

# ACCORD

A Consortium for CONvection-scale modelling  
Research and Development

## Newcomers Session

All Staff Workshop 2025

# Current works

Data analyst at **SLLC “Latvian Environment, Geology and Meteorology Centre”**, since August 2021



LATVIJAS VIDES, ĢEOLOĢIJAS  
UN METEOROLOĢIJAS CENTRS

Topics of interest:

- Kalman Filter
- Machine learning
- Runway Visual Range (RVR)

# Mode-S EHS

**Meteorologist developer at**



since July 2024

- Physics BSc
- Ongoing applied-mathematics MSc

## **Main interests:**

- Data Assimilation
- Mode-S EHS
- Problem solving in general

# NWP National office of meteorology Algeria



## State Engineer in Meteorology, ONM Algeria

- ◆ **Background:** Currently pursuing studies in meteorology.
- ◆ **Research Focus:** Development of atmospheric diagnostics in models AROME and ALADIN, including:

- Turbulence and turbulent kinetic energy (TKE)
- Wind shear and its impact on aviation safety

### ◆ Main Interests:

- Exploring physics and atmospheric dynamics through continuous learning
- Analytical problem-solving across various challenges
- Project planning and management for effective execution

### ◆ Internal Projects:

- Development of wildfire risk indexes
- Improvement of air quality forecasting

Meteorological Engineer at Turkish State Meteorological Service  
Unit of NWP

Main Responsibilities

- ALARO & AROME NWP Model Improvements & Optimization
- SURFEX Applications

# NWP workflow infrastructure

**Research Software Engineer @ Météo-France** (Toulouse, France)  
since October 2023



Maintenance, support and development of Météo-France's workflow infrastructure and configuration manager (vortex and OLIVE)

## *Previously*

- Senior RSE @ Imperial College London (London, UK)
- Junior RSE @ University of Oxford (Oxford, UK)
- Performance engineer @ HLRS Stuttgart (Stuttgart, Germany)
- PhD in Physics @ ENS Lyon (Lyon, France) (2018)

## *Interested in*

- Workflow managers (DEODE Workflow, Cylc, autosubmit, ecflow..)
- Better software engineering practices
- Programming
- Cycling and wild swimming

# your topic

Background in Earth Science, Remote Sensing and Geoinformatics

Current responsibility at HungaroMet:

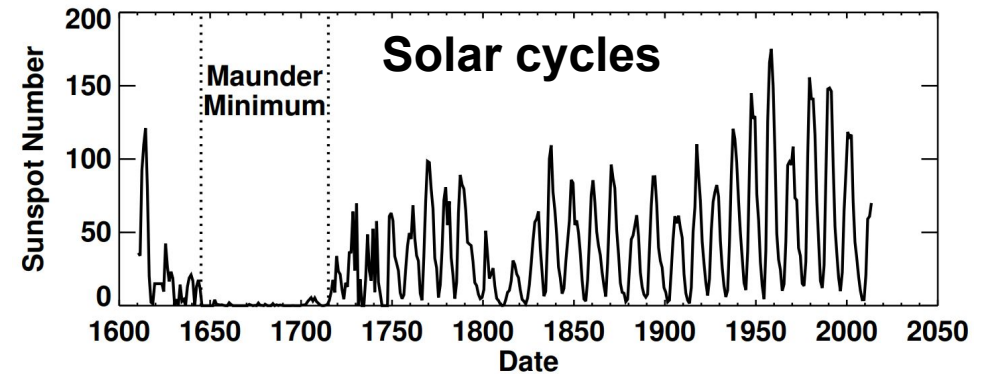
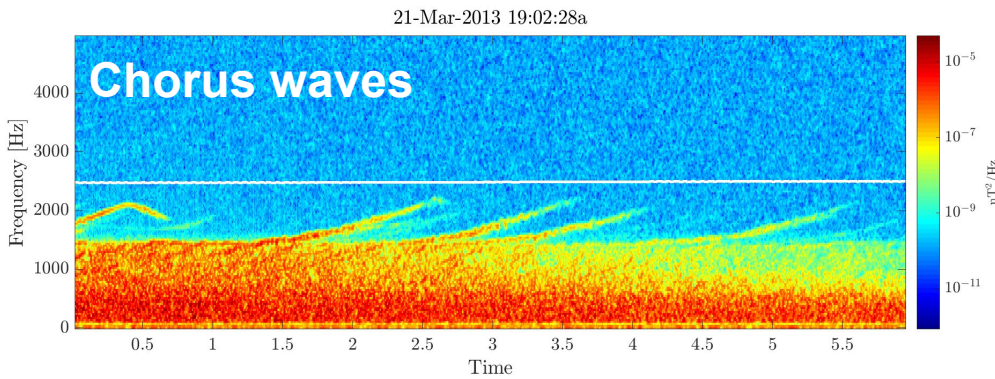
- ❑ Devising new methodology for cloud verification
- ❑ Subjective verification

# Radar DA in AROME/HU



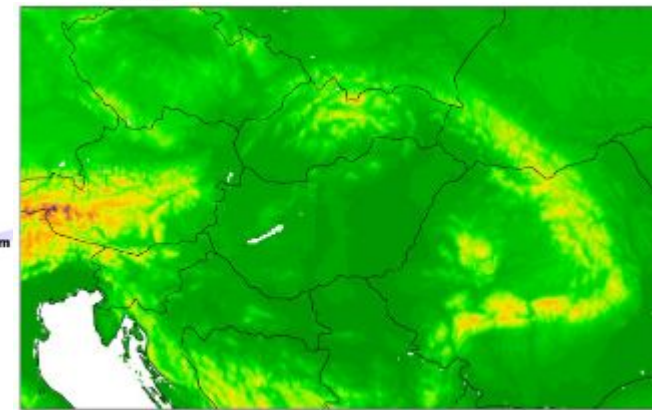
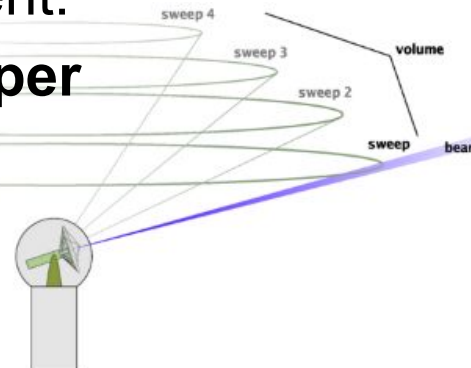
About me:

- Earth scientist BSc - Geophysics specialization
- **Geophysicist MSc**
  - Space science and remote sensing specialization



## ➤ HungaroMet

- Unit of Forecast Development:  
**Meteorological developer**
- **Assimilation of radar data**  
→ AROME



AROME/HU and AROME-EPS domain

# Solar irradiance nowcasting

**Meteorologist developer at**



since July 2024, member of the hungarian AROME  
model developer team.



## **Main responsibilities:**

- × developing irradiance nowcasting system  
for solar energy sector using machine learning algorithms
- × IT supervision of operative models

# your topic

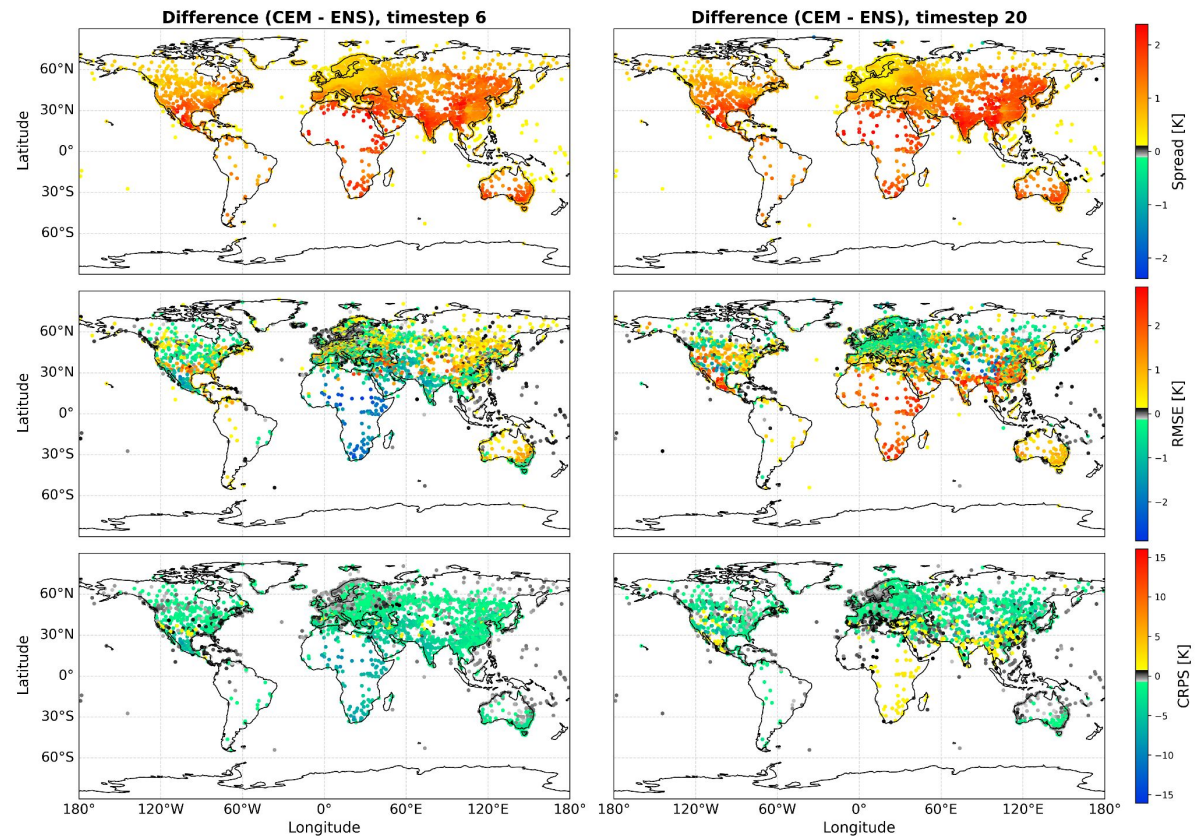
Data analyst at Latvian environment geology and meteorology centre

- Python developer
- Verification
- Visualisation



# Ensemble forecasting with ML models

- Part of the Polish ALADIN team since January 2024
- Exploring the use of AI in forecasting, specifically ensemble forecasting (method verification example shown here)
- Additional interests: space weather, aerosol/cloud trajectories



# Radiation model development and evaluation



**Model developer** at Météo-France (CNRM research institute) since February 2024

- Implementation and evaluation of **ecRad radiation scheme** and options in Météo-France models: AROME, ARPEGE, Meso-NH research model
- ecRad development (with ECMWF, DWD, MeteoSwiss etc.)
- Work **with ACCORD** colleagues, e.g.:
  - coarse radiation grid for AROME (with DMI)
  - ecRad in Harmonie-AROME (with Met Éireann, FMI, IMO)
  - compare ecRad to ACRANEB2 radiation in ALARO (with CHMI)

**Research projects** on radiation processes:

- PhD project on evaluating tropical cloud-radiation interaction with EarthCARE data
- 3D radiation effects of clouds and orography in mountains (with TEAMx programme, Geosphere Austria)



# My topic



since January 15th


Unit of Forecast Development

AROME EPS

Stochastically Perturbed Parameters method

PhD student

# Model verification

At  since 15th of January (2025)

## Studies:

- Earth Science (BSc.), Meteorology specialization
  - Thesis: Evaluation of AROME-EPS ensemble forecasts related to global radiation (at HungaroMet)
- Agricultural Environmental Management Engineering (MSc.)
  - Thesis: Impact of construction technology on air quality

## Current fields/tasks as a meteorologist developer:

- subjective verification
- objective verification
  - using SAL method
  - visualizing and calculating with HungaroMet's verification system (OVISYS)

# Model evaluation and physical parameterization development



**Senior researcher (50%)** at the Royal Meteorological Institute of Belgium.

- **Evaluation and development** of the ALARO-Surfex configuration for climate applications (talk on Thursday).



**Assistant professor (50%)** at the Climate and Earth Lab of Ghent University - focus on Europe and the Global South.

- **Supervision** of 5 PhD students, 10 master thesis students and 4 bachelor thesis students, many of whom focusing on ALARO-Surfex related work.
- **Teaching** (Land-Atmosphere Interaction, Cloud Physics, Regional Climate Modelling).
- Acquiring **research funding** for projects that benefit ALARO-Surfex/Accord community.

