

## Greetings

The numerous and positive comments that we have received welcoming the first SPARC Newsletter have been very gratifying. I hope that the future issues will fulfil your expectations. The last few months have been very active for both the Steering Group and the Office, and this second Newsletter reflects the emergence of new ideas that should help SPARC in energising the scientific

community and, by increasing international cooperation, help in answering the numerous questions that have been put forward in our planning document. Obviously, the quality of the science depends on you, the practitioner, but it is my wish that SPARC may be of assistance to you in establishing the multidisciplinary contacts required to pursue your objectives and provide a useful forum in

which to discuss your results. Since this second Newsletter should hopefully reach you before the end of the year, I would like to take this opportunity to send to each of you my warmest personal wishes for 1994 to be a very happy and successful year in both your personal and professional lives.

● Marie-Lise Chanin,  
SPARC Co-Chair

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## Report of the SPARC SSG Meeting held on Sept. 10-12 93 at Cambridge, UK

### General

The first formal meeting of the SPARC Scientific Steering Group (SSG) was held at Cambridge, United Kingdom, from 10 to 12 September 1993, following the NATO Advanced Research Workshop on Stratosphere-Troposphere Exchange. The meeting was attended by the members of the SSG, the ex-officio members, and a few invited observers.

The SSG discussed the general philosophy that should drive the programme; the general feeling was that SPARC should energise and nurture science rather than overcoordinate it. SPARC should not intervene when not needed but should identify the gaps and the lack of knowledge around which activities should be focused. Along these lines, a number of specific objectives were formulated. They do not, at this stage, pretend to cover the whole range of needs, but the ones with the highest priority. They are described in detail under "SPARC Initiatives" in this Newsletter.

Several requests were put to the SSG to endorse individual scientific or national projects as a contribution to SPARC. The SSG agreed that, to be endorsed, such projects must be related to SPARC scienti-

fic objectives or to the specific SPARC initiatives now being planned. Proposals for which endorsement is required should be submitted to the SPARC Project Office, with clear description of the work to be carried out and the personnel involved. They would then be reviewed at the following SPARC SSG meeting.

The SSG discussed the draft of the document "Initial Review of SPARC Objectives and Scientific Issues". It was agreed that, following inclusion of a number of amendments, the document should be published and made available to the SPARC community as quickly as possible. However, it should be updated regularly as the need arises.

An important focus of SPARC studies will be the stratospheric modelling. Dr. R. Rood (NASA/Goddard Space Flight Center), who has agreed to take the responsibility for formulating this activity, discussed plans to assess the present state of troposphere-stratosphere general circulation modelling, strategies for model intercomparisons and plans to improve their capability for studying problems related to SPARC. Two central issues are to help understanding the role of the stratosphere in the

present climate and the impact of possible changes of the stratosphere on the troposphere.

Dr. R. Rood observed that a number of three dimensional models have internally self-consistent physics and the capability to resolve the troposphere and the stratosphere. He proposed strategies for intercomparing these models as follows :

a) All models would perform a specified experiment to remove as many uncertainties as possible (e.g., same initial conditions, specified boundary conditions, solar constant, CO<sub>2</sub> amount, same grid resolution).

b) All models should provide a specified set of output in a specified format.

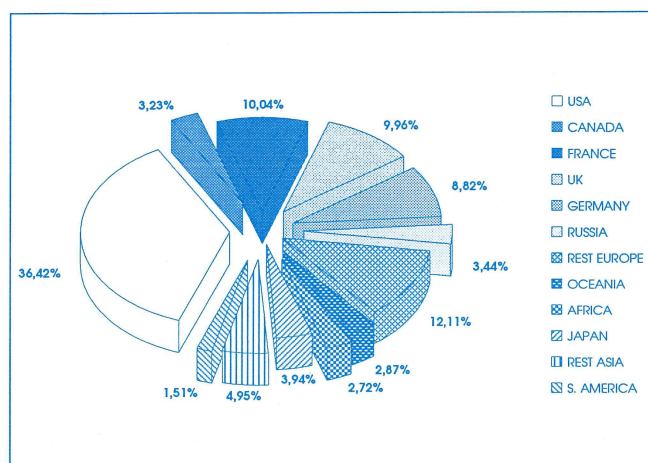
c) Focus Teams will then analyse the results from all the contributing models and present the results at the IUGG workshop in Boulder in 1995.

On behalf of the U.S. Department of Energy Program for Climate Model Diagnosis and Intercomparison (PCMDI), Prof. W. L. Gates has offered the infrastructure that has been put in place for the Atmospheric Model Intercomparison Project (AMIP) to store data from these experiments and



the powerful PCMDI software facilities for producing the required diagnostics.

Dr. P. Haynes presented highlights of the NATO Advanced Research Workshop on Stratosphere-Troposphere Exchange (STE). The topics discussed at the Workshop included large scale dynamics, chemical observations and modelling, observational aspects of STE, tropopause dynamics and exchange



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in mesoscale models, numerical weather prediction models and general circulation models (GCMs). A summary of the NATO/ARW workshop by Dr. P. Haynes is included in this Newsletter.

Dr. P. Liss, new chairman of the IGBP-SC, attended a part of the SSG meeting and commented on interactions between IGBP and SPARC, mainly with the following IGBP projects : IGAC, GCTE, JGOFS and LOICZ (For details see "Interaction with IGBP" in this Newsletter). Dr. E. de Fabo presented the outline of the second SCOPE report on the "Effects of Increased UV Radiation on Global Ecosystems", which he distributed in its draft form and is soon to appear in print. The monitoring of UV-B is of very high concern for SPARC and the co-ordination of the numerous but independent initiatives is one of the SPARC priorities and is at the base of its co-operation with the biological community.

## Activities of the SPARC Office, in Verrières-le-Buisson, France

The establishment of the SPARC Office was described by Dr. M.-L. Chanin who reviewed the initial activities of the Office : completion of the document describing SPARC Objectives, organisation of SPARC related meetings (Carqueiranne, Wiesbaden, Yoko-

hama), assistance in the organisation of the annual SPARC SSG, constitution of the SPARC directory, contact with national programmes and private initiatives, preparation of the first SPARC Newsletter. Dr. S. Chandra presented the outline of this Newsletter and Ms M.-C. Torre discussed

the constitution of the SPARC directory and presented the geographical distribution of the scientists receiving the Newsletter (see figure).

## Role of SPARC in IPCC/WMO-UNEP Assessments

The time-table for the preparation of the next IPCC Scientific Assessment was presented. Several SSG members are active in these assessment activities, and the part played by SPARC in reducing uncertainties in the role of the atmosphere in climate change should therefore be reflected in the IPCC report. Moreover, SPARC initiatives could help in filling gaps in the required knowledge. In particular, the need for an in-depth assessment of stratospheric temperature trends is one of the issues where SPARC can assist; it was decided to undertake a review of this issue and plan the work to be carried out with international co-operation.

Dr. K. Shine, Dr. S. Solomon and Dr. V. Ramaswamy are lead authors for the "Radiative Forcing" Section of IPCC document which is going through revision in 1994/1995 and they will be our contact with IPCC.

A new WMO/UNEP Assessment is also being prepared at this time, and many SPARC individuals are included in this activity.

## Relevant programmes/activities of different agencies :

SPARC is following with attention the relevant programmes and activities of different national and regional agencies such as NASA, NOAA, DOE, CEC... and will depend on the support of these agencies to implement activities. The details about these programmes will be published in the following Newsletters.

## Involvement of developing nations in SPARC

Dr. M.-L. Chanin described the programme led by the International Centre for Theoretical Physics, (ICTP), in Trieste, in particular the atmospheric component under the directorship of Dr. S. Radicella. A most important contribution is made by the training school which organises courses comprised half and half by tutorial lectures and sessions carrying out research investigations using computer facilities and global data sets provided by the international community. The next Workshop is planned for Feb-Mar 1994 in Trieste. Scientists interested in this or future workshops should contact Prof. S. M. Radicella, ICTP, PO Box 586, 34100 Trieste, Italy.