**Monday, 12. October**
Introduction: (Rupert Klein, Nikki Vercauteren)
10:00-12:30 Challenges in Weather and Climate research
   - Complex feedbacks
   - Processes on multiple scales
12:30-13:30 LUNCH BREAK
13:30-15:00 State of the art modelling tools and techniques
15:30-16:00 Speed networking
16:30-18:00 Speed networking (continued)

**Tuesday, 13. October**
Mathematical basics: (Rupert Klein, Sebastian Reich)
09:00-11:00 Scale-dependent processes in atmospheric flows (*Klein*)
11:30-12:30 Advanced numerical methods for atmospheric flow simulation (part I - *Klein*)
12:30-13:30 LUNCH BREAK
13:30-15:00 Advanced numerical methods for atmospheric flow simulation (part II – *Reich*)
15:30-18:00 Uncertainties and Data Assimilation (*Reich*)

**Wednesday, 14. October**
Applications I:
9:00-10:30 Energy-Vorticity Theory of atmospheric fluid dynamics (*Peter Nevir*)
10:45-11:30 Atmospheric vortex dynamics based on conservation laws (*Annette Mueller*)
11:45-12:30 On the identification of a vortex and vortex models (*Lisa Schielicke*)
12:30-13:30 LUNCH BREAK
13:30-14:30 walk & watch the weather around Dahnsdorf
14:30-18:00 Stochastic precipitation modelling and computer exercise (*Henning Rust*)

**Thursday, 15. October**
Applications II:
09:00-10:30 Boundary layer modelling and large-eddy simulation (*Vercauteren*)
11:00-12:30 Tropical storms and hurricanes (*Klein*)
12:30-13:30 LUNCH BREAK

Hands-on:
13:30-18:00 Extreme events: CCLM sensitivity study on hurricane evolution. Case study: Katrina (2005), using the WEKUW modelling environment (*Ingo Kirchner*)

**Friday, 16. October**
09:00-12:30 Extreme events: CCLM sensitivity study on hurricane evolution. (continued)
12:30-13:30 LUNCH and departure