



WAVES TO WEATHER
Annual Meeting - 28-30 November 2022
Würzburg, Hotel Melchior

Program

Snacks will be served before 12:00 on Monday and at 17:30 on Wednesday.

| Monday 28 th November 2022 | | <i>Chairs (RA-C): Jung and Hauser</i> |
|--|--|---|
| 12:00 – 12:40 | Overview of W2W (G. Craig and RA coordinators) | |
| 12:40 – 13:25 | Machine learning and predictability of weather and climate (P. Düben) | |
| 13:25 – 13:55 | Lightning talks by ECS in RA-C | |
| 13:55 – 14:05 | <i>Short coffee break</i> | |
| 14:05 – 16:05 | Poster session RA-C | |
| 16:05 – 16:45 | <i>Coffee break</i> | |
| 16:45 – 17:00 | Report on Z2 activities (R. Redl and O. Tinto) | |
| 17:00 – 17:30 | Report on Z1 and EO activities (A. Laurian) | |
| 17:30 – 17:45 | Report on Communication activities (P. Knippertz) | |
| 18:00 – | <i>Ice Breaker and dinner at the hotel</i> | |
| Tuesday 29 th November 2022 | | <i>Chairs (RA-B): Groot and Teubler; Chairs (RA-A): Keshtgar and Oertel</i> |
| 08:00 – 09:00 | SG breakfast (for SG members only) | |
| 09:00 – 09:45 | Trying to get a grip on different processes in NWP (L. Schlemmer) | |
| 09:45 – 10:15 | Lightning talks by ECS in RA-B | |
| 10:15 – 10:30 | <i>Coffee break (for poster presenters on RA-B)</i> | |
| 10:30 – 12:30 | Poster session RA-B - <i>Coffee break</i> | |
| 12:30 – 14:00 | <i>Topical Lunch on Diversity</i> | |
| 14:00 – 14:45 | Interactions between cloud microphysics and dynamics in extratropical cyclones and their impact on the jet stream (G. Rivière) | |
| 14:45 – 15:15 | Lightning talks by ECS in RA-A | |
| 15:15 – 18:00 | <i>Group picture, coffee break, walk in the park</i> | |
| 18:00 – 19:30 | <i>Dinner</i> | |
| 19:30 – 21:30 | Poster session RA-A | |
| Wednesday 30 th November 2022 | | |
| 09:00 – 10:30 | General Assembly (for W2W members only; see separate agenda) | |
| 09:00 – 10:30 | ECS General Assembly (for ECS only) | |
| 09:00 – 10:30 | SAB meeting (for SAB members only) | |
| 10:30 – 11:00 | <i>Coffee Break</i> | |
| 11:00 – 12:00 | "Meet the speakers" (for ECS, keynote speakers and SAB members only) | |
| 12:00 – 13:30 | <i>Lunch</i> | |
| 13:30 – 15:00 | Breakout group discussions (see lists below) | |
| 15:00 – 15:30 | <i>Coffee Break</i> | |
| 15:30 – 17:00 | Reports on GA, ECS, RAs, and SAB discussions, vote on new EO committee | |
| 17:00 – 17:30 | Final discussion | |
| <i>End of the meeting</i> | | |

Keynote presentations

Peter Düben (ECMWF, Bonn)

Mon. 28th, 12:40 – 13:25

Machine learning and predictability of weather and climate

The talk will motivate why sophisticated machine learning tools have great potential for use in Earth system modelling and explain where they can and should be used. There will be a hopeless attempt to summarize progress in the use of machine learning in weather and climate predictions during the last five years, and an outline what we can expect from the use of machine learning regarding improvements in predictability in the next five years, with a specific focus on ensemble predictions.

Linda Schlemmer (DWD, Offenbach)

Tue. 29th, 09:00 – 09:45

Trying to get a grip on different processes in NWP

A range of different temporal and spatial scales are addressed within DWD's ICON-based NWP system. Thereby different tasks and aims of the forecast require a specific representation of certain processes within the model. At the same time, there is a strong trade-off between the process detail, and the demand of memory and computational power. In this talk a review of a selection of key processes will be given, with the challenge in mind of finding adequate observations or constraints to validate the processes at hand. These include the formulation of precipitation in convective events, the representation of mineral dust in the system, and the opportunity to use FESSTVaL (Field Experiment on Sub-mesoscale Spatio-Temporal Variability in Lindenberg) data and its associated modeling setup to verify boundary-layer processes.

Gwendal Rivière (LMD/ENS, Paris, France)

Tue. 29th, 14:00 – 14:45

Interactions between cloud microphysics and dynamics in extratropical cyclones and their impact on the jet stream

The French contribution to the North Atlantic Waveguide and Downstream Impact EXperiment (NAWDEX) project was mainly focused on convective and cloud microphysical processes within warm conveyor belts of extratropical cyclones. After a short overview of this contribution, my presentation will focus on how the representation of clouds affects the jet stream structure and intensity. The methodology is based on numerical simulations of the French mesoscale research model Meso-NH performed with different microphysics schemes or different setups of these microphysics schemes. These simulations are compared to various observations whose largest part comes from the flights of the Falcon 20 aircraft operated by the SAFIRE team. Various model-observation comparison tools have been developed and used like reflectivity simulators and cloud microphysics retrievals from radar-lidar measurements. Finally, perspectives on the interactions between cloud microphysics and dynamics will be presented, in particular within the framework of the recent field campaign THINICE that occurred in Svalbard in August 2022 to observe and study Arctic cyclones.

Breakout group discussions per Research Area
Wednesday 30th November from 13:30 - 15:00

(Chairs are marked in bold, guests are in italic.)

| RA-A breakout group discussion | RA-B breakout group discussion | RA-C breakout group discussion |
|--------------------------------|--------------------------------|--------------------------------|
| Cayoglu Ugur | Bardachova Tatsiana | Beckert Andreas |
| Craig George | Barthlott Christian | Birner Thomas |
| Farokhmanesh Fatemeh | Borne Maurus | Chen Xiaoyang |
| Grams Christian | Brinkmann André | Chung Brett |
| Groot Edward | Frey Lena | Conrat Fuentes Pablo |
| Hauser Seraphine | Hieronymus Maicon | Czajka Beata |
| Hüllermeier Eyke | Höhlein Kevin | <i>Düben Peter</i> |
| Krüger Kontantin | Jakub Fabian | Eisenstein Lea |
| <i>McTaggart-Cowan Ron</i> | Janjic-Pfander Tijana | Fink Andreas |
| Polster Christopher | Jung Hyunju | Fischer Christoph |
| Prestel Isabelle | Keil Christian | Garny Hella |
| Puh Matjaz | Keshtgar Behrooz | Grazzini Federico |
| Redl Robert | Knippertz Peter | <i>Hewson Tim</i> |
| <i>Reynolds Carolyn</i> | Krumscheid Sebastian | Kiefer Selina |
| Riemer Michael | Kuntze Patrick | Kriening Marvin |
| <i>Rivière Gwendal</i> | Lüttmer Tim | Lemburg Alexander |
| Sadlo Filip | Maier Richard | Lerch Sebastian |
| Schäfler Andreas | Manev Mihail | Löffel Sheena |
| Schmidt Sören | Matsunobu Takumi | Mayer Amelie |
| Schneider Simon | Mayer Amelie | Modali Kamesh |
| Sdeo Kai | Mayer Bernhard | Pinto Joaquim |
| Selz Tobias | Miltenberger Annette | Satheesh Athul |
| Tempest Kirsten | Oertel Annika | Rautenhaus Marc |
| Teubler Franziska | Ruckstuhl Yvonne | Redl Robert |
| Tinto Oriol | <i>Schlemmer Linda</i> | Rupp Philipp |
| | Stumpfegger Josef | Schömer Elmar |
| | Tost Holger | Schulz Benedikt |
| | Voigt Aiko | Späth Jonas |
| | Weissmann Martin | Tinto Oriol |
| | Zarboo Amir | Walz Eva-Maria |
| | | Wirth Volkmar |

Poster sessions per Research Area

(Names in *italic* are online participants)

| RA-A Tuesday, 19:30 – 21:30 | RA-B Tuesday, 10:30 – 12:30 | RA-C Monday, 14: 50 –16: 50 |
|--------------------------------|--------------------------------|--------------------------------|
| Farokhmanesh (A7) | Borne (B6) | Beckert (C9) |
| Groot (A1) | Frey (B1) | Chen (C8) |
| Hauser (A8) | Hieronymus (Z2) | Chung (C3) |
| Krüger (A3) | Höhlein - Stumpfegger (B5) | Czajka (C8) |
| Polster (A8) | Jung (B6) | Dorrington (T2) |
| Prestel (A8) | Keshtgar (B4) | Eisenstein (C5) |
| Puh (A6) | Kuntze (B1) | Fisher (C3) |
| Schmidt (A1) | Lüttmer (B7) | Grazzini (T2) |
| Schneider – Werth (A2) | Maier (B4) | <i>Kiefer (C8)</i> |
| Sdeo (A7) | Manev (B4) | Lemburg (C4) |
| Selz (A1) | Matsunobu (B3) | Löffel (C8) |
| Tempest (A6) | Oertel (B8) | Mayer (C4) |
| Teubler (A8) | Ruckstuhl (B6) | Modali (Z2) |
| Tinto (Z2) | Zarboo (B3) | Rupp (C8) |
| | | Satheesh (C2) |
| | | Schulz (C5) |
| | | Späth (C8) |
| | | Walz (C2) |

Venue

The W2W Annual Meeting will take place in the **Hotel Melchior** in Würzburg (Am Galgenberg 49, 97074 Würzburg; <https://hotel-melchiorpark.de>). The hotel is located about 3km southeast of the Würzburg central train station.

You can reach it **walking** or with the **bus #214, #114, #14, #28, or #29**. The bus stop is called “Albert-Hoffa-Straße” and the hotel is located in front of the bus stop.

If you come **by car** to the meeting, there is a customer parking lot at the hotel.



Hotel rooms are reserved and paid centrally by W2W for all participants.