

## **Program for W2W VIS/Met.3D Workshop 2021**

### **Date:**

Tuesday 23 March 2021 (1 day)

### **Objective of workshop:**

Teach foundations of interactive 3D visual analysis with Met.3D. Participants will learn basics of Met.3D usage, as well as “advanced” visualization topics, so that after the workshop they will be able to conduct simple visual analysis of NWP case studies. In particular, they will learn (a) how to start Met.3D on the W2W remote visualization server; (b) which data formats are supported and how data can be loaded; (c) basic usage paradigms (actors, scenes, views) to create interactive 2D maps, vertical sections, and 3D elements; (d) how to compute and use trajectories and streamlines; (e) best practices for 3D visualization methods including isosurfaces and direct volume rendering; (f) basics of ensemble visualization; (g) which experimental and advanced techniques can be made available (e.g. spaghetti alternatives, jet core lines, fronts). During the workshop, participants will work with example data sets (e.g. ECMWF ensemble forecast, ERA-5 data) and will learn how to transfer the learned content to their own data. We will give an overview of current Met.3D resources (e.g. documentation) as well as of current W2W collaborations that already use Met.3D. Some time will be available to discuss specific ideas and requirements of participants.

### **Lecturers:**

Marc Rautenhaus, Andreas Beckert, Kamesh Modali

### **Location of workshop:**

Online via Zoom and using the W2W remote visualization server.

### **Number of participants:**

14 (there are 8 visualization nodes on the server, but we require one for ourselves; 7 are available for teams of two). Open to all W2W members, but ECS are given priority.

### **Technical realization:**

The W2W visualization server will be reserved for the day of the workshop. Two participants will share a visualization node via TurboVNC and screen sharing (so that both can interact with the software). During the hands-on-sessions, they will be put in Zoom breakout groups so that we can go from group to group and help.

### **Planned schedule:**

09:00-09:30 Introduction and basics of interactive 3D visual analysis (3D IVA)

09:30-10:30 Hands on: Basic Met.3D usage on the W2W Server, Part 1

10:30-11:00 Coffee break

11:00-12:00 Hands on: Basic Met.3D usage on the W2W Server, Part 2

12:00-13:00 Lunch break

13:00-13:30 Overview of current W2W collaborative work using Met.3D

13:30-15:00 Hands on: Advanced Met.3D methods, Part 1

15:00-15:30 Coffee break

15:30-16:30 Hands on: Advanced Met.3D methods, Part 2, and discussion of ideas and requirements

16:30-open end further discussion