

2003 ANNUAL REPORT

SCIENTIFIC COMMITTEE FOR SOLAR-TERRESTRIAL PHYSICS (SCOSTEP)

Joe H. Allen, Scientific Secretary

Early in 2003 Sunanda and Santimay Basu visited family in India and had an opportunity to be interviewed on a science program on state television. They talked about CAWSES and the variety of science that is covered by SCOSTEP. After the show was shown nationally across India, they received calls from colleagues who saw it and were interested.

In February 2003, President Geller was an invited participant at IKI for a Memorial Symposium in honor of the late space scientist Yuri Galperin. Yuri died unexpectedly in late 2001. He had been a member of the SCOSTEP Bureau since 1997 representing COSPAR. After discussions with NASA and NSF about financial support for CAWSES, it was decided that SCOSTEP could publish a limited number of a volume of the Proceedings from the memorial symposium as the first CAWSES book.

At Maastricht the CAWSES SSG asked the Scientific Secretary to approach organizers about including a CAWSES meeting in the program of the Joint EGS-AGU-EUG Assembly in April 2003. The organizers accepted a proposed Townhall Meeting on CAWSES (TM-2) and this proved a productive opportunity for leaders of the CAWSES theme groups to meet with the SCOSTEP Executive for planning discussions. An ILWS meeting was held in Nice after the end of the joint meeting and Sunanda Basu was invited to attend to discuss CAWSES.

ACTIVITIES AND FINDINGS

Major Research Activities: SCOSTEP is a scientific committee of the International Council of Scientific Unions (ICSU) and it is charged with the long-term responsibility to promote international interdisciplinary programs in Solar-Terrestrial physics. The Board on Atmospheric Sciences and Climate serves as a mechanism to facilitate SCOSTEP activities and encourage US representation and participation in its science programs. US dues to SCOSTEP are essential for allowing the organization to promote and coordinate its international programs in the field of Solar-Terrestrial physics and its outreach activities.

Scientific Meetings:

In June 2001, SCOSTEP held its tenth quadrennial STP Symposium, *STP-10/CEDAR-2001: A Space Science Odyssey*. The meeting was held jointly with CEDAR-2001 in Longmont, Colorado. Some 400 scientists and students registered for the meeting. During the week before STP-10, the International Solar Cycle Study (ISCS) held a

workshop "*Solar Variability, Climate and Space Weather*" at the same conference center. Some 125 scientists took part in that symposium. The Planetary Scale Mesopause Observing System (PSMOS) held a one-day workshop in Boulder the day after STP-10.

Some 400 persons registered for the symposium, including 105 students or new PhD's, whose participation was mainly supported by CEDAR from a US National Science Foundation grant. Registration fees (\$250) were waived for some 165 persons, including the students, participants from developing countries, the Former Soviet Union, and tutorial speakers.

Ten invited one-hour tutorial talks and 31 invited half-hour topical talks covered the range of SCOSTEP disciplines and programs. Fifteen other contributed papers were selected for oral presentation, and 145 poster papers were accepted for presentation in evening sessions. The program and abstracts book had 123 pages. Two evening buffet receptions were scheduled in space adjacent to the poster display areas, to coincide with times when authors were scheduled to present their work. This helped attract participants to attend the poster sessions and seemed very effective. From participant comments, it was a great success.

ICSU provided a \$20K grant to SCOSTEP to support STP-10 participation by students and scientists from developing countries and the Former Soviet Union. The US Office of Naval Research provided a \$10K grant through the University of Colorado. SCOSTEP disbursed \$28,325 directly to 25 STP-10 participants to apply against travel costs and for local expenses, and waived registration fees for about 70 others. We coordinated assistance with the CEDAR-2001 organizers who covered student expenses while in the USA.

Tutorial speakers were asked to include material in their talks to guide students and young scientists toward the most challenging research areas of each of their disciplines. All tutorial talks were videotaped, and a set of 4 tapes is available for \$70. A CD-ROM of the tutorial and invited topical talks is in preparation. All participants were given a CD of presentations about Space Weather and related topics.

Other scientific meetings supported:

SCOSTEP and its programs provided financial and participatory support for the Chapman Substorm Conference (Lonavala, India), ISEC Conference (Rice University, Houston, USA), the COSPAR Colloquium on Space Weather (Beijing, China), the IAGA Scientific Assembly (Hanoi, Vietnam), the IAMAS Scientific Assembly (Innsbruck, Austria), SPARC Science Steering Group (Hawaii), and the Chinese National Space Weather Meeting (Chengdu, China).

Major Research Findings: SCOSTEP will continue to serve the international community by planning and organizing international programs in the Solar-Terrestrial physics requiring a great deal of coordination. In the U.S., the Committee on Solar-Terrestrial Research of the National Research Council assists in the planning process and organizes U.S. participation in these programs.

Educational and Outreach Activities. The SCOSTEP newsletter disseminates information among scientists throughout the world working on, or interested in, Solar-Terrestrial physics. The newsletter is published by the SCOSTEP Secretariat with assistance of WDC-A for STP. The SCOSTEP website is maintained by NOAA's NGDC and the Secretariat in Boulder, Colorado.

Support for student participation in STP-10 is described above.

SCOSTEP and its EPIC program provided funding and faculty for the International School of Physics' (Trieste, Italy) School on Equatorial Aeronomy. Courses at this institution are particularly accessible to young scientists and students from Africa.

CONTRIBUTIONS

Contributions within Discipline -. SCOSTEP works within the ICSU framework to encourage cross-disciplinary conferences and to facilitate cross-project cooperation and multi-national research collaboration. SCOSTEP conducts programs with a scientific goal to advance quantitative understanding of coupling mechanisms responsible for the transfer of mass and energy throughout the Solar-Terrestrial system. The practical goal is to improve predictability of the effects of the variable components of solar energy and disturbance on the terrestrial environment. These disturbances range from interference with satellite and aircraft communications systems to blackouts of electric power grids.

SCOSTEP's Bureau is comprised of a President, Vice-President, Scientific Secretary, and representatives from each ICSU Participating Body (COSPAR, IAMAP, IAGA, IAU, IUPAP, and URSI). It directs the SCOSTEP Secretariat, which conducts daily operations. New Bureau members in 2001 are: W. Baumjohann (IAGA) and R. Fujii (COSPAR).

The SCOSTEP General Council consists of representatives from 30 subscribing Adherents. Brazil was added in June 2001. Dr. Pierre Kaufmann is the new council member representing the Brazilian Academy of Sciences. Scientific Discipline Representatives (SDR) to SCOSTEP are also Council members. They are chosen for expertise in disciplines that span Solar-Terrestrial physics and to achieve balanced national and regional representation. As SDR's, some 47 scientists from 19 countries guide SCOSTEP in the planning of international programs and convey information about SCOSTEP programs to their colleagues. Other council members are Chairs of the program Steering Committees, Working Groups, and Panels, as well as members of the Finance and Awards Committees. There are representatives of three World Data Centers for STP, two Affiliates (IUWDS and WMO), representatives from eight ICSU participating bodies, and an ICSU representative. Twelve correspondent countries are recognized by SCOSTEP, and participate in Council discussions, but are not voting members.

Some 400 scientists were directly involved in SCOSTEP programs at the end of 2001, and about 4,000 are on the mailing list to receive SCOSTEP publications such as newsletters and technical reports. The updated core membership directory is available at the SCOSTEP site on-line at <http://www.ngdc.noaa.gov/stp/SCOSTEP/scostep.html/> and the homepage provides active links to accounts for each of the current SCOSTEP programs (S-RAMP, ISCS, PSMOS, and EPIC) and related groups.

Contributions to Human Resource Development: The SCOSTEP homepage contains a wealth of information for the scientists involved in the Solar-Terrestrial field. The material on the web site describes the progress in improving knowledge of Solar-Terrestrial sciences and can be used as an educational resource for science and technology training.

Contributions beyond Science and Engineering - The advent of increased activity in the solar cycle is giving rise to increased interests in the SCOSTEP subject matter. Solar flare activity to date has already been responsible for some satellite anomalies and the possibility of serious impacts on space and communications systems is becoming better understood. This will bring increased visibility to SCOSTEP and should permit it to have an increasingly important voice in international collaboration in the Solar-Terrestrial sciences.