

The CEDAR Post

March 1999

Volume 36

CEDAR PROPOSALS FOR FY 2000

Deadline: 1 May 1999

The deadline for submission of proposals to the NSF for CEDAR funding in FY2000 is 1 May 1999. Please consult the most recent issue of the NSF Grant Proposal Guide (NSF99-2), which can be found on the NSF Web home page (www.nsf.gov), for information on proposal preparation and submission. Proposals for CEDAR post-doctoral research appointments are also due on 1 May 1999, and guidelines for these proposals are given on p. 2 of this newsletter. Note the planned increase in the postdoc stipend and institutional allowance, which is a welcomed change to this important element of the program and is gratefully appreciated by the CEDAR community.

Proposals submitted to this round of the CEDAR competition should emphasize the CEDAR Phase III Program objectives. As in the past, encouragement is given to the use of the CEDAR clusters and chains of instruments that serve the community. If you do not have a copy of the Phase III report, send a request to kathynot@bu.edu.

The total NSF funding level for the FY2000 CEDAR competition will be about \$0.5M. An additional \$0.5M of NSF funds will be allocated in FY2000 for proposals that address the CEDAR-TIMED program, jointly with NASA which is allocating \$1M in FY2000 for this effort. The plans for the CEDAR-TIMED proposals (with a separate deadline of June 3, 1999, and a notice of intent to propose due April 7, 1999) are provided on p. 3 of this newsletter.

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CEDAR Science Steering Committee

NSF/CEDAR POST-DOCTORAL PROPOSALS

Deadline: 1 May 1999

The NSF/CEDAR Postdoctoral Program provides grants to recent Ph.D. recipients to conduct middle and upper atmosphere research at a host institution. The goal of the CEDAR Postdoctoral Program is to provide outstanding recent Ph.D. recipients an opportunity to build upon capabilities demonstrated in the dissertation project while enabling them to explore new research directions and to further their professional growth. It also provides a means to enrich the research activities of the host institution.

Two post-doctoral awards are made each year. Each post-doctoral award will be for two years at a stipend level of \$40,000 per year. An additional amount of \$10,000 will be provided toward employee benefits and institutional overhead. Although not a review criterion, if cost-sharing possibilities exist at the host institution (through an existing NSF grant, for example), this should be mentioned in a cover letter accompanying the proposal.

Post-doctoral proposals must conform to the format for regular NSF proposals except that the project descriptions are to be 3 pages or less. Either the post-doctoral candidate or his/her advisor may be the principal investigator, but the proposals must be submitted by the host institution. Information on preparing the project description is given below. In addition to the standard NSF proposal material, post-doctoral proposals must include the following:

- A letter from the host institution indicating its interest in and commitment to the proposed project.
- An abstract of the candidate's doctoral thesis.
- Two letters of recommendation. (These can either be included in the proposal package addressed to NSF's Proposal Processing Unit, or sent directly to the Program Office at the address shown below. In the latter case, the proposal should indicate the names of those sending recommendations under separate cover.)
- A transcript of course work.
- An up-to-date resumé

INFORMATION ON PREPARING THE DESCRIPTION OF PROPOSED RESEARCH

The single most important factor in writing a successful NSF/CEDAR post-doctoral proposal is the quality of the science being proposed. The research project description should:

1. Clearly identify the science question or area to be investigated.
2. Indicate why it is important and provide some background on what has been done thus far.
3. Describe the method to be used to address the science question/area, what will be done and with what resources, and what instruments or models or data bases will be used. Brief descriptions of these instruments, models, or data bases should be included, as well as letters of support to show that they are accessible.
4. Demonstrate scientific productivity, i.e. show that the result of the analysis, method, or investigation will yield the information needed to answer the science question identified in step 1.
5. Provide a rough timeline describing what activities will be carried out and when. It is expected that the post-doctoral candidate will write the project description. However, it would be extremely beneficial to request critical reading of the proposal by one's Ph.D. advisor and by scientists at the host Institution before submission to NSF.

INFORMATION ON PROPOSAL SUBMISSION

Proposals should be submitted to the Proposal Processing Unit at NSF with "Aeronomy Program" indicated in the top left hand box of the NSF cover page. In addition, the title of the proposal should be preceded by the words "CEDAR Post-doc". Letters of recommendation may be sent directly to:

Dr. Sunanda Basu
Director, Aeronomy Program
National Science Foundation
4201 Wilson Blvd., Suite 775
Arlington, VA 22230

CEDAR-TIMED COLLABORATIVE RESEARCH OPPORTUNITY**Deadlines: Notice of Intent 7 April 1999****Proposals due 3 June 1999**

The CEDAR-TIMED collaboration will soon enter the formal proposal phase. Workshops held at the annual CEDAR meeting and at JHU/APL during the past two years have informed the community about the NASA TIMED spacecraft and instruments, and have served to identify the scientific benefits of combining the measurements from the TIMED satellite with the NSF CEDAR ground-based instrumentation and modeling capabilities. The collaboration will provide a unique opportunity to enhance the scientific return from the TIMED mission and from the CEDAR program by investigating problems uniquely addressed by the combination of ground and space-based measurements. Three science initiatives have been identified as the focus for the CEDAR-TIMED collaboration: ion-neutral coupling, small-scale waves, and large-scale waves. General information about the TIMED mission and results from the past two special TIMED-CEDAR workshops at JHU/APL can be found at <http://hurlbut.jhuapl.edu/TIMED>. Note that TIMED must be capitalized in this URL.

At the most recent TIMED Science Working Group meeting, it was decided that a third workshop in Spring 1999 would not serve a useful purpose since the work accomplished at the previous workshops has sufficiently informed and prepared the community to enable the submission of competitive and exciting proposals in response to the forthcoming joint NSF/NASA announcement of opportunity. Moreover, the demanding schedule for the delivery of the TIMED instruments and the spacecraft integration does not allow the efficient organization of another workshop.

In 1998, CEDAR proposals of one-year duration were funded by NSF under the CEDAR program for preparations to support the CEDAR-TIMED collaboration. In 1999, proposals covering a longer duration will be invited under a joint NSF-NASA announcement of opportunity for the main phase of the TIMED mission.

Details about the 1999 competition are now available to the community. The TIMED/CEDAR Collaborative Studies have the following deadlines: Notices of Intent to propose are due on April 7, 1999, and proposals are due on June 3, 1999. The guidelines for the proposal submissions to this joint NASA-NSF program are available via the WWW at <http://spacescience.nasa.gov/nra/99-oss-01/> and the NSF homepage www.nsf.gov. In the NASA Research announcement, the TIMED-CEDAR program is item A.4.9 in the Table of Contents. Further information and answers to questions about this opportunity can be obtained from either Dr. Sunanda Basu (sbasu@nsf.gov; 703-306-1529) or Dr. Robert Robinson (rmrobin@nsf.gov; 703-306-1531) at NSF, or from Dr. Mary Mellott (mary.mellott@hq.nasa.gov; 202-358-0893) at NASA.

Jeffrey Thayer (SRII), Gary Swenson (Univ of Illinois)

CEDAR POST-DOC AWARDS

The two CEDAR Post-Doctoral awards made in 1999 are to:

- i) Jorge Chau, Cornell University, sponsored by Donald Farley.
Project: "Plasma Irregularities in Peru".
- ii) Steven Smith, Boston University, sponsored by Michael Mendillo.
Project: "Mesospheric Acoustic Gravity Wave Imaging and Tomography at a Sub-Auroral Site".

The processing of all the other CEDAR and CEDAR/TIMED awards is not complete yet. Thus, the list will be published in a later issue of The Post.

CHANGE OF ISR SCHEDULE FOR WLS/SWx and LTCS CAMPAIGNS

In the 1999 schedule (<http://www.eiscat.uit.no/planning/1999/worldays.html>), time was allocated in October to a floating Wide Latitude Substorm (WLS)/S-RAMP Space Weather (SWx) Campaign. The S-RAMP campaign requires imaging from the POLAR satellite which will not be available in October because of satellite maintenance procedures. S-RAMP has therefore moved its observing month to September and its coordinators have asked the Incoherent Scatter Radars (ISR) to carry out their planned WLS observations in September instead of October. The Lower Thermosphere Coupling Study (LTCS) campaign, presently scheduled for September has therefore been moved to October with the concurrence of its organizers. The present ISR plans for the two campaigns are:

6-24 September 1999: Floating Interval for WLS/S-RAMP SWx, with default of 7-9 September.

12-14 October 1999: LTCS.

Tony Van Eyken (Chair, URSI/ISWG)

PLEASE NOTE THIS IMPORTANT INFORMATION FROM NSF:

CONTINUING AWARDS CANNOT BE PROCESSED WITHOUT SUBMISSION OF PROGRESS REPORTS
IN THE CORRECT FORMAT!

NSF Notice to Principal Investigators and Grantee Institution Representatives

The Annual NSF Grant Progress Report (Form 1328) and the Final Project Report (Form 98a) have been DISCONTINUED effective October 1, 1998, and replaced with form FL-239.

NSF has implemented a new electronic project reporting system, available through FastLane, which permits electronic submission and updating of project reports. Effective October 1, 1998, PIs are required to use the new reporting format for annual and final project reports. For PIs who cannot access FastLane, paper copies of the new report formats may be obtained from the NSF Clearinghouse, PO Box 218, Jessup MD 20794-0218; ask for FL-239.

NSF expects all annual and final project reports to be submitted via FastLane beginning in October, 1999, and accepts them beginning October 1998. We've been lenient about accepting the old forms NSF 1328 and 98a up to January 1999, but now we are no longer going to accept them. Please use the form FL-239 instead of Forms 1328 and 98a.

More information on the FastLane project can be found on the World Wide Web at
<https://www.fastlane.nsf.gov/>

Note that FastLane requires a web browser that supports secure transmission of data, such as Netscape 3.0 or higher or Internet Explorer 3.0 and higher.

Sunanda Basu, Program Director, Aeronomy (sbasu@nsf.gov)

DATA FROM CEDAR DATABASE NOW WEB-ACCESSIBLE

The data in the CEDAR Database are now available via a web server at: <http://cedarweb.hao.ucar.edu>. Also on this web server is access to community information, summary plots and documentation, all of which are freely available. Because of the 'Rules of the Road', it is necessary to sign a CEDAR Database Access Form before accessing the data. Over 300 people have signed an Access Form agreeing to the 'Rules of the Road'. The major provisions of these rules are:

- Only share data/models obtained from the Database with persons having a current access form on file with the Database.
- Contact the organization(s) that contributed the data early on to discuss the intended usage and, later to offer co-authorship on publications and reports. (Not necessary for SOME indices, models, or model outputs, where other requirements, such as referencing suitable publications, may be in order. Check the annual catalogue for further details.)
- Acknowledge the Database and the organizations that contributed in all reports and publications, according to the list of acknowledgment statements in the annual catalogue.
- Send copies of all reports/publications making use of the data/models to the Database.

To apply for a web account (and sign a CEDAR Database Access Form), click on 'Query the CEDAR Database', and then click on either 'Apply for a new web account over the web' or 'Mail in a request for a new web account'. If you would like to use data from the CEDAR Database, but don't want to fetch it yourself, then click on 'Use our web form to request data to be retrieved and sent to you by NCAR' or 'Print out a request form and mail it in', but also click in these areas on 'CEDAR Database Access Form' and fill this in and submit it as well. There will then be some processing time to get a web account established, since this is a process that requires personal intervention at this time. You are invited to look at the public summary plots or documentation while you wait.

Please let us know if you have any questions or comments concerning the web server to the CEDAR Database.

Barbara Emery and Patrick Kellogg (HAO/NCAR)

1999 CEDAR MEETING

University of Colorado, Boulder

June 13-18, 1999

Preliminary Agenda

The following describes the general structure of the planned agenda for the 1999 CEDAR meeting at the University of Colorado. A final agenda will be distributed via email prior to the meeting, when all speakers and topics are identified. Three tutorials are planned; speakers are presently being determined. The meeting will also cover recent science highlights and program reports of interest to the community, such as TIMED, NSF, NASA, AFOSR opportunities, and some international programs. We are also aiming at preserving a workshop type environment at the meeting to allow time for active interactions amongst the participants.

Members of the CSSC who are developing plans for the CEDAR meeting are:

General agenda:	J. Salah, B. Emery
Tutorials, science highlights:	C. Fesen, D. Hysell, J.P.St-Maurice
Workshops:	M. Hickey, M. Sulzer, M. Taylor
Posters:	R. Smith, A. Van Eyken
Program reports:	J. Salah, J. She
Student Session:	A. Stephan, M. Hagan
S-T coordinated session:	M. Hagan, R. Heelis, R. Smith

If you have an input, please contact any of the above. Phone numbers and email addresses are listed on p. 13 of this newsletter.

The plenary sessions will be held in Math-100, and workshops will be held in the Engineering Center. Parking is available in Lot 436 east of the Engineering Center. The reception/poster session will be Tuesday, June 15 evening in the Glenn Miller Ballroom, University Memorial Center (UMC). The student workshop is in the Benson Auditorium on Sunday June 13.

Sunday June 13 (Benson Auditorium)

Student Workshop: Introduction to Solar Terrestrial Programs and To Waves

(Non-students welcome)

01:00-02:30	Introduction to S-T Programs
02:30-04:45	Waves tutorial
05:00	Bus leaves Benson Auditorium for mountain park
05:00-09:00	Social at mountain park for students and speakers
09:00	Bus leaves park for Williams Village

Monday June 14 (AM: Math 100)

08:30-08:50	Welcome: CSSC, NSF, CU, HAO
08:50-09:15	Introductions of Post-docs, students Summary of student workshop
09:15-10:00	CEDAR Prize Lecture
10:00-10:30	Break
10:30-11:30	Program Reports from NSF
11:35-01:00	Lunch
01:00-05:30	Workshops in Eng. Ctr.
03:05-03:25	Break outside Math 100

Tuesday June 15 (AM: Math 100)

08:30-09:30	Tutorial #1
09:30-10:00	Program Reports: TIMED
10:00-10:30	Break
10:30-11:10	Science Highlights
11:10-11:40	Data base status and plans
11:40-01:00	Lunch
01:00-05:30	Workshops in Eng. Ctr.
03:05-03:25	Break outside Math 100
06:00-10:00	Poster Session/reception at UMC.

Wednesday June 16 (AM: Math 100)

08:30-09:30	Tutorial #2
09:30-10:00	Program Reports
10:00-10:30	Break
10:30-11:00	Science Highlights
11:00-11:45	Post-Doc Reports
11:45-01:00	Lunch
01:00-05:30	Workshops in Eng. Ctr.
03:05-03:25	Break outside Math 100
06:00-06:15	Bus: Williams Village to NCAR Mesa
06:15-08:00	Buffet: Tree Plaza at the NCAR Mesa
8:00	Bus: NCAR Mesa to Williams Village

Thursday June 17 (AM: Math 100)

08:30-09:30	Tutorial #3
09:30-10:00	Program Reports
10:00-10:30	Break
10:30-11:10	Science Highlights
11:10-11:30	Program Reports
11:30-01:00	Lunch
01:00-05:30	Workshops in Eng. Ctr.
03:05-03:25	Break outside Math 100

Friday June 18 (AM: Math 100) S-TCP Joint Session

08:30-09:15	S-T Tutorial I: CME Propagation & Evolution: <i>Nancy Crooker</i>
09:15-10:00	S-T Tutorial II: Magnetospheric Interactions with the Solar Wind and Ionosphere: <i>Larry Lyons</i>
10:00-10:20	-Break-
10:20-11:05	S-T Tutorial III: Ionosphere/Thermosphere : Response to Disturbances <i>Art Richmond</i>
11:05-11:45	Panel Discussion of Near-Term S-TCP Research Objectives Announcement of S-TCP Workshop(s)
11:45-12:05	NSF Program report on GEM, SHINE, CEDAR
12:05-01:00	-Lunch-
01:00-05:30	S-TCP Workshop(s)
01:00-05:30	Other Workshops in Eng. Ctr.
03:05-03:25	Break outside Math 100

SOLAR-TERRESTRIAL COUPLING PROCESSES (S-TCP) SESSION

This session, a joint activity of the CEDAR, SHINE and GEM programs will be held on Friday, June 18 1999 at CU-Boulder in Math 100. The plan is for a morning plenary session followed by workshops in the afternoon. The former should appeal to a broad audience while the latter is designed to engage experts. The plenary session is centered on a 3-part tutorial covering solar, magnetospheric and ionosphere/thermospheric processes. The tutorial speakers Nancy Crocker, Larry Lyons, and Art Richmond, will use observations from 2 or 3 select periods that have been extensively investigated recently to elucidate underlying solar-terrestrial coupling. A panel discussion, with audience participation, will be included, as well as an overview of the integrated NSF program covering the three elements - CEDAR, SHINE, and GEM.

The foci of the afternoon workshops will likely emphasize special campaign periods.

More information will be provided prior to the meeting, as the CEDAR coordinators listed below complete their detailed planning in collaboration with SHINE and GEM program coordinators.

Note also that a joint SHINE & GEM session on "Killer Electrons: Solar-Heliosphere Connections," is planned on Saturday June 19, 9:00 am to noon, in the Space Environment Laboratory in Boulder. See <http://sec.noaa.gov/shine>; contact: kcaracog@bu_ast.bu.edu.

Maura Hagan (NCAR), Rod Heelis (Univ. of Texas, Dallas) and Roger Smith (Univ. of Alaska)

CALL FOR POSTERS

Deadline: 21 May 1999

A highlight of the annual CEDAR workshop is the poster session, which provides a structured forum for presentations in all areas of CEDAR science. The poster session can regularly be counted on to generate a great deal of interest for presenters and in particular permits students to advertise major accomplishments in their research to a broad audience. Experience has shown that the poster session offers perhaps the best opportunity of the workshop for students and advisors from different institutions to meet and form professional, sometimes cross-disciplinary ties. We therefore invite poster presentations for the upcoming CEDAR workshop and particularly encourage students to participate. The poster session this year will be held in the Glen Miller Ballroom in the University Memorial Center (UMC) on Tuesday, June 15 between 6:00 and 10:00 PM. There will be light food and refreshments during the session. Presenters should submit the author list and title of their poster and indicate whether the first author is a student. They may do so over the WWW by accessing the URL <http://landau.phys.clemson.edu/cedar.html> (the preferred method), by sending e-mail to roger.smith@gi.alaska.edu, or by faxing the information to Roger Smith at 907-474-7290 by May 21, 1999.

As usual, posters must be confined to a size of 4x4'. They may be set up after 12 PM on the day of the session and should be taken down at the end of the session, at 10 PM. Posters presented by students will be entered into a competition for which prizes will be awarded.

In previous years, many presenters have bemoaned the absence of an opportunity to browse the posters presented by others. This year, we therefore suggest that presenters with last names in the range A-G do their browsing during 6:00-7:00, in the range H-P during 7:00-8:00, and in the range Q-Z between 8:00-9:00. All presenters should then try to be present at their posters for the final hour of the session.

Roger Smith (University of Alaska), Tony Van Eyken (EISCAT)

NOMINATIONS INVITED FOR THE 1999 CEDAR PRIZE LECTURE**Deadline: 23 April 1999**

The CEDAR Prize Lecture was established in 1989 to recognize outstanding scientific contributions to the CEDAR Program. Selection is based upon a research paper either presented, submitted, or published during the past year (1 January 1998 to present). The candidate will present a special 30-minute lecture at the 1999 CEDAR Meeting.

Previous CEDAR Prize lecturers are:

- 1989 - Art Richmond (NCAR)
Assimilative Mapping of Ionospheric Electrodynamics.
- 1990 - Michael Mendillo (Boston University)
The Discovery of a Sodium Magneto-Nebula around Jupiter.
- 1991 - Craig Heinselman (SRI International)
Sondrestrom MUSCOX - Capabilities and New Results.
- 1992 - Colin Hines (Arecibo Observatory)
The Doppler Spreading Theory of Gravity Wave Spectra.
- 1993 - John Cho (Cornell University & Arecibo Observatory)
Radar Scattering from the Coldest Place in our Atmosphere: Polar Mesosphere Summer Echoes.
- 1994 - Raymond Roble (NCAR)
Modeling the Circulation, Temperature, and Compositional Structure of the Upper Atmosphere (30-500 km).
- 1995 - David Fritts (University of Colorado)
Modeling of Gravity Wave and Instability Processes in the Middle Atmosphere.
- 1996 - Chet Gardner (University of Illinois)
Results from the ALOHA/ANLC-93 Campaigns.
- 1997 - Bela Fejer (Utah State University)
Multi-instrument Studies of Ionospheric Electrodynamics.
- 1998 - Gary Swenson (University of Illinois)
A Model for Calculating Acoustic Gravity Wave Energy and Momentum Flux in the Mesosphere from OH Airglow.

Nominations are solicited from the community for the 1999 CEDAR Prize lecture. Nominations should include a brief paragraph explaining the contribution of the nominee and its importance. Reference to article or presentation should be provided, if available. Selection will be made by the CEDAR Science Steering Committee. Nominations should be made by 23 April 1999, via email to Joe Salah, jsalah@haystack.mit.edu.

CEDAR Science Steering Committee

CALL FOR WORKSHOPS

Deadline: April 16, 1999

If you wish to host a workshop at the 1998 CEDAR Meeting. Please send notification to the workshop conveners, c/o Michael Hickey (hickey@hubcap.clemson.edu) on or before April 16. Please note that this is a firm deadline.

This year, in order to accommodate the anticipated large number of workshop requests and to minimize overlap on related topics, we have added another afternoon of workshops by moving the poster session to the evening. We will consider requests for both 2-hour and for a few 4-hour workshops, but the latter need to be well justified and the rationale clearly stated. We may not be able to support all requests. Please submit the following:

- a title and a short summary of the proposed workshop,
- any special requests, e.g. to avoid scheduling conflicts with certain related workshops,
- an estimate of the number of expected attendees,
- type of workshop proposed, e.g. campaign planning, special topics, or mature science.

Workshop leaders are expected to give an overview at the beginning of the workshop and to introduce the people involved - both students and non-students. A summary at the end of the workshop is also helpful to give the students a clear perspective. You will be informed of the schedule for your workshop in mid-May. At that time, a more detailed description of the workshop including an agenda should be submitted to Barbara Emery (emery@ucar.edu) by May 28 for distribution to participants at the meeting. This description will also be put on the CEDAR web page. Finally, please make notes during the workshop as a quarter page summary of each workshop will be printed in the August 1999 CEDAR Post to provide closure and inform the community at large.

Plenary workshop: Additionally, this year we are soliciting ideas for a special plenary style workshop from the CEDAR community. Such plenary workshops (ISR and Lidar) have been highly successful in the past, and provide a sound introduction to specialized research topics as a precursor to a more general workshop. Individuals wishing to plan a plenary style workshop (with a regular workshop to follow) should submit their ideas to us, emphasizing the need for a plenary workshop. For example, have new advances been made in experimental methods, theory, or modeling that need to be presented to the community? Is timeliness a factor? Will such a plenary style workshop add significantly to the follow-up workshop, and how? The workshop committee will make a selection for a plenary workshop based on the justifications provided, and on the perceived usefulness and interest to the community. Again, the deadline is April 16, but we would appreciate the earliest possible indication of interest in a plenary workshop so it can be efficiently planned and integrated into the overall CEDAR meeting.

Michael Hickey (Clemson University), Michael Taylor (Utah State), and Michael Sulzer (NAIC /Arecibo)

INTRODUCTION TO SOLAR-TERRESTRIAL PROGRAMS AND TO WAVES

Student Workshop
Sunday June 13, 1999

Many of the regions of the solar-terrestrial environment are coupled via interfacing boundaries, particle transport, and energy exchanges. As space weather becomes an increasingly important initiative to CEDAR, a familiarity with research in the solar and magnetospheric regions is a requirement for understanding these interactions and inputs to CEDAR-supported research. The 1999 CEDAR Student Workshop will begin with an introduction to the GEM (Geospace Environment Modeling) and SHINE (Solar, Heliospheric, and Interplanetary Environment) communities. We will outline the particular interests of these NSF sponsored programs, with emphasis on potential interactions and collaborations with the CEDAR community. This will serve as a rudimentary introduction to the Friday joint CEDAR/GEM/SHINE session, which will combine work from all three groups in a discussion of a single geophysical event.

The second half of the Student Workshop will be a tutorial discussion of waves in the upper atmosphere and ionosphere. Waves are an important component of the dynamics of both the neutral and ionized constituents of the upper atmosphere. They exist in all sizes, magnitudes, and geographical locations, and can influence particle momentum and energy, develop into instabilities, and even be generated to probe plasma characteristics and dynamics. We will include a general description of the general physics behind these wide-reaching phenomena, with a discussion of several specific waves types which are of interest to CEDAR students and scientists (i.e. gravity, Alfvén, yet to be finalized).

Finally, in response to the positive feedback we received from last year's workshop, we will hold an evening social at a nearby park (possibly another outing to Chautauqua) where students can interact in an informal setting to discuss graduate school, classes, theses, or even just go for a hike and enjoy the mountain air.

Students, recent graduates, and CEDAR scientists who are interested in contributing to the Student Workshop or would like to recommend potential speakers are encouraged to contact Andrew Stephan (astephan@bu.edu) as soon as possible.

Andrew Stephan (Boston University)

10th ISEA set for May 2000

The 10th International Symposium on Equatorial Aeronomy is being planned for 16 to 24 May 2000. The meeting will take place in Kemer, Turkey; Kemer is roughly 600 km south of Istanbul along the Mediterranean coast, near the town of Antalya.

The meeting is being organized by Erhan Kudeki (chair), U. Illinois at Urbana-Champaign, Jim Labelle, Dartmouth College, and Cassandra Fesen, U. Texas-Dallas. For questions, comments, or suggestions, please contact the chair, E. Kudeki, at 217-333-4153.

Erhan Kudeki, (UIUC), Jim Labelle, (Dartmouth College), Cassandra Fesen, (UTD)

PLANNING FOR 1999 ANNUAL CEDAR MEETING

Sunday, June 13 to Friday, June 18, 1999

University of Colorado, Boulder, CO

The 1999 CEDAR Workshop plans, information and forms are also available on the web at the URL address: <http://www.hao.ucar.edu/public/research/tiso/cedar/cedar.html> by clicking on CEDAR Workshop (1999). The full address is: <http://www.hao.ucar.edu/public/research/tiso/cedar/99/conf99.html> The registration forms can be filled in and submitted via the web.

Deadlines to remember for the meeting are:

- **April 16:** Workshop convenors send workshop requests and plans to: Michael Hickey (hickey@hubcap.clemson.edu),
- **April 16:** Deadline for students to send in their registration forms and application for funds with biographical information for publication at the workshop to Barbara Emery (emery@ucar.edu) or via the web.
- **April 23:** Deadline for nominations for the CEDAR Prize Lecture. Send nominations to J.E. Salah (jsalah@haystack.mit.edu).
- **After May 1:** Students should call Professional Travel for airline tickets
- **May 12-13:** Deadlines for hotel reservations of reserved CEDAR blocks
- **May 21:** Poster requests due to Roger Smith (roger.smith@gi.alaska.ak.edu). The preferred method is using <http://landau.phys.clemson.edu/cedar.html>.
- **May 28:** Registration for CEDAR Workshop after which late fees are imposed
- **May 28:** Workshop presenters get a description of their workshop to Barbara Emery (emery@ucar.edu). Will also be put on web.

The Sunday session is a Student Workshop that is scheduled from 1:00 to 4:00 PM in the Benson Auditorium in the Benson Earth Sciences Building, just west of Math-100. The topic is “*Introduction to Solar-Terrestrial Programs and to Waves*”, and the workshop is open to non-students as well. The session will include overviews to introduce the coordinated programs aimed at studying the solar-terrestrial environment GEM, SHINE and CEDAR, and to outline the importance of waves in the Earth’s upper atmosphere. The workshop will be followed by a social and picnic at Chautauqua Park. Bus transportation will be provided.

The Friday session is a special day where the CEDAR Workshop combines with the SHINE Workshop, which meets in Boulder during the same week. GEM researchers are also invited on their way to the GEM Workshop the following week in Snowmass. Registration is free. The program is called ‘*Solar-Terrestrial Coupling Processes*’. There will be three tutorials in the morning, focused on processes throughout the solar-terrestrial regime and elucidated by select “cradle to grave” events of interest to all three communities, followed by appropriate workshops in the afternoon.

All registration packets will be available at Williams Village dormitory on Saturday and Sunday, and at Math-100 in the mornings Monday through Friday. Everyone who has registered for the workshop can pick up their packet even if they have not paid. If they have not paid, they will not have a receipt in their packets and should pay at the registration table Monday-Friday. Students will not get receipts unless they pay for guests. Those who request a parking permit on their registration form will find it in their registration packet. Permits are necessary during the week days. Parking is in Lot 436 east of the Engineering Building, or in Lots 600 by Williams Village. Free shuttles

will run between Williams Village and main campus in the morning, around lunch, and in the early evening. Permits are necessary Monday through Friday, and tickets can appear on cars within 5-10 minutes. Since it may take too long getting your registration packet, we suggest that you park for a short time in the small metered lot just west of Math-100 long enough to get your registration packet, and then move to Lot 436.

Workshops will be held in the Engineering Building in the afternoons. There will be a single large poster session in the Glen Miller Ballroom at the University Memorial Center (UMC) along with a reception on Tuesday evening from 6 to 10pm. Posters can go up as soon as 12 PM on Tuesday, and must be taken down by 10 PM. The buffet will be held on Wednesday, June 16 the NCAR Mesa Lab. Buses will be provided. Any alcohol at the reception and the buffet will come from voluntary contributions sent in with the registration form. The extra curricular activity consist of hikes in Boulder Count's Walker Ranch on Flagstaff road Thursday evening. They will be led by interpretive naturalists, and a bus, snacks and water will be available.

Barbara Emery (NCAR)

A FEW MEETINGS ON ONE ROUND-THE-WORLD TICKET!

- March 22-26 , 1999** Progress in Electromagnetic Research Symposium (PIERS99), Taipei, Taiwan
<http://piers1999.csr.sr.ncu.edu.tw/>
- April 18-21, 1999** 5th annual RF Ionospheric Interactions Workshop, Santa Fe, NM
<http://members.aol.com/rfiw/>
- April 19-23, 1999** European Geophysical Society 24th General Assembly, The Hague, Netherlands
<http://www.copernicus.org/EGS/EGS.html>
- April 21-23, 1999** Space Weather: Research to Operations III, Boulder CO
<http://sec.noaa.gov/~swc/sww99/index.html>
- May 4-6, 1999** Ionospheric Effects Symposium, Alexandria, VA
<http://www.ies99.com>
- May 31 - 4 June, 1999** American Geophysical Union, Boston, MA
<http://www.agu.org>
- June 9-11, 1999** Long-term measurement of solar EUV/UV fluxes for thermospheric/ionospheric modeling and for space weather investigations, St. Petersburg, Russia
Contact: Dr. Gerhard Schmidtke [schmidtk@imp.fhg.de]
- June 13-18, 1999** CEDAR meeting, Boulder CO
- June 14-18, 1999** SHINE meeting, Boulder CO
<http://sec.noaa.gov/shine>
- June 20-25, 1999** GEM meeting, Snowmass CO
- July 18-30, 1999** IUGG 99, Birmingham, UK
<http://www.bham.ac.uk/IUGG99/>

- August 9-12, 1999** URSI/COSPAR International Reference Ionosphere Workshop, Univ. of Massachusetts, Lowell MA http://nssdc.gsfc.nasa.gov/space/model/ionos/iri/iri_99_ann.html
- August 9-12, 1999** International Workshop on Radio Methods for Studying Turbulence
Contact: A. W. Wernick [aww@cbk.waw.pl]
- August 13-21, 1999** URSI General Assembly, Toronto, Canada
<http://www.nrc.ca/confserv/ursi99/welcome.html>
- September 6-10, 1999** 9th International EISCAT Workshop, Wernigerode, Germany
<http://www.mpae.gwdg.de/conferences>
- December 13-17, 1999** American Geophysical Union, San Francisco, CA
<http://www.agu.org>
- May 16-24, 2000** 10th International Symposium on Equatorial Aeronomy, Kemer, Turkey
Contact: E. Kudeki [217-333-4153]
- October 2-6, 2000** The First S-RAMP Conference, Sapporo, Japan
<http://www.kurasc.kyoto-u.ac.jp/s-ramp>

MEMBERSHIP OF THE CEDAR SCIENCE STEERING COMMITTEE FOR 1998-1999

Cassandra Fesen	University of Texas at Dallas	(972) 883-2815	fesen@tides.utdallas.edu
Maura Hagan	National Center for Atmos. Research	(303) 497-1537	hagan@ucar.edu
Roderick Heelis	University of Texas at Dallas	(972) 883-2822	heelis@utdallas.edu
Michael Hickey	Clemson University	(864) 656-4275	hipkey@hubcap.clemson.edu
David Hysell	Clemson University	(864) 656-4349	daveh@vlasov.phys.clemson.edu
Joseph Salah *	MIT Haystack Observatory	(978) 692-4764	jsalah@haystack.mit.edu
Joseph She	Colorado State University	(970) 491-6261	joeshe@lamar.colorado.edu
Michael Sulzer	NAIC Arecibo Observatory	(787) 878-2612	msulzer@naic.edu
Michael Taylor	Utah State University	(801) 797-3919	mtaylor@cc.usu.edu

GEM Liaison:

Roger Smith	University of Alaska, Fairbanks	(907) 474-7416	roger.smith@gi.alaska.edu
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International Representatives:

Anthony van Eyken	EISCAT Scientific Association	47-77692166	tony@eiscat.uit.no
Jean-Pierre St.Maurice	University of Western Ontario	(519)661-3778	tmaurice@danlon.physics.uwo.ca

Student Representative:

Andrew Stephan	Boston University	(617) 353-5611	astephan@veebs.bu.edu
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Ex-officios:

Sunanda Basu	National Science Foundation	(703) 306-1529	sbasu@nsf.gov
Robert Robinson	National Science Foundation	(703) 306-1531	rmrobins@nsf.gov

*Chair

GRADUATE STUDENTS AND TRAVEL GRANTS FOR CEDAR 1999

All students from US or foreign institutions who attend the CEDAR meeting will have their registration fees waived. A list of students, their interests and graduation dates will be distributed at the meeting. A bulletin board will be provided for job or other announcements. Jobs announced via the CEDAR e-mail list are posted on the WWW site: <http://cedarweb.hao.ucar.edu> by clicking on CEDAR Community Information and then Employment Opportunities. Space is also available for resumés. Please send resumés to Barbara Emery at emery@ucar.edu. Students will be introduced via institution during the first plenary session on Monday morning.

NSF has provided funds for travel for students from US institutions or students from foreign universities who will be visiting a US institution during the summer and so will have a US sponsor. Preference will be given to graduate students, but involved undergraduates are also welcome. All non-local students, including all students from foreign universities, will receive **either** a small per diem of \$26/day for up to 7 days to help defray costs **or** they will get a double dorm room at Williams Village which is air conditioned (**but not both**). A single dorm room is \$21.00+\$2.04 tax more per day. Students can elect to stay in a single room if they pay the difference. Those who stay at the dorm will also get breakfast Monday through Thursday, since the core period is only 4 nights this year instead of 5 nights, going from Sunday night through Wednesday night, with possible extensions of time at the beginning and end. Hence, if you plan to come for only part of the core period, stay at a hotel instead. NCAR will pay \$26/night OR a double dorm room for up to 7 nights from Saturday June 12 through Friday June 18. There is no per diem available to cover meal costs or anything else, but some advisors can help make up the difference. ALL students must make their own lodging arrangements. Registration packets (with any requested parking permits) will be available at Williams Village Saturday and Sunday.

Applications for travel funds must be received by APRIL 16!! The "Biography and Application for Student Financial Support" requires the signature of the research advisor. However, the form can be e-mailed in or submitted via the web if your advisor sends in a separate e-mail confirmation. ALL students should fill out the form in order to be included on the short biography of students, their interests and their advisors which will be available at the meeting. Please send these forms to Barbara Emery (emery@ucar.edu) at the address shown on the

registration form. Include an e-mail address if possible since many announcements will be sent via e-mail only.

Professional Travel in Denver will make airline reservations for students AFTER MAY 1 only! Professional Travel must make the airline reservations if the government rate to Denver is no more than \$50 more than the early reservation Saturday night stayover rate.

These cities are: Champaign, Dallas, Dayton, Detroit, Fairbanks, Houston, Huntsville, Los Angeles, Madison, New York (either JFK or La Guardia), Newark, Reno, Salt Lake City, San Juan, and Washington DC (use National — not Baltimore or Dulles)

If you are flying from one of these cities, AFTER MAY 1, contact the Groups Department of Professional Travel at (800) 333-6338 (not available in Alaska), (303)706-0570, FAX (303)706-0737, or e-mail meetings@ptc.agencymail.com (NEW). Students traveling from other cities can get their tickets through Professional Travel or from their own travel agents. However, if the tickets are made through Professional Travel, we would prefer you to pay for them if you cancel. Government tickets can be cancelled with no penalty, while changes to other tickets costs \$50, which students would be expected to pay.

Cities that do not have government fares or where the Saturday night fare is considerably cheaper than the government fare are: Albuquerque, Austin, Boston, Daytona Beach, Greenville, Iowa City, Ithaca, Lincoln, Manchester, Melbourne, Orlando, Pittsburgh, San Antonio, San Francisco, Seattle, Spokane, State College, and Tucson. (NOTE: Saturday night stayover not required for Albuquerque, Boston, San Francisco and Seattle on United Airlines for non-refundable fares.)

If you find a cheaper Saturday night fare than the one listed in a future letter to students, NCAR will pocket the difference to spend on other things. For undergraduates who are coming from their home cities, PLEASE contact Professional Travel to see if they can get you a good deal on the air fare. Students are not REQUIRED to stay the whole period.

Students who drive will receive 0.31/mile or the equivalent air fare listed in the student letter, whichever is smaller. We are looking forward to a large student group at the CEDAR Workshop!

REGISTRATION FORM

1999 Fourteenth Summer NSF CEDAR Workshop

June 13-18, 1999

1. PLEASE PRINT

Name: _____

Institution: _____

Address: _____

Telephone: _____ Fax: _____

E-mail: _____

Hotel you plan to use _____ (To track hotel/dorm use for next year)

Are you a: Student (☐) , Tutorial Speaker (☐) , Other (☐)

NOTE: Registrations received after May 28 will be charged a \$15.00 late fee for non-students and a \$5.00 late fee for students. Students wanting travel or per diem funds should register by April 16. Anyone wishing a parking permit for Lot 436 and Lots 600 (Williams Village) must check 8d below, even if it is free!

2. _____ : I plan to attend the Student Workshop on Sunday June 13. Topic is 'Introduction to Solar Terrestrial Programs and to Waves' and is open to non-students.
3. _____ : I plan to present a poster on Tuesday June 15. NOTE: Send information to Roger Smith (roger.smith@gi.alaska.edu), or use <http://landau.phys.clemson.edu/cedar.html> (the preferred method). Include title, author list, and indicate if the first author is a student.
4. _____ : I plan to attend the Poster/Reception on Tuesday June 15, 6-10 PM at the Glen Miller Ballroom (UMC). Guests are welcome.
5. _____ : I plan to attend the buffet at NCAR on Wednesday evening June 16. (Free for students and tutorial speakers, \$15 for others, \$7.50 children.)
6. _____ : I and any guests plan to take a nature hike at Walker Ranch starting at 6:30 PM Thursday June 17. (Bus, snacks and water/drinks provided.)
7. _____ : I plan to attend the joint CEDAR/SHINE/GEM day on Friday June 18.

8. Fees: The regular registration fee for the CEDAR Workshop is \$70. It could be more depending on attendance at the buffet, parking, and late fees.

NOTE1: ALL FEES ARE WAIVED FOR STUDENTS AND TUTORIAL SPEAKERS. FEES FOR GUESTS ARE NOT WAIVED, NOR ARE LATE ASSESSMENTS.

NOTE2: Foreign registrants are not assessed the late fee of \$15 if they register before May 28. They can pay their fees at the meeting.

NOTE3: Alcohol at the reception and buffet will be funded out of voluntary contributions (g) below. A suggested contribution is \$10-20. (Any voluntary amounts for alcohol will be gratefully received.)

- (a) _____ : Regular Registration \$70.00 (Sun Jun 13 to Fri Jun 18) Includes reception on Tuesday, June 15. (Free for tutorial speakers or students)
- (b) _____ : Registration for retirees \$20.00 (June 13-18)
- (c) free _____ : Registration for CEDAR/SHINE/GEM on Friday June 18 only
- (d) _____ : Parking permits for June 13-18 (needed M-F!) \$15.50 (*Free for tutorial speakers or students — Please check here if you want a permit, or none will be provided!*)
- (e) _____ : NCAR buffet (self) \$15.00 Wednesday evening June 16 (Free for tutorial speakers or students)
- (f) _____ : Guests for NCAR buffet @ \$15.00/ea or \$7.50/child
- (g) _____ : Voluntary contribution for alcohol at reception/buffet
- (h) _____ : Late fee if registering after May 28 \$15.00
- (i) _____ : Late fee FOR STUDENTS registering after May 28 \$5.00
- _____ : TOTAL fees

NOTE: If registration payment is not enclosed with this form, please be certain that checks sent separately identify you and the workshop. Checks for the workshop, buffet, guests, and alcohol should be made payable to NCAR. NCAR does not accept MasterCard or Visa. Foreign registrants can pay on arrival provided they submit their registration forms before May 28. Please send correspondence to:

Barbara Emery
HAO/NCAR
P.O. Box 3000
Boulder, CO 80307-3000
(303) 497-1596
FAX Number: (303) 497-1589
e-mail: emery@ucar.edu

**BIOGRAPHY AND APPLICATION FOR STUDENT FINANCIAL SUPPORT TO ATTEND THE
ANNUAL CEDAR WORKSHOP**

Application Deadline: April 16, 1999

All students are eligible to receive a registration fee waiver, including those from non-US institutions. All non-local students are eligible to receive either a double dorm room or \$26/day. Travel funds are also available for students from US institutions, or to foreign students who will be visiting a US institution during the summer and so will have a US sponsor. All students must fill out this application form, which is input for the short biographical list of students available at the meeting. Please send these forms to Barbara Emery via the web, e-mail (emery@ucar.edu), fax (303-497-1589), or mail (HAO/NCAR, P O Box 3000, Boulder, CO 80307). The application deadline is April 16, 1999. See the write-up about travel grants for more information. If this form is returned via the web or e-mail, the advisor can send a short e-mail indicating awareness of and approval of the student's application for funding.

PLEASE PRINT

Name: _____

University Address: _____

Phone: _____

Fax: _____

e-mail: _____

Mailing Address (if different): _____

Expected Degree (BS, MS, PhD) and Date of Graduation: _____

Advisor(s) Name, Phone Number and e-mail: _____

Research Interests: _____

Instruments, Models, or Data Used: _____

Advisor's Signature of Student Status: _____

I confirm that the applicant is a () graduate () undergraduate student at my University or research laboratory and is working on a research project related to the CEDAR Program.

Signature of Research Advisor: _____

UNIVERSITY OF COLORADO SUMMER CONFERENCE HOUSING APPLICATION
Williams Village

COMPLETE THE INFORMATION REQUESTED BELOW AND SEND TO THE ADDRESS INDICATED AT THE BOTTOM OF THE FORM

Name of Conference: NSF CEDAR Workshop, Summer 1999

Name of Participant: _____ Sex: _____
(last) (first)

Lodging: Check-In Date (earliest Sat June 12) _____

Check-Out Date (latest Sat June 19) _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone: (Home) _____ (Business) _____

e-mail: _____

Please request one of the following:

(STUDENT double rooms will be paid by NCAR. Spouses are welcome in double rooms, but they will be charged the full amount (i.e., it is NOT a small charge to add another person to a room). Students who wish to have a single room may do so if they pay the extra \$21.00/day plus \$2.04 tax.)

*Single Room _____ Double Room: _____

(Roommate Preference if Any) _____

Special Requests (Smoker/Nonsmoker, etc.) _____

*There are a limited number of single rooms. If a single room is unavailable, you will share a double room with another conference participant.

Complete if Accompanied by Spouse and/or Family:

Spouse's Name _____

Lodging: Check-In Date: _____ Check-Out Date: _____

Children: Name: _____ Age _____ Sex _____ Dbl _____ Sngl _____

Check-In Date: _____ Check-Out Date: _____

Name: _____ Age _____ Sex _____ Dbl _____ Sngl _____

Check-In Date: _____ Check-Out Date: _____

Name: _____ Age _____ Sex _____ Dbl _____ Sngl _____

Check-In Date: _____ Check-Out Date: _____

Will a rollaway bed be needed? _____ Crib? _____

Total Number in Party _____

PAYMENT IS DUE AT CHECK-IN. Cash, travelers checks, personal checks, VISA and MasterCard will be accepted. DO NOT SEND MONEY IN ADVANCE

MAIL TO: Williams Village
Summer Conferences
University of Colorado
Boulder, CO 80310
or FAX: (303) 492-5959
or e-mail : lodging@housing.colorado.edu

BOULDER LODGING AND LOCAL TRANSPORTATION INFORMATION

1999 Summer NSF CEDAR Workshop,
June 13-18, 1999

The facilities listed below have blocked rooms for workshop participants between the nights of June 12-20, 1999. Reservations must be accompanied by a credit card charge number or a deposit for the first night of lodging; Visa, MasterCard, American Express, and Discover credit cards are accepted at most of the hotels. Cancellations must be made 24 hours in advance to avoid being charged for the first night of lodging. The blocks of rooms at special workshop rates are only being held until the dates indicated below and they may fill up early. *MAKE ALL RESERVATIONS AS SOON AS POSSIBLE AND SPECIFICALLY MENTION THE CEDAR WORKSHOP HOSTED BY NCAR.* If using a travel agent, have them identify you in the same manner. (The government lodging rate for Boulder decreased from \$83/night in 1998 to \$74/night in 1999. This is being contested, so some hotels may not offer the government rate.) Participating hotels and group rates for June 12-20, 1999, are:

Hotel	Single	Double	Deadline	No. of Rooms
Best Western Golden Buff Lodge 1725 28th Street Boulder, CO 80301 (800) 999-2833 or (303) 442-7450, group #25312	\$74	\$84	May 12	12
The Broker Inn 555 30 th Street Boulder, CO 80303 (800)338-5407 or (303)444-3330 FAX (303)444-6444	\$83	\$83	May 12	40
Days Inn 5397 South Boulder Road Boulder, CO 80303 (303)499-4422 FAX (303)494-0269	\$76	\$81	May 13	20
Holiday Inn of Boulder 800 28th Street Boulder, CO 80303 (800)542-0304 or (303)443-3322 FAX (303)443-0397	\$74	\$74	May 12	40
Super 8 Motel 970 28th Street Boulder, CO 80303 (800)525-2149 or (303)443-7800 FAX (303)443-7800 (same as phone)	\$67	\$67	May 12	10

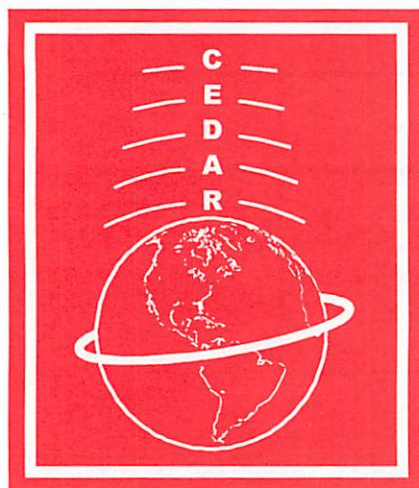
RESERVE ROOMS BEFORE DEADLINES TO ASSURE LOWER RATES. The rates do not include 9.7% sales tax. All hotels have comfortable accommodations. The Broker Inn can provide shuttle service to local meetings if requested by individuals in advance (based on availability). Checkout times are 12:00 noon.

University of Colorado (Dormitory Rooms and Meals)			
Rates are for the 4 nights and 4 breakfasts of the core period.			
	Single	Double	No. of Rooms
Williams Village Summer Conferences University of Colorado Boulder, CO 80310 FAX: (303)492-5959 e-mail: lodging@housing.colorado.edu	\$197.20 + 9% tax	\$113.20/person \$226.40/double occ. + 9.7% tax	42 (S) 50 (D)

Check in at Williams Village. NCAR will pay for students in a double for up to 7 nights between June 12-18 (check-out June 19). Others must pay on arrival. Students who wish to stay in a single may do so if they pay the extra \$21.00 per night plus tax. The cost of a single is \$43.50/night plus tax, while the cost of a double is \$22.50 per person per night plus tax. Breakfast is \$5.80 plus tax. The rates for the dorm campus package include a dorm room for 4 nights from Sunday June 13 to Wednesday June 16 with breakfast every day Monday through Thursday. The core rates are in effect even if the stay is for a shorter period of time. Non-student early arrivals and late departures would pay more. The University of Colorado accepts VISA and MasterCard. Parking permits for Lot 436 and Lots 600 (Williams Village) can be requested in the registration form and picked up in the registration packets that will be available at Williams Village Saturday and Sunday, and at the registration table in the mornings Monday through Friday.

GROUND TRANSPORTATION (Airport): The Boulder Airporter [(303) 444-0808, \$18/one way] provides direct transportation between Denver International Airport (DIA) and Boulder hotels. Check in at the Airporter counter at the baggage claim level 5 in the main terminal across from the Hertz counter. Major credit cards are accepted. A regular hotel stop is The Broker Inn which is just across the street from the Williams Village dormitories.

DAY CARE: For child care while you attend the workshop, Children's World at 5377 Manhattan Circle in Boulder will accept children on a drop-in basis (based on space availability). If you are interested, please call Children's World at (303) 494-3694. Many other daycare facilities are listed in the Boulder telephone directory under Child Care.



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PO BOX 3000
BOULDER CO 80307-3000

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