



MESSy Symposium  
Deutsches Zentrum für Luft- und Raumfahrt  
Building 124, Rooms 211 & 212  
24 -26 June 2025



**Deutsches Zentrum  
für Luft- und Raumfahrt**  
German Aerospace Center

## PROGRAMME

V3/20.05.2025

### Tuesday, 24 June 2025

- 13:00 - 14:00    **Registration**
- 14:00 - 15:30    **Session 1** (chair: Bastian Kern)  
Patrick Jöckel, DLR, Welcome, current status, and future perspectives of MESSy  
Astrid Kerkweg, FZJ, Coupling MESSy via ComIn to ICON: a status report  
Mariano Mertens, DLR, Effects of Ambient Air Pollution on human health and vegetation  
in a changing climate
- 15:30 - 16:15    Coffee
- 16:15 - 17:45    **Poster Session 1**

### Wednesday, 25 June 2025

- 09:00 - 10:30    **Session 2** (chair: Astrid Kerkweg)  
Markus Kunze, IAP, Evaluation of solar impacts with UA-ICON  
Dario Sperber, DLR, CHIPS with DIPS - A tasty submodel for more ice supersaturation  
Bastian Kern, DLR, Lagrangian Trajectories and Atmospheric Dispersion Modelling in ICON  
Holger Tost, JGU, Analysis of the convective contribution to a sampled air mass
- 10:30 - 11:00    Coffee + group picture
- 11:00 - 12:30    **Session 3** (chair: Adrienne Jeske)  
Robert Eerenstein, FZJ, Water vapor Variability in Climate Simulations due to the Integration of  
Lagrangian Modelling  
Robert Reisch, FZJ, Modeling Climate Impacts of a Future Hydrogen Economy  
Hoang Duong Do, FZJ, Modelling aerosol chamber experiments with kinetic gas-to-particle partitioning  
by MESSy DWARF  
Samuel Ruhl, MPIC, Atmospheric DMS chemistry and the availability of MSA for a potential  
NPF mechanism: A global model study
- 12:30 - 13:30    Lunch



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- 13:30 - 15:00 **Tutorial Session**  
Patrick Jöckel, DLR, Introduction to cmake, upcoming changes and FAQ
- 15:00 - 15:45 Coffee
- 15:45 – 17:15 **Session 4** (chair: Patrick Peter)  
Kerstin Hartung, DLR, Towards dynamic adaptive mesh refinement in MESSy  
Anna Martin, MPIC, H<sub>2</sub> and CH<sub>4</sub> soil sinks: Combination of JSBACH and BIODIP  
Susanne Scholz, FZJ, Unraveling the SOA formation from internal combustion engines:  
Sensitivity to IVOC emissions, chemistry & removal processes  
Xurong Wang, FZJ, Quantify driving factors for long-term trend of aerosol acidity
- 17:15 - 17:45 **Discussion**

#### Thursday, 26 June 2025

- 09:00 - 10:30 **Poster Session 2**
- 10:30 - 11:00 Coffee
- 11:00 - 12:30 **Session 5** (chair: Timo Kirfel)  
Matthias Kohl, MPIC, Setup for atmospheric aerosols from the surface to the stratosphere (WA) –  
Implementation, Evaluation and Global Budgets  
Adrienne Jeske, JGU, Mainz convective transport and scavenging: A new parameterization  
Simon Rosanka, FZJ, The impact of dissolved iron on atmospheric multiphase oxidation  
Patrick Jöckel, DLR, Final remarks
- 12:30 – 13:00 Goodbye



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### **Poster Session 1**

1. Mala Pokharel, FZJ, Revisiting the Atmospheric Budget of Carbonyl Sulfide with EMAC
2. Timo Kirfel, FZJ, Preliminary: First glimpses of MESSy running on JUPITER and current state of OpenACC development
3. Olaf Stein, FZJ, Ozone Forcing database for CMIP7 – The EMAC contribution
4. Anna-Leah Nickl, LMU, Numerical simulation of the impact of atmospheric OH variability on the global mean  $\delta^{13}\text{C}(\text{CH}_4)$  trend.
5. Christoph Bruehl, MPIC, Radiative forcing and stratospheric ozone changes due to major forest fires and recent volcanic eruptions including Hunga Tonga
6. Anna Götz, DLR, New diagnostic submodel STAG (Simple Tagging)

### **Poster Session 2**

7. Xiaodan Ma, FZJ, Causes of growing middle-to-upper tropospheric ozone over the northwest Pacific region
8. Aditya Nalam, Charles University Prague, Simulating atmospheric chemical composition changes induced by geoengineering, using EMAC
9. Felix Wieser, FZJ, Phase partitioning and aqueous oxidation of organics in EMAC
10. Patrick Peter, DLR, Enhancing Contrail Modelling for Aviation Climate Effect Assessment through Lagrangian Simulations in EMAC
11. Chun Hang Chau, JGU, Clear air turbulence induced tracer mixing in the UTLS by EMAC and preliminary results for TPEx campaign using MECON
12. Alexandros Milousis, FZJ, Effects of photochemical ageing on the oxidation state and hygroscopicity of organic aerosols: Implications for cloud droplet formation