

In Memoriam Günther Doms

1956-2004

The COSMO community was shocked in the week after the 20th of June when we heard of Günther Doms' sudden and unexpected decease one day after his 48th birthday. And even today, it seems to us quite unreal that he is no longer with us. We did not only loose an outstanding scientist in the field of meteorology, but an excellent colleague and dear friend.



Günther Doms started studying meteorology in 1975 at the University of Frankfurt. Here his outstanding talents in theoretical meteorology were discovered by Prof. Herbert. During the years 1980-84 he worked as a *wissenschaftliche Hilfskraft*, i.e. he assisted Prof. Herbert as an advanced student. In 1984 he finished his Diploma Thesis. From 1984-87 he was engaged in two projects as a junior scientist. He joined DWD in 1987. Since that time he worked in the Research Department in the field of numerical weather prediction.

Since the time of his Diploma Thesis his special subject was cloud modelling, in particular cloud microphysics and precipitation formation. But he also investigated problems in the planetary boundary layer. His first publication *Fluid- and microdynamics in numerical models for convective clouds* together with Prof. Herbert is mainly based on his Diploma Thesis. The chapters of this publication are covering a wide range of topics and many principles of nonhydrostatic modelling are addressed, such as basic equations, filtering of sound waves, shallow and deep convection, cloud microphysics, liquid water drag, turbulence in clouds including detrainment and entrainment. A lot of information can be found here

which has been used later for the development of LM by him.

Thanks to his excellent talents both in physics and numerics Günther Doms could use his know-how to contribute to the development of the *Europa-Modell* (EM) and *Deutschland-Modell* (DM). Based on his profound theoretical knowledge he clearly formulated later the equations of LM. In the course of time he became a nationally and internationally acknowledged expert in cloud microphysical parameterization. The cloud ice scheme developed by him was introduced into GME and LM in September 2003.

Günther Doms participated in all bilateral Swiss-German meetings in Bad Säckingen and in several EWGLAM/SRNWP workshops as a national or COSMO representative. *His presentations were a highlight both for their scientific content and for their didactical quality.* That was expressed by Jean Quiby in his e-mail to the representatives of the SRNWP community in Europe. Günther Doms was also an important contact person at LM User Seminars in Langen and SRNWP meetings in Bad Orb.

He was one of the fathers of LM and during the last years he became the *supportive pillar* of LM. Through his work, LM became nationally and internationally well-known and attractive. The Meteorological Services of Switzerland, Italy, Greece, Poland and Romania are now using the model operationally and are participating in the further development of LM in the framework of COSMO.

Günther Doms was the first Scientific Project manager of COSMO, a position he occupied from 2000 to 2003. Everybody who had questions concerning LM got answers from him because he had the best knowledge of LM both in physics and numerics. He also looked after the visiting scientists who wanted to work with LM or to learn from him. In addition, he was one of the editors of the COSMO Newsletter. He also took care of the technical aspects like the writing in LaTeX. Documentation was considered very important by him.

His last scientific position at DWD was the Scientific Project Manager of LMK (LM for very short-range forecasts) where he co-ordinated five project scientists together with their mentors. He did not hesitate to take over this task because he loved to work together with other colleagues. He proposed daily running test versions and invited the future internal users to have a look at the model results and to help in evaluating the LMK fields. The last mission he made was to Geneva in Switzerland at the beginning of May 2004 where he gave a presentation on LMK at the Work Package Coordinator meeting, proud of the results which had already been achieved.

The COSMO family is very thankful to him for his scientific work. We thank him for his knowledge and experience which he has shared with us, for his modesty and friendliness, and we thank him for the time which he has given to each of us. His advice, his judgement and his ideas for the further development of LM will be missed.

The COSMO community honoured Günther Doms at the 6th COSMO General Meeting in Milano 2004 which was held in his memory.

Günther Doms is survived by his wife Agneta and their two sons Fredrik and Henrik. Our sympathy is with them all.

Dieter Frühwald

1 Introduction

This is the fifth Newsletter of the Consortium for Small-Scale Modelling (COSMO). Up to now the Newsletter has been prepared once a year in February/March, but will be shifted to a date in autumn, after the COSMO General Meeting. Therefore, there will be two Newsletters this year.

The basic purpose of the Newsletter is threefold:

- to review the present state of the model system and its operational applications and to give information on recent changes;
- to present the principal events concerning COSMO during the last year and to summarize recent research and development work as well as results from the model verification and diagnostic evaluation;
- to provide the meteorological community and especially all external users of the model system with information on COSMO's activities and with new information on the model system and its current forecast quality.

The present Newsletter is organized as follows. Section 2 gives a general overview of the current organizational structure of the COSMO consortium. The present state of the model system, i.e. the LM-package, is summarized in Section 3, including a short description of the model and its data assimilation system, information on the preprocessor programs to provide initial and boundary conditions, and finally remarks on postprocessing utilities and hints on the available model documentation.

Operational and pre-operational applications of the LM-package at the COSMO meteorological centres are described in Section 4. Information about the recent changes to the model system as well as changes in the model set-up at the meteorological centres are outlined in Section 5. Section 6 gives you an overview of the six COSMO Working Groups and their recent research and development activities.

Section 7 provides short information on the main COSMO meetings and events during the last year. Other activities such as internal visits and guest scientist programs are also included. Finally, some forthcoming events planned for this year are announced.

Recent results from the verification of the operational models, both for surface parameters and for vertical profiles, are summarized in Section 8. This section also includes contributions related to the development of new methodologies for model verification as well as results from the verification of new model components.

Section 9 is devoted to reports on various research topics related to model development and application, including data assimilation, numerics, physics, interpretation, and technical aspects. Finally, all COSMO activities related to the LM-system within international and national projects of the member meteorological services are listed in Section 10. This list will be updated in the forthcoming issues.

The Appendices concern the use of the GRIB binary data format for the output and input analyses and forecast fields. These lists will also be updated, and we hope they will be helpful, especially for new users of the LM and its forecast products.

Information about COSMO and the LM can also be obtained from our web-site **www.cosmo-model.org** or the mirror site **cosmo-model.cscs.ch**. Due to the activities of the greek weather service during the Olympic Games 2004, the official COSMO web-site has temporarily been

unavailable and additional work was necessary to maintain the site in Manno, Switzerland. Many thanks to Theodore Andreadis from HNMS and Marco Consoli from CSCS for running, updating and supervising the web-sites.

The present organization of the Newsletter may change in future. Please contact the editors for any comments and suggestions as well as proposals for items to be included or excluded in the next issue. The editors recognize that typographical and other errors or inconsistencies may be present. We apologize for this, and your assistance in correcting them will be welcome.

We would also like to encourage all the scientists in the COSMO Working Groups to document their work, e.g. in form of a short progress summary or a longer report, to be included in the next Newsletter. Special thanks to all who provided contributions and graphical material for the present issue:

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