



## Waves to Weather – CCA Visualization workshop, April 6-8, 2016, TU München

### **Program**

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#### **Wednesday, April 6**

13:00 Shuttle from DLR Oberpfaffenhofen

14:00 Welcome and Overview (Marc)

14:20 Talk: Overview of Visualization (Filip)

*Topics include: What is visualization? Scientific visualization vs. information visualization vs. visual analytics; which sub-fields are of interest for meteorological research in W2W?*

14:50 Talk: Basics of Scalar Field Visualization (Johannes Kehrer)

*Topics include: Contouring algorithms in 2D and 3D; 3D volume rendering; transfer functions (this talk provides the theory for the hands-on sessions with Met.3D, Vapor, Paraview, Metview, ...)*

16:15 Coffee Break

16:45 Hands-On Session Scalar Field Visualization (all)

*In parallel (different room for each tool) we will use one of Met.3D, Vapor, Paraview, Metview to look at data that people have brought with visualization techniques that have been introduced in the previous talk.*

18:15 End of Day 1

19:30 Dinner at “Alter Simpl”, Türkenstrasse 57, München (U-Bahn “Universität”)

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#### **Thursday, April 7**

9:00 Talk: Basics of Flow Visualization (Filip)

*Topics include: t.b.d.*

10:30 Coffee Break

11:00 Hands-On Session Flow Visualization (all)

*The same as on Wednesday but for flow visualization techniques. Please also visit the offices for research demos.*

12:30 – 14:00 Lunch

14:00 Talk: Interactive Visual Analysis (Johannes Kehrer)

*Topics include: Introduction to IVA techniques (brushing and linking, parallel coordinates) with examples from atmospheric science.*

14:45 Talk: Color, Perception (Johannes/Marc)

*Topics include: Short introduction to color and perception issues. For example, raise awareness of why the rainbow color map is “bad”. Johannes: Color theory, colorbrewer2.org. Marc: HCL color space, hclwizard.org, implementation in Met.3D.*

15:15 Hands-On Session Cont'd (all)

*Color and perception, or just continue scalar & flow visualization, look at a different tool, ....*

In between: ca. 16:15 Coffee Break

17:30 Discussion on Techniques and Tools and Connection to Research in W2W (all)

*Discussion on which tools are suited for which tasks based on the data that people have brought, discussion on how this connects to our W2W visualization projects, ...*

18:30 End of Day 2

19:30 Dinner at “La Vecchia Masseria”, Mathildenstrasse 3, München (U-Bahn “Sendlinger Tor”)

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## Friday, April 8

9:30 Overview of Visualization Research in W2W

*Short presentations of research work that has already started in the W2W visualization projects.*

10:30 Discussion Cont'd

*Where will we be going in W2W? How useful are the presented techniques? Identification of ways to work together in W2W, discuss what is “interesting” for visualization projects and what is “interesting” for meteorological projects; ...*

11:00 Coffee Break

11:30 (Open for Discussion / Hands-On Cont'd / ...)

13:00 End of Workshop

