

**Learning and Teaching in a Network of Excellence:  
The "Next Generation Programme" in ACCENT**  
([www.accent-network.org](http://www.accent-network.org))

7<sup>th</sup> International Conference on School and Popular  
Meteorological and Oceanographic Education  
3-7 July 2006, Boulder, Colorado, USA

Abstract #113918 / Paper No. 10.7

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**Abstract**

ACCENT (2004-09) is the European Network of Excellence in Atmospheric Composition Change ([www.accent-network.org](http://www.accent-network.org)). Its Task "Training and Education" (T&E) aims at developing training material and tools for learning and teaching within the Network. Strategies and target groups for the dissemination of ACCENT results are outlined in the T&E Position Paper 2005. Based on contributions from early-career scientists during two Expert Meetings organised in ACCENT Year1, a "Next Generation Programme" has been developed. The broad avenues of this programme are outlined, and an implementation plan is presented.

**Introduction**

As the field of atmospheric composition change has developed into a global issue, challenges that learners and teachers face with the subject are huge. A more open system of learning and teaching is needed, which allows both students and teaching staff to acquire and experience new knowledge in a variety of learning environments. ACCENT ([www.accent-network.org](http://www.accent-network.org)), the

European Network of Excellence in Atmospheric Composition Change (2004-09) catches up with these sweeping developments. The strategies pursued by the Task "Training and Education" (T&E) in ACCENT are outlined in a Position Paper (Schuepbach, 2006).

### **The Task "Training and Education" (T&E) in ACCENT**

T&E seeks to disseminate ACCENT results and develops strategies and methods for learning and teaching within a Network of Excellence. The target groups were defined in the T&E Position Paper 2005 (Schuepbach, 2006) and include lower graduates (age 12-18) and early-career scientists (Master level up to 3 years after completion of a PhD). T&E also provides science teachers with suitable, multilingual teaching material on atmospheric composition change (e.g., Raptor Reporting Tool, Global Change Magazine for Schools). During two Expert Meetings in ACCENT Year1, early-career scientists, especially PhD research students and early-stage post docs indicated that they would like to broaden their experience. An effective way of achieving this might be during the variety of summer and winter training schools offered in Europe.

Examples are e.g., the Earth System Science Summer School (ES4), see [www.met.reading.ac.uk/courses/ES4/home.html](http://www.met.reading.ac.uk/courses/ES4/home.html), the International Research Schools offered by the Max Planck Institutes in Germany (e.g., [www.imprs-cs.de/](http://www.imprs-cs.de/)). Annual Meetings of professional organisations like that of the European Meteorological Society ([www.emetsoc.org/EMS6/](http://www.emetsoc.org/EMS6/)) also provide training opportunities for early-career scientists. Finally, international pre-conferences are offered such as the 2<sup>nd</sup> International Young Scientists' Global Change Conference in association with the ESSP Meeting in Beijing (November 2006), see <http://www.start.org/YSC/YSC2006.html>. Educational activities for young scientists are also carried out during the international conferences (e.g., at IGAC). ACCENT supports the participation of early-career scientists in international

conferences. In 2005, three T&E Fellowships were awarded to early-career scientists from emerging countries to participate in ERCA 2006, the European Research Course on Atmospheres in Grenoble, France.

### **The “Next Generation Programme” in T&E of ACCENT**

The outcome of the two Expert Meetings organised by T&E in ACCENT Year1 also showed that early-career scientists would appreciate training in skills not normally taught during degree courses. Among these skills are effective communication and presentation skills, including communication to non-scientists and the media, networking and leadership, project management, approaches to interdisciplinary collaboration, and the use and application of New Information and Communication Technologies (NICT). These skills and techniques are believed to increase the chances on the global labour market, and are also a requirement from European employers who report on a lack of these skills with new science graduates (Schuepbach, 2002). Consequently, a programme on soft and essential skills is developed in T&E, supported by interactive didactical tools and a cyber infrastructure to form the “Next Generation Programme”. An Educational Platform for Postgraduates set up in ACCENT hosts an Educational Resource Data Bank, an eForum for exchange among the early-career scientists before and after training workshops, an eLearning Laboratory for the development of eLearning courses, and a Dynamic Compendium on Best Practice. This Compendium compiles experiences of the Task T&E in ACCENT on how to use a Network of Excellence for learning and teaching. It is a resource not only for early-career but also for senior scientists and contains e.g., material on training workshops on interdisciplinary collaboration offered by T&E, or on the organisation of a Café Scientifique, etc.

### **Implementation of the “Next Generation Programme”**

Over the next three years, T&E in ACCENT organises three

major training workshops for early-career scientists, and a larger number of minor events. The major workshops are scheduled in October 2006 (Thessaloniki, Greece), in June 2007 (Riga, Latvia), and in July 2008 (Interlaken, Switzerland). Training courses for these events are developed within the avenues of the T&E strategies outlined in the Position Paper 2005 (Schuepbach, 2006). The objectives of the first major training event (Greece, 2006) on "Air Quality in the Mediterranean for the Next Generation" (see [www.accent-network.org/training-and-education](http://www.accent-network.org/training-and-education)) are soft and essential skills. The focus will be on communication (non-verbal communication, communication with non-scientists and the media), approaches for interdisciplinary collaboration, and internet-based learning. The second major training event (Latvia, 2007) is on "Regional Climate Change for the Next Generation" and will concentrate on scientific (both disciplinary and interdisciplinary) training. The final major training event (Switzerland, 2008) will offer a two-week synthesis of ACCENT results (disciplinary and interdisciplinary science training), and training in soft and essential skills.

### **References**

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### **Acknowledgements**

I wish to thank Asbjørn Aarflot, Michael J. Kobernus, Nikos Moussiopoulos and Arnolds Übelis for acting as Members of the Scientific Steering Committee (SSC) of the Task T&E. Funding for ACCENT from the EU (GOCE CT-2004-505337) and from the Swiss State Secretariat for Education and Research (Contract 03.0430-2) is gratefully acknowledged.