Ensemble weather prediction systems are widely used today providing the means for a better representation of uncertainties in both the initial conditions and the forecast models.

The challenges are to develop further a wider range of probabilistic forecast products, and to support customers in using uncertainty information to manage weather-related risks effectively. Special emphasis will be given to forecasts of high-impact weather events.
The programme: themes & topics

**The atmospheric system and its interactions**

The ASI session programme is intended for papers addressing our understanding, observing and modelling of atmospheric processes and the water cycle, including feedback mechanisms and integrative studies.

The ASI session papers thus mostly describe scientific activities upstream of those addressed in the NWP and ECAM programmes.

The sessions also provide plenty of hooks for related sciences and applications: hydrology, agrometeorology, air quality, oceanography, etc.

**Numerical weather prediction**

The emphasis of the NWP programme will be on development and operational use of numerical models:
- Studies on efficient and robust numerical schemes for super-computers, modelling of processes relevant to weather forecasting, data assimilation algorithms and the use of observations, probabilistic techniques,
- Operational interpretation and use of NWP output, including automatic interpretation algorithms and subjective interpretation by forecasters.

NWP activities include both research and operational aspects. The operational aspects involve the forecaster, and increasingly specific users dedicated to one application. Following the theme of the EMS&ECAM 2011, particular focus will be on ensemble techniques and probabilistic use of NWP.

NWP topics rely on the availability of observations, understanding of atmospheric processes and modelling activities addressed in other parts of the programme, in particular ASI sessions.

**Climate**

The CL session programme focusses on the broad range of climatological issues concerning society and ecosystems:
- *climate and climate change as resource and chance*
- *climate and climate change as risk and danger.*

The chief task of climatologists still remains to scrutinise the climate from the past and into the future, however demands are expanding to questions on user needs, climate management and climate policies.

Therefore the CL session programme will cover all appropriate methods and tools to meet the requirements of 21st century’s climate challenges.

**Communication and education**

The ECAM-sessions will cover the different perspectives of forecasters, developers and users. Probabilistic forecasts require both new products and new ways to communicate probabilistic information to the public and customers, customer requirements will be discussed under all topics.

The development of high resolution guidance will be discussed with respect to the difficulty forecasters face in translating this abundant information into forecast products.

Customer requirements for extreme weather forecasts in areas such as aviation, energy, transportation and agriculture will be discussed.

**ECAM: applied meteorology**

The ECAM-sessions will cover the different perspectives of forecasters, developers and users. Probabilistic forecasts require both new products and new ways to communicate probabilistic information to the public and customers, customer requirements will be discussed under all topics.

The development of high resolution guidance will be discussed with respect to the difficulty forecasters face in translating this abundant information into forecast products.

Customer requirements for extreme weather forecasts in areas such as aviation, energy, transportation and agriculture will be discussed.

**Timeline**

- February 2011: Call for papers
- 25 March 2011: Deadline submission of abstracts with award/waiver applications
- 21 April 2011: Deadline submission of abstracts
- 27 June 2011: Letter of schedule
- 15 August 2011: Pre-registration closes

**Contact**

Martina Junge: e-mail: ems-sec(at)met.fu-berlin.de

If you would like to propose a new topic for the session programme please contact Martina Junge.

Information on exhibition opportunities will become available in early 2011.

meetings.copernicus.org/ems2011