to question old habits and think outside the box. The key message: scientific writing and graphs have to be clear, concise and accurate and if you can write a good abstract, you can write anything. We are looking forward to working with Jean-luc again, if our proposal is approved in May.



2 - PIs, Postdocs and PhDs discussed fundamental questions

Having our last Winter School with these PhDs and Postdocs, it did get sentimental at some point. We are looking back at four years of great work and times with our TRR 181 family. We hope for everyone to find new and interesting ways and that we can stay in touch even after they leave the project.

Opening of first TRR Theater play "Oceanview Suite" in Hamburg



On Wednesday, February 26, our first output of the ART&SCIENCE Collaboration with art grad students kicked-off at houseboat "Schute" in Wilhelmsburg, Hamburg. It was great success - for the scientists and for the non-scientists!

It was a wonderful evening: After we had a day full of science at our review rehearsal in Hamburg, a group of scientists went off to "Schute", a boat in Wilhelmsburg, Hamburg. Not to go on a cruise, but to see a theater play!

We were very excited to see the first result of the collaboration of our scientists with artists - and haven't been disappointed! It was a great performance, the atmosphere on the boat was maritime and the discussion afterwards about the collaboration process very inspiring. We are so lucky and hope to have much more of these collaboration projects - to inspire more people to think about the work of researchers in general but also about our specific topic "energy transfers".

In the picture gallery you can find some impressions from the evening.

If you want to see the video recording of the play, you can find it [here](#) in our Youtube channel.

<http://twitter.com/statuses/1240920134119821312>





3 - Friederike Pollmann (left) and Meera Theunert (right)

Oceanview Suite is the monologue of a woman who, disgusted by humankind, has retreated to a hotel room with an ocean view. There, in this place of decadence and alienation, she tries to overcome the border to the non-human. In the process, she encounters inner waves several kilometres high and heavy turbulence, which causes the deepest and coldest layers of herself to rise to the surface.

with **Adele Vorauer**

Concept, video, scenery: **Meera Theunert**

Music: **Pedro González**

Light: **Lars Kracht**

Scientific consultation: **Dr. Friederike Pollmann**

Project coordination ART&SCIENCE: **Jennifer Fandrich**

"Ocean Sciences" meeting in San Diego, USA



Report by Deniz Aydin, Evridiki Chrysagi, Julia Dräger-Dietel, Alexa Griesel, Eileen Hertwig and Jen-Ping Peng

The Ocean Science Meeting (16-21 Feb, 2020) is one of the biggest conferences in Oceanography. It is organized every two years in different locations in the U.S with thousands of attendees. Except from the numerous scientific talks and posters, it also includes a huge variety of exhibition booths for oceanographic instruments as well as for universities, associations and companies related to ocean science. Social events, workshops, tutorials and soft skill sessions are also included.

This year the conference started on Sunday with an inspiring plenary talk by a native Hawaiian that revived the ancient Polynesian art of navigation. After a four-year voyage around the world with a traditional double-hulled canoe, Nainoa Thompson shared his experience with us and talked about the challenges that he faced during his journey and the dangers of climate change. Later in the evening, the talk was followed by the icebreaker reception. The plenaries from Oceans Sciences 2020 are available at <https://www.agu.org/Ocean-Sciences-Meeting/#0>.

One interesting session that took place the first two days of the conference, was the "Turbulent Mixing of the Ocean Surface Boundary Layer: Observation, Simulation, and Parameterization". The session included various talks and posters focused on wind-driven mixing, wave-driven turbulence as well as frontal instabilities and submesoscale dynamics. In this session, Jen-Ping presented a talk titled "Frontal instability and energy dissipation in a submesoscale upwelling filament" and Evridiki gave a poster presentation titled "Submesoscale Processes and Mixing in a Semi-Enclosed Basin: The Case of the Baltic Sea".

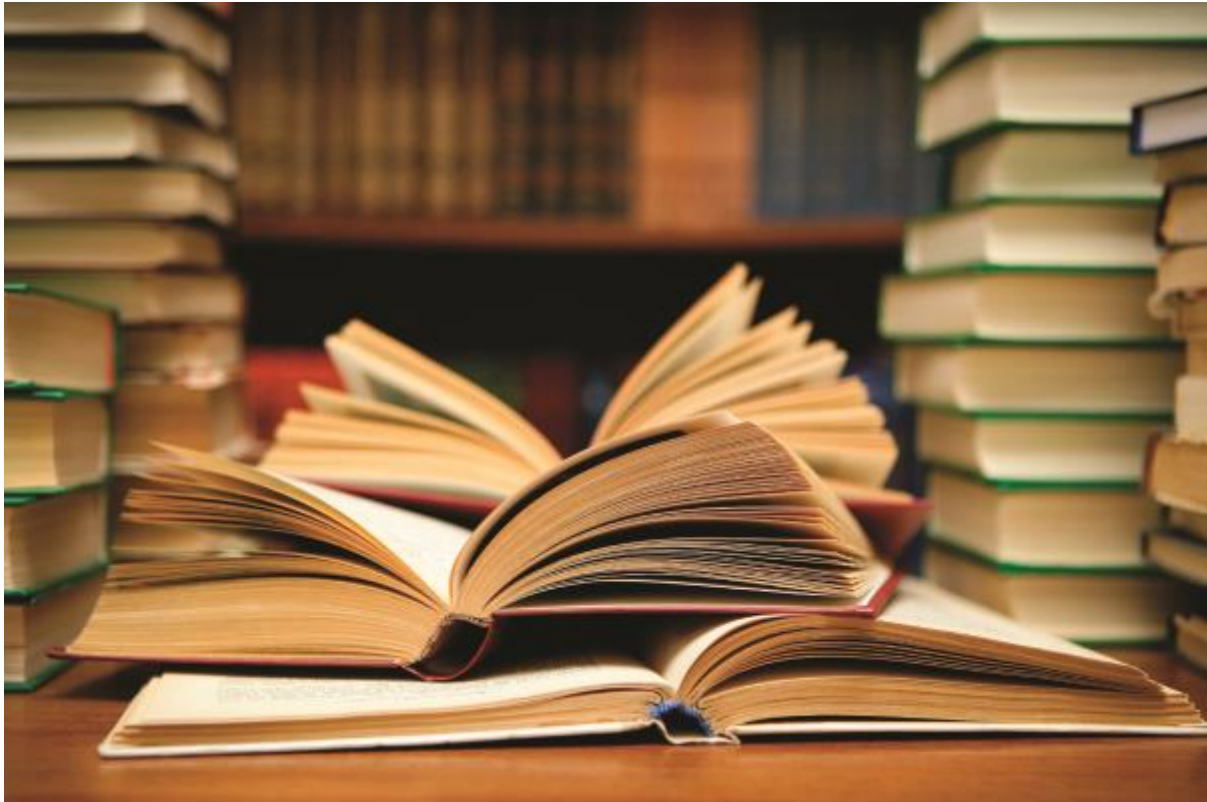
Another interesting session was “Ocean Transport and Eddy Energy” which was dedicated to the important role of mesoscale processes in the ocean energy cycle. There were many interesting talks about the eddy impacts on buoyancy and momentum and improving the parameterization of them. Deniz presented her PhD research with a talk titled ‘Effects of horizontal resolution on evolution of Denmark Strait Overflow and Energy Transfers’. Alexa also gave a talk in this session.

Later on there was a session on “Ocean Tides: From Planetary to Turbulent Scales”, where Eileen presented her results concerning the “Representation of Tides in ICON-o”. Jin-Song also gave a talk in this session. Marc gave a talk on “Field observations of coupled wind-wave dynamics using PIV” during the “Fluxes and Physical Processes Near the Air-Sea Interface: Observations and Modeling” session. During the e-lightning session “Lagrangian Methods for Understanding Ocean Circulation and Tracer Transport” Julia presented results on the inverse energy cascade in the Benguela upwelling region by means of drifter observations and model-trajectories. The newer e-lightning format includes 3-minute “elevator pitches” at the e-lightning theater followed by a discussions at the individual large format, touchscreen monitors. The interactive, multimedia e-lightning posters include high-resolution images, videos, audio files, links to external data sets, and allow to present the respective research in detail. They are available before and after the meeting as well.

Besides scientific talks, there were also several sessions on gender and diversity issues in ocean science. Eileen attended “MPOWIR: Building an Inclusive Community in Oceanography – How we can all contribute” and “It's All Good: The Reciprocity of Diversity in STEM Disciplines”, which gave a lot of new thought-provoking impulses.

The Ocean Science meeting was a unique experience for us, because it gave us the opportunity to present our work, extend our network and discuss with experts in our fields. We also had the chance to meet with old colleagues and friends. Therefore we would be more than happy to participate in the next meeting which will be held in Hawaii in 2022.

Just published



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As usual: Something funny for the end



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