

7 COSMO Meetings and Events

This section summarizes the main meetings, workshops and seminars as well as management decisions from the previous year. Other COSMO activities such as guest scientists and internal visits are also considered. Finally, an overview of the forthcoming activities in the present COSMO working period is given.

7.1 Meetings in 2004-2005

(1) *LM User Seminar*

This seminar on scientific applications of the LM is organized by Jürgen Steppeler and is always held at DWD in Langen. Two seminars have been held since the last COSMO Newsletter, from 8-10 March 2004 and from 7-9 March 2005. The User Seminar is dedicated to research activities with the LM at universities and research institutes and covers various scientific topics. Central issues usually are data assimilation, dynamics and numerics, physical processes, high-resolution experiments and LM applications. In the 2005 Seminar, several presentations of climate applications with the LM were shown. The 2004 User Seminar included also tutorials on the LM Package and on numerical methods. Proceedings of the seminars have not been published.

(2) *WG6 Meeting (Zürich, 22 April 2004)*

Some members of Working Group 6 together with staff from the Swiss Centre for Scientific Computing (CSCS) in Manno met to discuss various issues of *Reference Version and Implementation*. The status of the WPs was presented by the WG coordinator. Most WPs are on a good way, but there are problems with the official COSMO web-site in Athens. The current state of LM regarding *Code optimization and portability* was reviewed. LM now has a satisfying performance on the vector processors. Some further investigations are necessary for scalar architectures. A new benchmark version `LM_RAPS_3.0` is planned for summer 2004. Another point of discussion was the program for producing the external parameters. There is interest from the COSMO partners to access this program, developed at DWD. After implementing some modifications, DWD will provide this program as *Software Tool for Exchange*.

(3) *WG4-WG5 Joint Meeting (Geneve, 4-5 May 2004)*

The members of Working Group 4 for Interpretation and Applications and of Working Group 5 for Verification and Case Studies met at MeteoSwiss in Geneva (Switzerland) for a joint internal COSMO workshop.

(4) *Meeting of the Working Group Coordinators (Geneve, 6-7 May 2004)*

The Working Group Coordinators (WGCs, i.e. C. Schraff, J. Steppeler, M. Arpagaus, P. Eckert, F. Schubiger and U. Schättler), the Scientific Project Manager (SPM, T. Paccagnella) and the Chairman of the Steering Committee (D. Frühwald) met at MeteoSwiss in Geneve. Günther Doms (DWD) and Mathias Rotach (MeteoSwiss) joined this meeting.

The status of the different activities have been presented by the WP coordinators. As usual ongoing activities and critical aspects were discussed in details. Some initiatives and internal meetings have been planned. A report about the LMK project has been presented by Günther

Doms. LMK is at the moment the strongest driving force toward the further development of LM for applications at very high horizontal resolution. The LMK operational configuration will be, in the present planning, based on a horizontal resolution less than 3 km, 50 model layers, a rapid updating assimilation cycle to run LM every 3 hours for a range of 18 hours. A test suite for the 2.8 km version of the LM (LMK) has been installed at DWD. The model domain has 421×462 grid points with 50 vertical levels covering Germany and the Alps. The integrations start from interpolated initial conditions from LM/DWD using the LM2LM. Two integrations per day (00 and 12 UTC) are performed.

Dieter Frühwald reported about the recent actions and activities from the Steering Committee. An important initiative was the proposal to extend to other European countries, out of COSMO, the possibility to collect non GTS data for verification. The proposal, brought to the attention of Jean Quiby, chairman of SRNWP, will be presented and discussed during the SRNWP workshop on Verification in De Bilt in June 2004.

The major outcomes of the meeting have been reported in the minute which is available on the web-site member area.

(5) Meeting of the Working Group Coordinators (Bologna, 9-10 September 2004)

The work package coordinators and the Scientific Project Manager met a second time shortly before the General Meeting in Bologna.

Advancements of the activities were examined during the presentations of the WP coordinators. Part of the workshop was devoted to a general discussion about the COSMO internal technical organization. The strategy to make a planning of the activities better focussed on the basis of the **Goals** and **Perspectives** and has been also deeply discussed. A strong cooperation between the WP Coordinators group, the SPM and the STC is necessary to foster the accomplishment of the commitments related to top priorities in the COSMO scientific plan.

The last part of the meeting was devoted to the final tuning of the general meeting organization. As usual, the minutes of this meeting are available in the member area of the web site.

(6) COSMO WG2 Meeting on Numerical Methods (Milano, 21 September 2004)

Members of the COSMO numerics group (WG2) met one day before the General Meeting on 21 September 2004 in Milano. The participants discussed the current state of dynamics and numerics in European NWP models. The discussion then concentrated on the two major numerical developments for LM, the LM_Z and the LMK.

(7) 6th COSMO General Meeting

The 6th COSMO General Meeting was held in Milano hosted by UGM on 22 -24 September 2004. Over 60 participants attended the meeting (see Fig. 1).

The welcome address was given by the chief of UGM, Gen. Roberto Sorani, followed by the opening of the meeting by Dieter Frühwald who dedicated most of his talk to remember our colleague Günther Doms suddenly deceased in June 2004. The scientific value of Günther has been reminded going through his work of the last 25 years together with his rare human qualities experienced by all the colleagues working with him. Günther was the leader of LM and also of the COSMO scientific cooperation. All the DWD and COSMO colleagues will miss his scientific leadership and his rare human charisma.

After the organizational aspects presented by Massimo Ferri, D. Frühwald made the reporting of the Steering Committee activity and Tiziana Paccagnella made the SPM report about the scientific activities of the past COSMO year referring also about the WP Coordinators meetings.

An important new contribution to the meeting was the presentation by Francois Bouttier from MeteoFrance about Progress and Plans of the AROME project. This very interesting and stimulating presentation represents a first formal step toward the start of future cooperation between COSMO and the other European consortia on Limited Area modelling.

The presentation of F. Bouttier was followed by the presentation of M. Baldauf about the status of LMK project. Even if LMK is a DWD project, the high impact of this project on the future development of LM is obvious as regards its foreseen future implementations at higher resolution (cloud resolving scales).

With regard to COSMO activities, the meeting was divided into the two usual sessions: the session dedicated to the reporting and discussion about past activities and session devoted to the discussion and planning of the future work packages.

The status of the different work packages and related developments have been presented for each of the six working groups. The WP Coordinators made the introductory presentations followed by some specific talks over selected scientific contributions. Each working group included a poster session (a total of about 20 posters) to allow each scientist to present relevant activities carried on during the year.

The second part of the meeting was dedicated to the planning of future COSMO activities. After the introductory presentations about the general guidelines and goals by D. Frühwald and T. Paccagnella, the basis for the discussions have been illustrated by the coordinators before starting the separate meetings of the six working groups where detailed work plans have been set-up.

The general COSMO Goals 2005 to be considered during the activity planning are:

- Improvement of LM system at the current resolution.
- Doing high resolution forecast at the meso- γ scale.
- Enhance use of remote-sensing data in data assimilation.
- Development of ensemble systems based on LM.
- Improve internal exchange and communications.
- Improve exchange with other consortia.

In parallel with the working group session, the STC members met for the 12th STC meeting.

The last part of the meeting, the plenary session, started with the presentation of the workshop outcomes and planned activities have been described and discussed. The activity lists are available on the COSMO web site member area.

International and national projects related to COSMO have been also illustrated during the last part of the meeting.

The new structure of the future general meeting has also been discussed. The SPM has been charged to set up a proposal to be discussed and approved at the next December STC meeting.



Figure 1: Participants at the 6th COSMO General Meeting 22-46 September 2004, held in Milano, Italy.

The meeting was closed by Dieter Frühwald who showed appreciation to UGM for the successful organization of the meeting.

(8) 12th Meeting of the COSMO Steering Committee

Dieter Frühwald opened the meeting on welcoming all the participants to the meeting. Prof Sorbjan represented the General Director Prof Zielinski (IMGW).

Mathias Rotach on behalf of the directorate of MeteoSwiss and the other members of the STC congratulated HNMS for the successful meteorological support to the Olympic Games in Athens. Patrizio Emiliani from UGM was nominated as the new WG5 coordinator (Verification and Case Studies). The STC approved the proposal that a representative from those Partners, who do not hold a WGC position, should take part to the WGC meetings.

A new structure of the COSMO General Meeting will be designed. The STC discussed introducing of a *mentors program* for young scientists in countries participating in COSMO. DWD, MCH, and perhaps HNMS will consider hosting short visits, offering working places, mentors at their institutes, and financial support (if required) for such a *visiting scientist program*. The program will be coordinated by the Working Group Coordinators.

Mathias Rotach invited the COSMO scientists for the next COSMO General Meeting at the end of September 2005 to Switzerland.

(9) 13th Meeting of the COSMO Steering Committee

As usual for the December meeting, the activity plan proposed for the COSMO year 2004-2005 was discussed in detail. Activities have been approved and priorities confirmed. Several suggestions and comments have been formulated by the STC to be transmitted to the WG coordinators by the SPM.

The proposal for a new organization of the COSMO general meeting has been presented by the SPM; the proposal has been discussed and the new structure finalized. Further comments and remarks from the WP coordinators and from scientists will be collected before the final approval.

Mathias Rotach invited for the next General Meeting from 20-23 September 2005 to Switzerland, probably in Zürich.

Other items discussed, and all the outcomes, are available in the minute on the member area of the web site.

Since Dieter Frühwald and Georgios Sakellaridis will leave the STC in summer 2005, because of their retirement, an additional meeting of STC will be organized before July 2005 to introduce the new STC members.

(10) WG3-WG5 Joint Meeting

The members of Working Group 3 for Physical Aspects and of Working Group 5 for Verification and Case Studies met in combination with the LM User Seminar on 9 March 2005 in Langen, Germany.

(11) WG1-WG6 Joint Meeting

Also in connection with the LM User Seminar, WG1 and WG6 organized a joint workshop, where the different *Operational Applications* of some partners have been presented. Of special interest was the setup of a data assimilation suite without using a database system (as DWD uses it). Other points of discussion were the processing of satellite data and the external parameters necessary for LM. There are various products coming from satellites and also several software packages to process the satellite data. It would be a good thing if COSMO could nominate a *Satellite Specialist* who should get an overview over these topics. At DWD, the program for producing the external parameters has been modified and enhanced to process more global data sets. It was discussed whether a web interface could be used to access this program and the necessary data sets, so that the COSMO partners could produce their own external parameter sets, if wanted. At MeteoSwiss there is an interest to also test other global data sets, e.g. the ECOCLIMAP set. In the afternoon also the status of the work packages of WG 6 has been discussed.

7.2 Guest Scientists

During May 2004 Jürgen Steppeler from DWD again visited the research group of J. Klemp and B. Skamarock at NCAR in Boulder (USA). Various numerical aspects, especially higher-order spatial discretizations and implicit methods, have been investigated.

7.3 Internal Visits

Francesca di Giuseppe, Tiziana Paccagnella from ARPA-SIM and Blazej Krzeminski from IMGW visited the assimilation group at DWD (Christoph Schraff) to coordinate the activities on 1DVar assimilation of satellite data.

Heinz Bitzer from AGeoBW visited ARPA-SIM for one week to work with Davide Cesari on the implementation of a common LM_Z library.

Giovanni Bonafè from ARPA-SIM visited Matthias Raschendorfer (DWD) to start a cooperation about the boundary layer and the surface layer scheme.

Mathias Rotach and André Walser from MeteoSwiss visited ARPA-SIM for two days to start the planning of the MAP D-Phase project.

André Walser from MeteoSwiss visited ARPA-SIM for a week to discuss various issues of the COSMO-LEPS.

Theodore Andreadis and Euripides Avgoustoglou from HNMS visited MeteoSwiss for a week to have support for the management of the LM data assimilation system.

7.4 Upcoming COSMO Meetings

The following COSMO workshops and meetings are planned for 2005.

3-4 May 2005: 10th Meeting of the Working Group Coordinators

at DWD, Offenbach (D)

In this meeting, the progress of the WPs will be discussed with emphasis on problems and delays with respect to the original schedule of the activities. The agenda of the next COSMO General Meeting will be finalized. Minutes of this meeting will be posted on the member area.

June 2005: 14th Meeting of the Steering Committee

at DWD, Offenbach (D)

This will be an extra business meeting. Dieter Frühwald and Georgios Sakellaridis will introduce the new STC members who are going to represent Germany and Greece after their retirement.

September 2005: Meeting of the Working Group Coordinators

at ARPA-SIM, Bologna (I)

The exact date will be defined during the previous WGC meeting. During this meeting the different activities will be analyzed and discussed to have a clear picture of achievements and problems. The goals for the next COSMO year will be drafted as guidelines to be further discussed during the different WG workshops to be held the day before the general COSMO meeting. The last modifications to the agenda will be also defined.

20-23 September 2005: 7th COSMO General Meeting

at MeteoSwiss, Zürich (CH)

Progress Reports from the Working Groups; presentations of results from the work packages; discussions and set-up of a scientific work plan for the next period.

September 2005: 15th Meeting of the Steering Committee

at MeteoSwiss, Zürich (CH)

Regular business meeting in connection with the General Meeting.

6-8 March 2006: LM User Seminar
at DWD, Langen (CH)

7.5 Announcements

This section lists a number of meetings which are of specific interest for active participation. Of course, this list is by no means complete.

First SRNWP-PEPS Workshop

6 April 2005, Bologna (Italy).

Second SRNWP Workshop on Short-Range EPS

7-8 April 2005, Bologna (Italy).

4th WMO Symposium on Data Assimilation

18-22 April 2005, Prague (Czech Republic).

Conference on Regional Weather Predictability and Modelling

20-22 April 2005, Trieste (Italy).

General Assembly 2005 of the European Geosciences Union

24-29 April 2005, Vienna (Austria).

NEC Special Interest Group on Meteorological Applications

24 May 2005, Exeter (UK).

MAP Meeting 2005 and 28th International Conference on Alpine Meteorology

23-27 May 2005, Zadar (Croatia).

3rd SRNWP Workshop on Statistical and Dynamical Adaptation

1-3 June 2005, Vienna (Austria).

15th ALADIN workshop

6-10 June 2005, Bratislava, Slovakia.

ECMWF Workshop on Representation of sub-grid processes using stochastic-dynamic models

6-10 June 2005, Reading, UK.

15th AMS Conference on Atmospheric and Oceanic Fluid Dynamics

13-17 June 2005, Cambridge, MA (USA).

International Supercomputer Conference

21-24 June 2005, Heidelberg (Germany).

21st AMS Conference on Weather Analysis and Forecasting

17th AMS Conference on Numerical Weather Prediction

1-5 August 2005, Washington, D.C. (USA).

ECMWF Seminar - Global Earth-System Monitoring

5-9 September 2005, Reading, (UK).

WWRP Symposium on Nowcasting and Very Short Range Forecasting

5-9 September 2005, Toulouse (France).

Computing in Atmospheric Sciences Workshop

11-15 September 2005, Annecy (France).

7th ECAM Conference & 5th EMS Annual

12-16 September 2005, Utrecht (Netherlands).

2005 EUMETSAT Meteorological Satellite Conference

19-23 September 2005, Dubrovnik (Croatia).

27th EWGLAM and 12th SRNWP Meeting

3-6 October 2005, Slovenia.

12th AMS Conference on Mesoscale Processes

24-28 October 2005, Albuquerque, NM (USA).

32nd AMS Conference Radar Meteorology

24-29 October 2005, Albuquerque, NM (USA).

6th SRNWP Workshop on Nonhydrostatic Modelling

31 Oct - 2 Nov 2005, Bad Orb (Germany). Special topic: Convection resolving models

ECMWF/NWP-SAF Workshop on Bias estimation and correction in data assimilation

8-11 November 2005, Reading, (UK).

ECMWF 10th Workshop on Meteorological Operational Systems

14-18 November 2005, Reading, (UK).