



THE CEDAR POST

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Report From The CEDAR Science Steering Committee

Following the 1996 CEDAR Meeting in June 1996, the CSSC underwent its annual change of one-third membership. The current Committee is composed of the following members: C. Fesen, R. Heelis, J. Holt, D. Hysell, R. Kerr, M. Mendillo (Chairman), J. Salah, G. Swenson, M. Taylor, G. Shepherd (International Member, 1 year), P. Castleberg (Student Member, 1 year) and as ex officio, S. Basu and R. Robinson. The Committee met in a two day session at NSF in October to work on the CEDAR Phase III Report and to hear various briefings on recent activities (e.g., The Upper Atmospheric Facilities Review, NSF's Upper Atmosphere Research Section Committee of Visitors, status report on the Polar Cap Observatory). In addition, the CSSC addressed two new issues that fall under its important "Science Steering" role for the CEDAR Program. These dealt with the guidelines for CEDAR Post-doctoral applications and possible themes for the FY1998 CEDAR Grants competition. A subsequent meeting was held in San Francisco during the AGU Meeting in December to review the science steering issues discussed in October. Following that meeting, two important CSSC recommendations were accepted for implementation by the CEDAR Program for the May 1997 proposal submission deadline

(1) POST-DOCTORAL APPLICATIONS. The somewhat informal application guidelines used in the past resulted in too diverse a set of proposal formats received for review by the CSSC and CEDAR Panel. A clear and concise summary of the content expected for a post-doctoral application is now in place for the 1 May 1997 deadline. These are given on page 3.

(2) CEDAR GRANT COMPETITION THEME FOR FY1998. In an effort to stress the long-standing CEDAR goals of multi-diagnostic, multi-site research methods, and to broaden community participation in the use of the Upper Atmospheric Facilities, proposals for the 1 May 1997 deadline are particularly encouraged for research efforts that stress the "Chains and Clusters" approach to aeronomic science. It is emphasized that this is not an exclusive theme

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for the FY1998 grant cycle as occurred, for example, in 1994 with the CEDAR New Technology Initiative. A summary of this year's theme emphasis is given below; they will be included with the instructions sent to all referees selected for the FY1998 mail-in reviews and subsequent panel.

CEDAR Proposals for FY 1998

1 May 1997 Application Deadline

Based upon the CEDAR Science Steering Committee's recommendation for the FY98 CEDAR Grant Competition, the CEDAR Program encourages proposals for research emphasizing multiple diagnostic studies involving the radars and optical instruments at the four NSF-sponsored upper atmospheric facilities. Examples might be proposals for the use of existing ISR observations from several sites, multi-site optical observations, simultaneous radio and optical observations from instrument clusters at a single site, or for a new coordinated data set involving chain or clustered diagnostics.

The intent of this emphasis is to encourage an expanded participation of the community in studies of coupling in height and/or latitude of aeronomic processes using the powerful tools at the NSF-sponsored observatories. To facilitate collaborative projects a point of contact has been identified at each site (see below). Also, the CEDAR Data Base Manager and the CEDAR Scientist at NCAR are available to assist community use of UAF observations and associated modeling capabilities.

In addition to the "Chains and Clusters" theme described above, the FY1998 CEDAR Grant Competition invites proposals for other CEDAR-related research areas. Proposal review and selection will be based upon scientific merit of the research proposed. The "Chains and Clusters" theme does not involve a specific set-aside of a portion of FY98 funding.

Contact Point Scientist for the "Chains and Clusters" 1997 CEDAR Proposal Cycle:

Sondrestrom	Dr. John Kelly: Kelly@sri.com (415-859-3749)
Millstone	Dr. John Foster: JCF@hyperion.haystack.edu (617-981-5621)
Arecibo	Dr. Craig Tepley: craig@naic.edu(787)878-1861
Jicamarca	Dr. Donald Farley: DonF@ee.cornell.edu (607-255-7121)
CEDAR Data Base Manager at NCAR	Dr. Barbara Emery: Emery@ncar.ucar.edu (303-497-1596)
CEDAR Scientist at NCAR	Dr. Maura Hagan: Hagan@ncar.ucar.edu (303-497-1537)

The Great CEDAR Phase III Logo Contest!!!

Send ideas and sketches to:

Professor Tim Killeen

Space Physics Research Laboratory

University of Michigan

Ann Arbor, MI 48109-2143

NSF/CEDAR Post-Doctoral Proposals

The NSF/CEDAR Postdoctoral Program provides grants of 1-2 years duration 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.

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 proposal 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 or sent directly to NSF at the address shown below. If sent to NSF, the proposal should provide the names of the evaluators.);
- a transcript of course work;
- an up-to-date resume.

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/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.

SUBMISSION INFORMATION

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

1997 CEDAR Postdoctoral Award Winners

(Post-doctoral advisors and host institutions are given in parentheses)

Victor Pasko (Umrhan Inan, Stanford University)

"Electrodynamic Coupling of Troposphere and Mesosphere in Thunderstorm Regions"

Redgie Lancaster (Philip Richards, University of Alabama)

"The Electron Energy Balance over Millstone Hill Using Combined Optical and Incoherent Scatter Measurements"

Bifford Williams (Chiao-Yao She, Colorado State University)

"Mesopause Tides Based on Extensive MODA and Sodium Lidar Data Sets"

1997 CEDAR Award Winners

Ben Balsley, University of Colorado

The Causal Factors Underlying PMSE Generation and Interhemispheric Differences

Richard Collins, University of Alaska

Lidar Studies of Multiple Metals in the Arctic Mesopause

Patrick Espy, Utah State University

The Bear Lake Observatory

John Foster, Massachusetts Institute of Technology

F-Region Measurements of Vertical Atmospheric Motions

David Fritts, Northwest Research Associates

Equatorial and Global Studies of Large-Scale Dynamics Using MF Radar

James Hecht, Aerospace Research Corporation

Arctic Observations of the Upper Mesosphere and Thermosphere

Michael Hickey, University of Alabama

Modeling Mesospheric Gravity Waves Using Starfire and Meso-D Data

James Horwitz, University of Alabama

Coupling of the High-Latitude F Region to Topside Upflows

Timothy Killeen, University of Michigan

A Complement of Instruments for the Polar Cap Observatory

Ruth Lieberman, University of Michigan

Seasonal and Interannual Variations in the Thermotidal Forcing by Water Vapor Insolation Absorption

Hans Moosmuller, University of Nevada Desert Research Institute

An Operational CW Solid-State Laser System for Temperature and Wind Measurements in the Mesopause

Scott Palo, University of Colorado

Investigation of the Quasi-Two-Day Wave Using a General Circulation Model

J. Michael Ruohomiemi, Johns Hopkins University

Validation of High-Latitude Convection Models

Tom Slanger, SRI International

Ground-Based Measurement of Thermospheric NO

Jan Sojka, Utah State University

CEDAR-HLPS Ionospheric Model Comparisons with Polar Cap Observations

Douglas Strickland, Computational Physics Incorporated

Using Coincident Radar and Optical Data from CEDAR Auroral Campaigns to Investigate Thermospheric Response to Heating, Energization of Electrons, and Emission Processes

Michael Taylor, Utah State University

Mesospheric Temperature Mapper: Characterization and Seasonal Measurements at Bear Lake Observatory

Roland Tsunoda, SRI International

Plasma Electrodynamics in the Low Latitude E-Region

Brenton Watkins, University of Alaska

Establishment of a Resonance Lidar Capability at Sondrestrom, Greenland, for Studies of Metallic Structures in the Upper Atmosphere

Workshop on TIMED-CEDAR Collaborative Science 1-2 April 1997, Applied Physics Laboratory

John Meriwether (Clemson), Joe Salah (MIT), Jeff Forbes (Colorado), Sam Yee (APL)

It is well recognized that the science objectives of the NASA TIMED satellite program are closely related to those of the NSF CEDAR program, particularly the Phase III plan. The launch of the TIMED satellite in January 2000 presents an excellent opportunity for the two programs to take advantage of the synergy between the TIMED space-borne and the CEDAR ground-based instrumentation and modeling activities to produce an observational strategy that would enhance the overall scientific output of both programs. A joint solicitation for the support of correlative TIMED/CEDAR observations and studies is being considered for release in the mid-1998 time frame.

In recognition of the benefits that would be gained if the two communities interact with one another, NASA and NSF are sponsoring a two-day workshop to provide a forum to discuss collaborative science opportunities, exchange information and ideas, and develop a potential observational strategy. The meeting is open to all members of the national and international upper atmosphere science community, including researchers associated with modeling efforts, ground-based instrumentation and space-based instrumentation that would be operating in the 2000-2003 time frame. It is desired that the forum will open the opportunity for all ideas from the community to be considered. The workshop will be held on 1-2 April, 1997, at the APL Parsons Auditorium in Laurel, Maryland. Logistical details will be provided through the CEDAR and AGU/SPA e-mail newsletters and on the TIMED/APL Web site in early March.

A tentative workshop agenda is presently being formulated. It calls for an introduction featuring short presentations reviewing TIMED and CEDAR science objectives. After brief discussions of the TIMED and CEDAR instrumentation and modeling capabilities, a plenary group discussion would follow that would discuss matters concerning data validation and consistency checks, and science focus topics highlighting ground and space collaborative studies dealing with the broad topics of upper atmosphere dynamics, energetics, chemistry and electrodynamics that are of interest to the workshop attendees. The product of this discussion will be the definition of working group science topics, the development of a charge for each group, and the selection of group leaders. During the workshop, posters on instrumentation capabilities (space and ground-based) and models would be available for review. One-page fact sheets on various instruments and models would be made available at the meeting and posted on the WWW.

The working groups would then convene to discuss the science topics and develop strategies that would utilize the wealth of space-based and ground-based observations to improve our understanding of the lower thermosphere, ionosphere, and mesosphere regions of the Earth's atmosphere. On the morning of the second day, it is expected that we would begin with a summary of NASA and NSF plans for the support of collaborative investigations. This would be followed by status reports from each of the working groups, followed by a period of plenary discussion before continuation of the working group activities. In the afternoon, a final plenary session would feature a summary of the specific science questions and studies that would represent possible areas of collaboration as formulated by each group, and the observational strategies to conduct these studies. A workshop report summarizing the views of the workshop attendees will be distributed to all participants after the meeting.

The program committee solicits posters to be exhibited at the workshop that present detailed information on TIMED and CEDAR instruments and measurement capabilities (parameters, coverage, accuracy), relevant on-going campaigns and studies, and assimilative data models, as well as theoretical and numerical models of use to this effort. The committee also solicits one page fact sheets (single or double sided) on instruments, models, and campaigns to be submitted to Sam Yee (APL) two weeks in advance for distribution at the meeting to facilitate workshop discussions.

Program Committee: Sam Yee (APL), Jeff Forbes (Colorado)
John Meriwether (Clemson), Joe Salah (MIT)

Web Page Citations

CEDAR:	http://www.hao.ucar.edu/public/research/tiso/cedar/cedar.html
TIMED:	http://sd-www.jhuapl.edu/TIMED/Overview.html

Graduate Student Fellowships to Work with the CEDAR Data Base

As in past years, there is an opportunity available for two graduate students to work intensively with the CEDAR Data Base around the time of the 1997 CEDAR Workshop. We anticipate that they would arrive before the meeting on Sunday, June 1, and would work on workstations with Data Base personnel before the Workshop, and attend the Workshop the following week. Recipients will have their dorm rooms paid for the entire time, and will receive an extra \$34/day for the extra time they are in Boulder. The NCAR shuttle service can get them from campus to Foothills or the Mesa Lab. Only students with some significant Data Base project will be considered, and both students will be from different institutions in order to spread their knowledge around. A sample application form follows. Please include this information in your application. The selection committee will consist of some members of the CEDAR Steering Committee, and some members of the CEDAR Data Base. Applications are due in by April 15, and the selection will be made by May 1. Applications can be mailed, FAXed, or e-mailed to Dr. Barbara Emery at the address listed in the registration form. If e-mailed, the advisor approval and statement of support can be sent in separately via e-mail, FAX or letter.

Sample Application to Use the CEDAR Data Base June 2-6, 1997

Name:
Institution Address:
e-mail:
Graduate Advisor:
Expected degree and date of graduation:
Expected CEDAR Data Base project:
(i.e., Need data from instruments or models ...
Need to select parameters ... Project about
expected benefits)
Advisor approval and statement of support:

CEDAR Baked Beans #1

An Ode to NSF CEDAR Grant Proposers

In unselfish spirit, my CEDAR PIs,
I'm inspired to share a real treat...
some tips for proposal submission...no lies!
Or other dark forms of deceit!

As May 1st approaches each year, I wait
- my in-box sits, hungrily yawning -
praying proposals don't tumble in late,
new excuses for tardiness spawning.

Then CEDAR proposals, a gargantuan tide,
arrive with their pleas for new grants.
If each would adhere to the Grant Proposal Guide,
they'd each have a much better chance!

Administrative layman, my science is weak,
your project summaries confound me.
Your technical language, not meant for the meek,
and chemistry symbols astound me.

Justify your budgets! They're often lacking
in statements or clear explanations,
for subcontracts, equipment, clerical staffing,
I truly need more information!

As only one person, each CEDAR year
brings me toil, brain-drain, and sweat,
but if my proposal tips have been clear,
I may learn to love this job yet!

Respectfully, humbly yours, Shannon Knauss, Program
Assistant, Aeronomy & Upper Atmosphere Facilities
Programs. Call me for any questions regarding proposal
submission at (703) 306-1530

1997 Annual CEDAR Meeting

Sunday, June 8, to Saturday, June 14, 1997

University of Colorado, Boulder, CO

Submitted by Barbara Emery, NCAR

The Sunday session is a Student Workshop that is scheduled to go from about 9:00-5:30 PM. The topic is communicating with non-scientists and the workshop is open to non-students as well. The location is probably Math-100, since the registration packets will be available outside Math-100 from 08:00-09:30 AM and 05:00-06:00 PM on Sunday. After 6:00 PM on Sunday, registration packets for those who do not owe anything can be obtained at Williams Village, which is across the street from the Broker Inn. All registration packets will then be available in the mornings at Math-100 Monday-Friday. 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 we are not 100% sure tickets will be torn up if you take too long getting your registration packet, another option is to 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 except for Wednesday, when there will be a single large poster session at the Events Center along with a reception. The extra curricular activities this year are free tours of the Celestial Seasonings plant and the Leanin' Tree Museum of Western Art about 20 minutes north-east of campus before the poster session. There is a good cafeteria for lunch at Celestial Seasonings. A bus will go from campus to the tours and back before the poster session starts. Posters can go up as soon as 10 AM on Wednesday at the Events Center, and must be taken down by 7 PM. There will be about 15 minutes to put up your poster before 3 PM if you want to go on the tours. The Annual CEDAR Buffet Dinner will be held on Thursday, June 12, on the Tree Plaza of 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 Saturday (June 14) session is a joint CEDAR/GEM/SHINE session that will be planned later.

Call for Workshops

If you wish to host a workshop at the 1997 CEDAR Workshop, please send notification to Cassandra Fesen (fesen@tides.utdallas.edu) or Michael Taylor (taylor@psi.sci.sdl.usu.edu) before April 1. There are two changes this year in the guidelines for convening a workshop:

- 1) The number of workshops will be limited to a number that can be reasonably accommodated, on the order of 20. Therefore, requests should be made as early as possible.
- 2) The time allotted to each workshop will be two hours. If a longer time period is desired, a request for same must include a justification for the request and an agenda which reflects the need. Those making such request will be notified if the request is granted.

Organizers are reminded that, after the meeting, they are expected to provide a summary of the workshop for publication in the September CEDAR Post.

A list of the workshops and times will be in the May CEDAR Post.

1997 CEDAR Workshop Agenda

University of Colorado
June 8-14, 1997

Sunday, June 8

- 08:30-05:30: Student Workshop at Math-100
Henson/Castleberg/Hysell/Cho (agenda may change)
- NOTE: Non-students are welcome to this workshop
- 08:30-09:00: Welcome and Introduction – Bob Henson, UCAR/NCAR
- 09:00-09:45: Communicating with Non-Specialists, Part 1 - Marie Boyko, U of CO
- 09:45-10:00: Break
- 10:00-11:30: Communicating with Non-Specialists, Part 2 - Marie Boyko, U of CO
- 11:30-12:45: Lunch
- 12:45-01:45: The Media - Tom Yulsman, U of CO
Center for Environmental Journalism
- 01:45-02:15: K-12 Schools - Carol McLaren and Joyce Gellhorn, NCAR Project LEARN
- 02:15-02:45: Web Pages - Greg McArthur, NCAR, Digital Information Group
- 02:45-03:00: Break
- 03:00-03:30: Posters and Exhibits - Paul Dusenberry, Space Science Institute
- 03:30-04:30: Communicating with Funding Agencies, Shannon Knauss, NSF
- 04:30-05:30: Panel Discussion, Questions and Answers

Monday, June 9 (Math 100 AM, Eng Bldg PM)

- 08:30-08:35: Welcome/Introductions: Michael Mendillo
- 08:35-08:40: Director of NCAR, Robert Serafin
- 08:40-08:45: Director of HAO, Michael Knoelker
- 08:45-09:30: NSF Comments/Introductions of Post-docs, students
- 09:30-10:00: CSSC Report
- 10:00-10:30: Break
- 10:30-11:30: CEDAR Prize Lecture
- 11:30-11:45: Update on the CEDAR Data Base, Barbara Emery
- 11:45-01:00: Lunch
- 01:00-05:30: Workshops in the Engineering Bldg (Break 3:05-3:25)

Tuesday, June 10 (Math 100 AM, Eng Bldg PM)

- 08:30-11:45: Tutorial #1: H. Rishbeth (Electrodynamics)
- Briefing #1: Aeronomy in Canada – Gordon Shephard
- Briefing #2: CEDAR Program Status – S. Basu
- Briefing #3: UAF Program Status – R. Robinson
- Briefing #4: PCO – Richard Behnke
- Other: TBD

- 11:45-01:00: Lunch
- 01:00-05:30: Workshops in the Engineering Bldg (Break 3:05-3:25)

Wednesday, June 11 (Math 100 AM, tours, Events Center PM for Posters/Reception)

- 08:30-12:00: Tutorial #2: TBD (Gravity Waves) with panel discussion
- Briefing #5: TIMED – J. Salah
- Briefing #6: MSX Program – M. Taylor
- Science Highlight #1 – M. Hagan
- Science Highlight #2 – R. Tsunoda
- Science Highlight #3 – TBD
- 12:00-03:00: Free time for lunch and spontaneous meetings; or
- 12:15-01:00: free tour of Celestial Seasonings (herbal teas)
- 01:00-01:45: gift shop and lunch at Celestial Seasonings
- 01:45-02:30: free tour of Leaning Tree Museum of Western Art (transport via bus or car-pool)
- 03:00-06:30: Poster session at Events Center
Reception during poster session

Thursday, June 12 (Math 100 AM, Eng Bldg PM)

- 08:30-11:45: Tutorial #3: S. Chakrabarti (Daytime Optical Aeronomy)
- Science Highlight #4 – TBD
- Science Highlight #5 – D. Knipp
- Science Highlight #6 – TBD
- Tutorial #4: TBD (Vertical Winds)
- 11:45-01:00: Lunch
- 01:00-05:30: Workshops in the Engineering Bldg (Break 3:05-3:25)
- 06:00-6:15: Bus from Williams Village to NCAR Mesa
- 06:15-08:00: Buffet on the Tree Plaza at the NCAR Mesa
- 08:00: Bus from NCAR Mesa to Williams Village

Friday, June 13 (Math 100 AM, Eng Bldg PM)

- 08:30-09:00: Student poster awards
- 09:00-11:45: Briefing #7: EISCAT Report
Briefing #8: ISTEP Report
Briefing #9: NSF Programmatic
Briefing #10: NASA Programmatic
Science Highlight #7: ISTP/POLAR
New Science Results

- 11:45-01:00: Lunch
- 01:00-05:30: Workshops in the Engineering Bldg (Break 3:05-3:25)

Saturday, June 14 (with GEM/SHINE, Math 100 and Eng Bldg. AM/PM)

- 8:30-5:00: TBD

Call For Posters

Submitted by: Dave Hysell

A highlight of the annual CEDAR workshop is the poster session. It 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 at the meeting for students and advisors from different institutions to meet and form professional, cross-disciplinary ties.

We therefore solicit poster presentations for the upcoming CEDAR Meeting and particularly encourage students to participate. The poster session this year will be held in the Events Center on Wednesday between 3:00-6:30 PM along with the reception. Presenters should submit the author list and title of their poster and indicate whether the first author is a student. They may do so by sending e-mail to daveh@vasov.phys.clemson.edu or by faxing the information to Dave Hysell at (864) 656-0805 by May 23, 1997. As usual, posters must be confined to a size of 4x4'. They may be set up any time on the day of the session. Posters presented by students will be entered into a competition for which prizes will be awarded.

This year, the student workshop held the Sunday before the meeting will be dedicated to preparing young scientists to communicate with the broader, non-science audience. In honor of this event, this year's poster session will include an additional component. Student poster presenters are asked to bring a short press-release-style description of their results to the workshop. The objective is to communicate the significance of the work succinctly without reliance on technical jargon or formulas. These press releases will be entered into a separate competition and judged by a guest representative from NSF.

CEDAR Communication/Outreach Workshop

Sunday, June 8, 9:00 AM - 5:30 PM

CR1B40 (or Math 100)

Student Workshop Committee: Paul Castleberg, David Hysell, John Cho,
along with Bob Henson. Submitted by David Hysell.

Students have been visible, contributing participants in CEDAR workshops from the very beginning of the program. One of the hallmarks of the annual CEDAR gathering in Boulder is the workshop before the meeting dedicated to the concerns of students working in CEDAR related fields. Previous workshops have been devoted to familiarizing students with experimental practices outside their own disciplines, assisting them in their job searches, and preparing them for life in laboratory and academic environments. Students in the CEDAR community genuinely know who their colleagues are and what they do, appreciate research taking place outside their immediate fields of study, and have the training to pursue careers in geophysics, if they so choose, after graduation. We owe these strengths in some measure to the annual student workshops as well as to the week-long meeting itself.

This year, the student workshop will focus on concerns not limited to students alone - how to communicate the substance and significance of our work beyond the borders of other specialists. As issues such as global change and space weather surface more and more frequently in the mass media, members of our community will be called upon to convey their findings to people with no scientific background. The decision of what to say and how to say it may determine how national resources are allocated and will ultimately fall most heavily on present day students. Moreover, all of us with Web pages who already broadcast our research to a non-science audience should perhaps consider how to send the desired message most effectively.

The tentative list of workshop speakers includes experts in technical communication: Bob Henson (UCAR), Carol McLaren and Greg McArthur (NCAR), Paul Dusenberry (Space Science Institute), and Shannon Knauss (NSF). They will be speaking on how media outlets function, how to communicate with nonspecialists, how to give an interview, how to bring science into the classroom, how to use the Web, and how to construct effective papers, posters, and proposals. We also hope to receive a guest lecture on science and the media from a professional journalist. The workshop will conclude with a panel discussion and question and answer session. Students may also have an opportunity to work on their poster press releases. We strongly encourage students and non-students alike to attend and to come equipped with topics of discussion.

Graduate Students and Travel Grants for CEDAR 1997

Submitted by: Barbara Emery

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://www.hao.ucar.edu/public/research/tiso/cedar/cedar.html>. Space is also available for resumes. Please send resumes to Barbara Emery at emery@ncar.ucar.edu. Students will be introduced via institution during the first plenary session on Monday morning.

NSF has provided money 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. All non-local students, including all foreign students, will receive a small per diem (or a double dorm room) to help defray local costs. Preference will be given to graduate students, but involved undergraduates are also welcome.

Applications for travel funds must be received by APRIL 15!! The "Application for Student Financial Support" requires the signature of the research advisor. However, the form can be e-mailed in if your advisor sends in a separate e-mail confirmation. ALL students should fill out the form in order to be included on the list of students, their interests and their advisors which will be available at the meeting. Please send these forms to Dr. Barbara Emery at the address shown on the registration form. Please 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 travelling from cities where the government rate to Denver is cheaper than the early reservation Saturday night stayover rate. These cities are: Boston, Cedar Rapids, Dallas, Detroit, Manchester, Pittsburgh, San Juan, State College, and Washington DC

If you are flying from one of these cities, contact the Groups Department of Professional Travel at (800) 333-6338 (not available in Alaska), or (303) 706-0570 (FAX: (303) 706-0575 to make airline reservations AFTER May 1. Students travelling from other cities are responsible for getting their own tickets for a Saturday night stayover and will be reimbursed after the workshop. If you must stay over a Saturday night, Professional Travel can get your tickets if you do not want to, but we would like you to pay for them if you cancel. Government tickets can be cancelled with no penalty. Cities where the Saturday night stayover rate is within \$40 of the government rate can choose either service. These cities are: Albuquerque, Baltimore, Champaign, Daytona Beach, Greenville, Houston, Los Angeles, Melbourne, New York, Orlando, Reno, and Salt Lake City

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, and Saturday night stayover tickets can be altered for about \$50, which students would be expected to pay if they change these. However, the dormitory package is from Sunday night through Thursday night, with possible extensions of time at the beginning and end. Hence, if you plan to come for only part or none of the package time, stay at a hotel instead. Students who drive will receive \$0.31/mile or the equivalent air fare listed in the student letter, whichever is smaller. The per diem (which includes meals, lodging, airport shuttle and miscellaneous) is \$26 per day, or \$208 for 8 nights stay-over.

The dorm this year is Williams Village (air conditioned) with 'youth service', so single rooms are only \$4.75 more than double rooms. NCAR will pay for up to 8 nights at the dorm for any student, but those who chose to stay in a double room will get an additional \$4.75/day to help defray costs. All students outside of the dorm will have to pay their own lodging fees, and will be reimbursed \$26/day after the meeting. This per diem does not really cover meal costs or anything other than a dormitory room, 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 before and after the Student Workshop on Sunday, and also at Williams Village Sunday evening.

Boulder Lodging And Local Transportation Information

1997 Summer NSF CEDAR Workshop

June 8-14, 1997

The facilities listed below have blocked rooms for workshop participants between the nights of June 7-15, 1997. 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 before 4:00 PM on the arrival day 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). Participating hotels and rates for June 7-14, 1997 are:

Hotel	Single	Double	Deadline	No. of Rooms
Days Inn 5397 South Boulder Road boulder, CO 80303 (303)492-4422; FAX: (303)494-0269	\$74	\$79	May 9	50
Holiday Inn of Boulder 800 28 th Street Boulder, CO 80303 (303)443-3322; FAX (303)443-0397	\$78	\$78	May 8	35
The Broker Inn 555 30 th Street Boulder, CO 80303 (303)444-3330; FAX (303)444-6444	\$84	\$94	May 7	40
Courtyard by Marriott 4710 Pearl East Circle Boulder, CO 80301 (800)321-2211 (303)440-4700; FAX (303)440-8975	\$99	\$109	May 9	30
Homewood Suites 4950 Baseline Road Boulder, CO 80303 (800)225-5466; (303) 499-9922; FAX (303) 499-6706 (suite w/kitchen; will accommodate 3-4 people) (Group confirmation for Homewood is # 81559537	\$140		May 7	5

RESERVE ROOMS BEFORE DEADLINES TO ASSURE LOWER RATES All hotels have comfortable accommodations and all of them, except the Courtyard, can provide shuttle service to local meetings if requested by individuals in advance (based on availability). Checkout times are 12:00 noon. (*Hotel rates do not include 9.65% sales tax.)

University of Colorado (Dormitory Rooms and Meals)			
	Single	Double	No. of Rooms
Williams Village Summer Conferences University of Colorado Boulder, CO 80310 FAX: (303)492-4448 (valid after May 15) e-mail:emery@ncar.ucar.edu	~\$142.50/person + tax	~\$118.75/person +tax	30 (S) 35 (D)

Rates for the dorm campus package include a dorm room for 5 nights from 6/7-6/12 (Sunday-Thursday) and breakfast every day Monday-Friday. Early arrivals or late departures will pay an extra ~\$22.50 for a single and ~\$17.75 per person for a double. The University of Colorado accepts VISA and MasterCard. These and the above package prices do not include the 9.65% sales tax. Please check in at Williams Village. NCAR will pay for students in either singles or doubles between June 7-15. Others must pay on arrival. 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 Math-100 on Sunday (08:00-09:30 AM and 05:00-06:00 PM).

GROUND TRANSPORTATION (Airport): The Boulder Airporter Inc [(303) 444-0808, \$14/one way, \$26/round trip] will take reservations for direct transportation between Denver International Airport and Boulder hotels. Williams Village is just across the street from the Broker Inn.

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). Children's World also offers summer field-trip programs. If you're interested, please call Children's World at (303) 494-3694. Many other daycare facilities are listed in the Boulder telephone directory under Child Care.

Good Old Storms and Really New Storms!

CEDAR Storm Study Workshop
26-29 March 1997
Millstone Hill, MA

Contact: Dr. Michael Buonsanto at mjb@oceanus.haystack.edu
<http://www.haystack.edu/CSS/a96Oct17.html>
<http://www--istp.gsfc.nasa.gov/istp/cloud/Jan97/event.html>

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 Meeting, Summer 1997

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

Lodging: Check-In Date (earliest Sat June 7) _____

Check-Out Date (latest Sun June 15) _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone: (Home) _____ (Business) _____

Please request one of the following:

*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. STUDENT 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).

MAIL TO: Williams Village
Summer Conferences
University of Colorado
Boulder, CO 80310
or FAX: (303) 492-4448 (valid after May 15)
or e-mail: emery@ncar.ucar.edu

1997 CEDAR Workshop Forms

Send filled forms to: emery@ncar.ucar.edu
 Registration Form
 1997 Twelfth Summer NSF CEDAR Workshop
 June 8-14, 1997

1. PLEASE PRINT

Name: _____

Institution: _____

Address: _____

Telephone: (____) _____ FAX: (____) _____

E-mail: _____

Are you a: Student (), Tutorial Speaker (), Neither ()

NOTE: Registrations received after May 23 will be charged a \$15.00 late fee for non-students and a \$5.00 late fee for students. This late fee does not apply for those attending Saturday June 14 only. Students wanting travel or per diem funds should register before April 15. Anyone wishing a parking permit for Lot 436 and Lots 600 (Williams Village) must check 8c below, even if it is free!

2. I plan to attend the Student Workshop on Sunday June 8
(Topic is communicating to non-scientists, and is open to non-students.) _____
3. I plan to attend the buffet at NCAR on Tuesday June 10
(Additional \$15, free for students and tutorial speakers) _____
4. I plan to present a poster on Wednesday June 11
NOTE: Send the title and author list to Dr. Dave Hysell (daveh@vlasov.phys.clemson)
by FRIDAY MAY 23. Please indicate whether the first author is a student or not. _____
5. I plan to attend the Poster/Reception on Wednesday June 11
(Time 3:00-6:30 PM at the Events Center. Guests are also invited.) _____
6. I and any guests plan to take the free tours of Celestial Seasonings factory (teas) and the Leanin'
Tree Museum of Western Art in the early afternoon of Wednesday June 11 before the poster/reception _____
7. I plan to attend the joint CEDAR/GEM/SHINE session on Saturday June 14 _____

NOTE1: ALL FEES ARE WAIVED FOR STUDENTS AND TUTORIAL SPEAKERS. FEES FOR GUESTS ARE NOT WAIVED, NOR ARE LATE ASSESSMENTS. (Any voluntary amounts for alcohol will be gratefully received.)

NOTE 2: Foreign registrants are not assessed the late fee of \$15 if they register before May 23. They can pay their fees at the meeting.

NOTE 3: Alcohol at the reception and buffet will be funded out of voluntary contributions (f) below. A suggested contribution is \$10-20.

- (a) Regular Registration \$70.00 (Sun Jun 8-Sat Jun 14)
Includes reception on Wednesday, June 11. (Free for tutorial speakers or students or Saturday only attendees) _____
- (b) Registration for retirees \$20.00 _____
- (c) Parking permit for June 8-14 (needed M-F!) \$15.00
(Free for tutorial speakers or students -- Please check here if you want a permit, or none will be provided!) _____
- (d) NCAR buffet \$15.00 Tuesday, June 10 _____
- (e) Guests for NCAR buffet @ \$15.00/ea or \$7.50/child _____
- (f) Voluntary contribution for alcohol at reception/buffet _____
- (g) Late fee if registering after May 23 \$15.00 _____
- (h) Late fee FOR STUDENTS registering after May 23 \$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, reception, buffet, guests, and alcohol should be made payable to NCAR. NCAR does not accept VISA or MasterCard. Foreign registrants can pay on arrival provided they mail their registration forms in early. Please send correspondence to:

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

****STUDENTS** Please complete BOTH pages of this registration form**

Application for Student Financial Support to Attend the Annual CEDAR Meeting

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 single or double dorm room or \$26/day. Travel funds are also available for students from US institutions. All students must fill out this application form, which is input for the list of students and their interests available at the meeting. The application deadline is April 15, 1997. See the write-up about travel grants for more information. If this form is returned via e-mail, the advisor can send a short e-mail indicating awareness 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: _____



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THE CEDAR POST

Boston University
Professor Michael Mendillo
Center for Space Physics
725 Commonwealth Avenue
Boston, MA 02215
617-353-5990

Address correction requested.

BARBARA EMERY
NCAR
HIGH ALTITUDE OBSERVATORY
P.O. BOX 3000
BOULDER CO 80307-3000

The CEDAR Post is published three times a year and is mailed to more than 1000 scientists worldwide.

M. Mendillo, Editor (mendillo@bu.edu)
K. Nottingham, Assistant Editor (kathynot@bu.edu)

CEDAR Baked Beans

The Editor invites submission to the CEDAR Baked Beans section of the Post. The purpose is to provide an informal forum for anyone to briefly address issues, controversial subjects, etc. Limited to 250 words. Replies to such commentaries are also welcome. Final selection for publication rests with the Editor and his CEDAR lawyers.