

# STAFF NOTES

NATIONAL CENTER FOR ATMOSPHERIC RESEARCH

Vol. 21, No. 17

25 April 1986

## LIGHT UP, AND YOU MAY GLOW IN THE DARK

While NCAR is in the throes of defining a policy on smoking within its buildings, one NCAR scientist, Edward Martell (Atmospheric Chemistry Division), is making news discussing the agents and mechanisms responsible for the health effects of this noxious but persistent habit.

Ed, whose research has centered on environmental radioactivity, has been with NCAR since 1962. His interest in the effects of cigarette smoking were first manifested in 1974 when he published an article in the British journal *Nature* on radioactivity in tobacco and in particles found in cigarette smoke.

Following up on earlier research suggesting that radiation in cigarette smoke may play an important role in lung cancer, Ed's own studies showed that lead-210 is concentrated on the trichomes (hairlike structures) of tobacco leaves. Burning the tobacco fibers incorporates the lead-210 into insoluble particles that get trapped in the lungs, particularly at the points where larger bronchial passages divide into smaller ones. A cigarette smoker, then, inhales not only lead-210 (which emits the relatively weak stream of electrons known as beta radiation) but also its radioactive decay product, polonium-210. The polonium emits highly localized alpha radiation (composed of helium nuclei) that ionizes (knocks electrons away from) the atoms in cells; this can either kill the cell or change its genetic structure.

During the intervening years, Ed has continued his research on radioactive aerosols. "Unfortunately, the research that I and a few others have done on radioactive aerosols in indoor air and in cigarette smoke has not been widely known or accepted before now," Ed told *Staff Notes*. "In 1982, for example, the *New England Journal of Medicine* published a letter recognizing that radiation from polonium-210 may be the cause of lung cancer in smokers. The authors were unaware of most of the research on this problem since the 1960s and early 1970s!"

Obscurity may now be a thing of the past, however. Last month, the *Reader's Digest*, the most widely read magazine in the United States,



*Edward Martell.*

published an article entitled "Radioactivity: The New-Found Danger in Cigarettes" summarizing some of this research and citing much of Ed's work.

"The *Reader's Digest* did a good job on a complex subject," Ed said. "The role of cigarette smoke as the promoter of lung cancer is still not fully understood. Current concern about lung-cancer risks from indoor radon pollution is a case in point."

Radium, an element, is distributed in minute quantities throughout the world's soils and

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### This Week in *Staff Notes* . . .

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groundwater. Radium emits the radioactive gas radon, which gradually seeps into manmade structures. Because people have been making their homes more airtight to conserve energy, indoor radon levels have increased. The mathematical models used to estimate the lung-cancer risks of radon pollution, Ed believes, are almost useless because they do not consider the synergistic effects of cigarette smoke combined with the gas.

"Lung cancer is a relatively rare disease of old age for true nonsmokers," Ed says. "Yet current radiation-exposure models incorrectly predict that nonsmokers run a strong risk of developing lung cancer if exposed to high levels of indoor radon."

Last week Ed discussed this question at the American Chemical Society's national meeting in New York City. "The model predictions are wrong," Ed says. "It still depends on whether or not you smoke, or live in a smoke-filled environment."

"The current models were based on studies of uranium miners," Ed elaborates. "They fail to reflect the influence of such factors as gender, smoking rate, or even the effects of 'passive' smoking. Among the miners, those who smoke have a much earlier and about ten times higher incidence of lung cancers than those who don't smoke. This is about the same ratio we find for smokers and nonsmokers in the general population. Because of this, and because of much relevant experimental evidence, I conclude that high risks of lung cancer are due to the interactions between radon decay products and cigarette smoke, not to either one alone."

In a room with clean air, most of the radioactive decay products of radon are deposited on walls and other surfaces. Although some are attached to natural aerosols, because these particles are soluble, they are rapidly cleared from the lungs of nonsmokers. Ed does not agree that even high levels of indoor radon pose a risk of lung cancer to nonsmokers.

In a smoke-filled room, however, Ed maintains that radon decay products (or progeny) adhere to the ambient smoke particles. Anyone breathing smoke-filled air consequently inhales a much higher concentration of radon progeny than would occur under clean-air conditions. Hence passive smokers have higher rates of cancer than true nonsmokers.

Ed's position is reinforced by the results of animal experiments. Test animals exposed to both radon products and cigarette smoke exhibited many lung cancers, but none when exposed to cigarette smoke alone; radon and its decay products alone produced tumors only when the animals were exposed to exceptionally high radiation doses.

Ed points out that the high incidence of respiratory cancers in smokers and of other common cancers in passive smokers is not the only serious risk attributable to indoor radon and its decay products. He notes that there is good basis for suggesting that bone-seeking radioisotopes that are inhaled or ingested contribute significantly to the development of atherosclerosis and other chronic health effects. Radon progeny--the major component of background radiation--also may have played a prominent role in speciation and other evolutionary processes, and may be contributing substantially to spontaneous mutations in living organisms. ●SB

#### CSD RENAMED

CSD, formerly known as the Convective Storms Division, has a new name: the Cloud Systems Division. "The name change simply describes more accurately the scope of our research," explained CSD director Edward Zipser. "While convective storms are an important and challenging subset of our

interests, research in this area no longer dominates the division's activities. Instead, over the years, our research has broadened to include the way clouds and cloud systems operate in the atmosphere. We think it is important," he added, "both externally and internally, to have our name reflect what we do."

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With the change in name, the division has been internally restructured. It now contains three sections: Cumulus Systems, led by Brant Foote; Entrainment, Electrification, and Precipitation Physics, led by Charles Knight; and Mesoscale Interactions, led by Margaret LeMone. "Our reorganization is completely independent of the budget stringencies facing all divisions," Ed said. "It is the result of a long, slow evolutionary process within the division and entails no reductions in staff. Old habits die hard, however," Ed quipped, "and people are welcome to continue referring to us as CSD." ●SB

## ARDEN BUCK LEAVES NCAR

After almost 20 years with NCAR, Arden Buck (Research Aviation Facility, or RAF) has left NCAR to become director of research for General Eastern, a Boston-based firm.

Arden joined NCAR from the National Bureau of Standards in 1966. For several years while at NCAR he worked on developing the Lyman-alpha hygrometer, an instrument that measures humidity and that has become standard on the NCAR aircraft. "This was an intellectually demanding project which required my exploring areas, such as ultraviolet spectroscopy, that were new to me," Arden told *Staff Notes*.

One of Arden's most memorable experiences while at NCAR was sailing from San Francisco to Seattle on the last U.S. Coast and Geodetic Survey steamship. "The purpose of the trip was to test a precision barometer developed at NCAR," he said. "There have also been many memorable trips on NCAR aircraft."

Arden will be remaining in Boulder for the foreseeable future. He will be opening a Boulder office for General Eastern, maintaining contact with the home office by computer link and occasional visits to Boston. He also will be consulting with NCAR. "Because of the consulting work, I will continue seeing some friends at NCAR now and again. There will be a lot of people whom I'll miss, however. I consider my colleagues at NCAR to be some of the neatest and most interesting people I know."

RAF will be having a farewell luncheon for Arden at the Old Louisville Inn on Wednesday, 30 April, beginning promptly at 11:30 a.m. The luncheon is open to everyone at NCAR, and people wishing to attend should call Peggy Taylor on ext. 1040 by Monday, 28 April. ●SB

## DELPHI QUESTION: BROKEN DRINKING FOUNTAIN

*Question* (9 April): The drinking fountain on our floor [the second floor of the Mesa Laboratory] has been broken for at least two months, despite numerous reports to maintenance. There are four division directors' offices on this floor, yet this simple act of repair never is attended to. The fountain is near the library and next to the Chapman Room, where people come and go for meetings throughout the day and touring visitors pass by. It is the closest fountain for hikers and joggers who go out via the back bridge on their lunch breaks.

Attempting a drink from a nonoperating fountain is like trying to shake hands with someone who withdraws his hand at the last second--faintly embarrassing. If the maintenance staff is too busy, can't NCAR call a plumber for an hour? Send an order to the Deep Rock folks? What do we have to do to get a drink around here?

*Answer* (16 April): Our records show that the fountain was taken out of service on 5 February. Since that time we have received several reports about its nonoperability. The bubbler valve in the

handle assembly has failed. This results in dribbling on the floor--a hazard since the floor is slippery when wet.

The valve is unique to the Crane brand of water coolers; it is on order and should arrive in a week or so. To avoid future embarrassments, we will post an "out of service" sign and provide directions to enable people to find the fountain in the same location on the floor below.

*George Lamb*  
Manager, Physical Facilities Services

*Questions and suggestions from the staff to management may be submitted in confidence to the Delphi coordinator, Gilbert Granger (ext. 1694, ML room 042), in written form; they must be signed. Detailed procedures for submitting questions are given in the UCAR Manual, section 1-2-1. Questions and answers of general interest to the staff are submitted to Staff Notes by Gil unless the questioner says he may not. They may be summarized and edited for readability before publication. ●*

## ANNOUNCEMENTS

### SLIDE SHOW ON WHITE-WATER RAFTING

A narrated slide show about white-water rafting and kayaking in Colorado will be given at the Mesa Lab next week. NCAR employee Melanie Pappas (Atmospheric Analysis and Prediction Division) arranged the show, which will be presented by the

Boulder Outdoor Center. The show includes slides of the first paddle-raft descents of Gore Canyon and Clear Creek as well as slides from Brown's Canyon and the Royal Gorge.

The presentation will be at noon on Wednesday, 30 April, in the Main Seminar Room of the Mesa Lab.

BLOOD BANK UNIT TO VISIT RL-6

The mobile unit from the Belle Bonfils Memorial Blood Center will visit RL-6 on Monday, 28 April, from 9:00 a.m. to 3:00 p.m. The Employee Activities Committee (EAC) will provide free coffee, juice, and doughnuts for donors.

The blood drive is a volunteer program sponsored by the EAC. The procedure takes less than half an hour, and donated blood will go to patients in hospitals throughout Colorado. NCAR is credited for each pint of blood given by an employee; all staff and their families are eligible to use blood bank credits at virtually any hospital in the United States.

In preparation for this month's drive, pink donor forms have been distributed to all NCAR employees. Walk-ins will be accepted, but staff are encouraged to schedule a time beforehand. If you want to be a donor, please return the form to Sudie Kelly, RL-6 room S295, or call her at ext. 8951. Those who wish to offer their help should also call Sudie.

ADMP TELEPHONE CHANGES

Below is a list of new telephone numbers for the staff of the Acid Deposition Modeling Project. Those with offices at the Mesa Lab also have NCAR extensions.

Name	Number
Sharon Blackmon	442-2210
William Boyd	441-2910
Richard Brost	441-2912
Jack Calvert	441-2928 (ext. 1435)
Julius Chang	441-2901
John del Corral	441-2911
Daloris Flaming	441-2900
Hal Hildebrand	441-2922
Debra Hopkins	441-2904
Hsiao-ming Hsu	441-2930
Jon Kahl	441-2923
Xiude Ling	441-2906 (ext.1640)
Sasha Madronich	441-2929
Dennis McNally	441-2921
Paulette Middleton	441-2914
Samuel Mitchell	441-2920
James Rosinski	441-2913
Perry Samson	441-2917
Teresa Schulz	441-2924
Linda Sirney	441-2903
Marina Skumanich	441-2903
Darlene Steward	421-2922
William Stockwell	441-2919
Xiaoyan Tang	441-2932
Nick Thompson	441-2926
Jane Vandine	442-2210
Christopher Walcek	441-2918
Gregory Wickham	441-2925

CAFETERIA NEWS

The Wednesday lunch special for next week (30 April) will be lasagna, a small salad, garlic bread, spumoni, and coffee or tea, all for \$3.50.

The breakfast special for next week will be a green chile and cheese omelet with toast for \$2.25.

The winner of this week's free lunch is

JERRY MEEHL

DIRECTORY UPDATE

	Room	Ext.
Christopher Burghart	RL-3 A217	8836
Donna Quabeck		1184

LOST FILM

A 35-millimeter computer film entitled *Rocky Mountain Wave Guide* has disappeared from Andy Robertson's office. Anyone knowing the whereabouts of this film should contact Andy, ext. 1241.

TEX USER GROUP MEETING

Feeling boxed in by TEX? You are invited to a meeting of NCAR TEX users: Wednesday, 7 May, at 3:30 p.m. in the Main Seminar Room of RL-6. The meeting is being coordinated by Jim Robinson to help users share their TEX experiences. The meeting is open to all current and potential TEX users.

Users who cannot attend the meeting are invited to send Jim information on their needs for training, support, documentation, and the development of macros. For further information, contact Jim on ext. 8850.

T-SHIRT DESIGN CONTEST

The Employee Activities Committee (EAC) needs a design for its next batch of NCAR T-shirts, which are sold to NCAR employees, families, and friends. The EAC will hold a contest for the best design, and the winner will receive a free T-shirt and a gift certificate for dinner for two. Free T-shirts will be given to the four runners-up.

Entries are due no later than 7 May and should be sent to Rosemary Mitchell in the Mesa Lab. Entries will be judged by the EAC members with help from Graphics.

#### WORKSHOP FOR WOMEN

The Employee Activities Committee will sponsor a free workshop entitled "Self-Empowering Communication for Women" next month. The workshop will be presented by Deborah Flick, a professor of Women Studies at the University of Colorado. It will be held in the Main Seminar Room of the Mesa Lab from 11:30 a.m. until 1:00 p.m. on Friday, 16 May. No reservations are required, and the workshop is open to all NCAR employees.

#### VISITORS

IAN GALBALLY, Commonwealth Scientific and Industrial Research Organization, Aspendale, Australia. Field of interest: Atmospheric chemistry. 14-18 April.  
--Brian Ridley, Atmospheric Chemistry Division

The following visitors will be attending the Joint National Science Foundation-UCAR Planning Committee meeting on 1-2 May:

John Dutton, Pennsylvania State University  
James Anderson, Harvard University  
William Gordon, Rice University  
James Kimpel, University of Oklahoma  
Volker Mohnen, State University of New York at Albany  
Harold Orville, South Dakota School of Mines and Technology  
Juan Roederer, University of Alaska  
Aksel Wiin-Nielsen, Danish Meteorological Institute, Copenhagen.

The following people will be attending the NCAR Acid Deposition Modeling Project Technical Working Group meetings on 28-29 April:

Roger Atkinson, University of California, Riverside  
Carmen Benkovitz, Brookhaven National Laboratory  
Carl Berkowitz, Pacific Northwest Laboratories  
Gregory Carmichael, University of Iowa  
John Clarke, Environmental Protection Agency  
Kenneth Demerjian, State University of New York at Albany  
Alan Dunker, General Motors Research Laboratories, Warren, Michigan  
Thomas Graedel, Bell Laboratories, Murray Hills, New Jersey  
Warren Johnson, SRI International, Menlo Park, California  
Helga Kolb, University of Vienna, Austria  
Robert Lamb, Environmental Protection Agency  
Alan Lloyd, Environmental Research and Technology, Inc., Newbury Park, California  
Jennifer Logan, Harvard University  
David Mobley, Environmental Protection Agency  
Joan Novak, Environmental Protection Agency  
Harold Orville, South Dakota School of Mines and Technology  
Richard Stolarski, NASA Goddard Space Flight Center  
Akula Venkatram, Environmental Research and Technology, Inc., Concord, Massachusetts  
Thomas Warner, Pennsylvania State University  
Gary Whitten, Systems Applications, Inc., San Rafael, California  
Marvin Wesely, Argonne National Laboratory



# LIBRARY NEWS

April 25, 1986

## WHAT ARE ARCHIVES?

Archives are records that are of lasting historical, legal, administrative and fiscal value. They are records that are kept to be used, but are never used up. What distinguishes archives from all other records is that they contain information that we need to preserve indefinitely.

The NCAR Archives, located behind the RL6 Library, is the repository for UCAR and NCAR archival records. A sample of these include the following:

Correspondence, reports and photographs on the design and construction of the Mesa Lab (Physical Facilities Records)

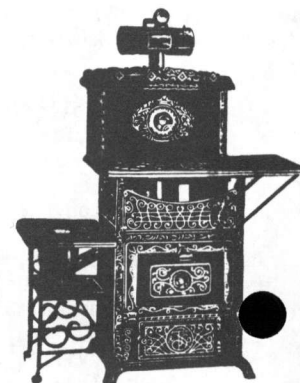
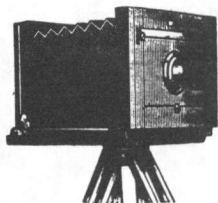
Early meeting materials and minutes of the UCAR Board of Trustees, Executive Committee and Council of Members (UCAR Records)

Press releases, press clippings, reprints, and early brochures (Office of Media Relations and Information Services Records)

Correspondence and minutes of the UCAR-NCAR 25th Anniversary Celebration Committee (Advanced Study Program/UCAR Records)

These records and others are available for your study and enjoyment.

The NCAR Archives is always interested in hearing about additional records of lasting value that you might have or know about. Contact Archivist Nancy Gauss to discover further archival records and the NCAR Archives (x8680, Tuesday and Thursday).



\* \* \*

My acquisitions recommendation is: \_\_\_\_\_

for the Mesa, RL-6, RL-3, MAR or RAF Library. (Circle one) Name: \_\_\_\_\_

\* \* \*

The following material will be displayed in the Mesa Library Apr. 24 - May 1, and in the RL-6 Library May 2 - May 9. New acquisitions announced last week (Apr. 18) are presently on display in the RL-6 Library through May. 2. You may reserve them during display for subsequent checkout.

NCAR members located off the Mesa may borrow new books, reports, and microfiche by checking the item of interest below and returning to Gayl Gray.

## NEW BOOKS

New books for the Mesa, RL-6, RL-3, MAR and RAF Libraries are in the following list. Reference material does not circulate.

### CALL NUMBER

WINNING THE GAMES SCIENTISTS PLAY. Sindermann, C.J., 1982.	Q175 S569 1982
TRAINING FOR MICROCOMPUTERS: A DIRECTORY OF DISKETTE-BASED AND VIDEO TRAINING PACKAGES. 1985.	QA76.27 T68 1985
BOWKER 1985 COMPLETE SOURCEBOOK OF PERSONAL COMPUTING. 1984.	QA76.5 B669 1984 RefDep
C, A REFERENCE MANUAL. Harbison, S.P., et al., 1984.	QA76.73 C15H38 1984 c.2 in RL-6
FORTRAN OPTIMIZATION. Metcalf, M., 1985.	QA76.73 F25M48 1985 c.2
FORTRAN 77: PRINCIPLES OF PROGRAMMING. Wagener, J.L., 1980.	QA76.73 F25W32 1980 c.2
PRESENTATION GRAPHICS ON THE IBM PC AND COMPATIBLES. Lambert, S., 1986.	QA76.8 I2594L346 1986
THE PC-SIG LIBRARY: A DIRECTORY. Petersen, R., 1985.	QA76.8 I2594P33 1985 c.2 in R
THE CONNECTION MACHINE. Hillis, W.D., 1985.	QA267 H487 1985
INTRODUCTION TO VARIANCE ESTIMATION. Wolter, K.M., 1985.	QA279 W65 1985

New books continued on next page

## NEW BOOKS Continued

	<u>CALL NUMBER</u>
DIFFERENTIAL EQUATIONS, FLOW INVARIANCE AND APPLICATIONS. Pavel, N., 1984.	QA372 P36 1984 c.2 RL-6
MACROSCOPIC MODELLING OF TURBULENT FLOWS. Frisch, U., 1985.	QA913 M24 1985
REACTIONS AND PROCESSES. Bruggeman, W.A., 1985.	QD31 H335 v.2 1980 pt.C
SUPERACIDS. Olah, G., et al., 1985.	QD499 043 1985
COMPUTER AIDED CHEMICAL THERMODYNAMICS OF GASES AND LIQUIDS. Benedek, P., et al., 1985.	QD504 B45 1985
AMAZONIA. Prance, G.T., 1985.	QH112 A43 1985
THE GEOLOGICAL FRACTIONATION OF ISOTOPES. Galimov, E.M., 1985.	QP531 G3413 1985
DIRECTORY OF AMERICAN RESEARCH AND TECHNOLOGY. 1986.	T176 I65 1986 Ref
ENVIRONMENTAL CONSEQUENCES OF NUCLEAR WAR. Harwell, M.A., 1986.	U263 H37 1985

## NEW TECHNICAL REPORTS

### ATMOSPHERIC SCIENCE

- 23374. -- SAGER L (ET AL), NMC FORMAT FOR SA HOURLY REPORTS REVISED (1986)
- 23375. -- ERASMUS D A, APPLICATION OF A WIND FLOW MODEL FOR COMPLEX TERRAIN AREAS ON DAHU: A COMPARISON WITH OBSERVATIONS AND OTHER MODELS (1985)
- 23376. -- TRABALKA J R (ED) ATMOSPHERIC CARBON DIOXIDE AND THE GLOBAL CARBON CYCLE (1985)
- 23376. -- TRABALKA J R (ED) ATMOSPHERIC CARBON DIOXIDE AND THE GLOBAL CARBON CYCLE C.2 (1985)
- 23377. -- MACCRACKEN M C (ET AL), DETECTING THE CLIMATIC EFFECTS OF INCREASING CARBON DIOXIDE (1985)
- 23377. -- MACCRACKEN M C (ET AL), DETECTING THE CLIMATIC EFFECTS OF INCREASING CARBON DIOXIDE C.2 (1985)
- 23378. -- PROSPERO J M (ET AL), ATMOSPHERIC AEROSOL MEASUREMENTS DURING GATE (1976)
- 23379. -- THIELE O (ET AL), (ED) UNDERSTANDING CLIMATE: A STRATEGY FOR CLIMATE MODELING AND PREDICTABILITY RESEARCH (1985)
- 23380. -- JOHNSON D L (ET AL), MSFC/J70 ORBITAL ATMOSPHERE MODEL AND THE DATA BASES FOR THE MSFC SOLAR ACTIVITY PREDICTION TECHNIQUE (1985)
- 23381. -- MILLER T L, CURRENT SCIENTIFIC ISSUES IN LARGE SCALE ATMOSPHERIC DYNAMICS PROCEEDINGS OF A WORKSHOP HELD AT THE NASA GEORGE C. MARSHALL SPACE FLIGHT CENTER MARSHALL SPACE FLIGHT CENTER, ALABAMA JUNE 20-21, 1985 (1986)
- 23382. -- MOLteni F (ET AL), CLIMATOLOGY AND SYSTEMATIC ERROR OF RAINFALL FORECASTS AT ECMWF (1985)
- 23383. -- MOHANTY U C (ET AL), ASIAN SUMMER MONSOON CIRCULATION STATISTICS: 1979-1984 (1985)
- 23384. -- MOHANTY U C (ET AL), IMPACT OF MODIFIED PHYSICAL PROCESSES ON THE TROPICAL SIMULATION IN THE ECMWF MODEL (1985)
- 23385. -- LURMANN F W (ET AL), USER'S GUIDE TO THE PLMSTAR AIR QUALITY SIMULATION MODEL ERT DOCUMENT NO M-2206-100 (1985)
- 23386. -- GODDEN D (ET AL), DEVELOPMENT OF THE PLMSTAR MODEL AND ITS APPLICATION TO OZONE EPISODE CONDITIONS IN THE SOUTH COAST AIR BASIN (1983)
- 23387. -- CLIMATE IMPACT ASSESSMENT UNITED STATES (1985)
- 23388. -- REPORT OF THE SEMINAR ON PROGRESS IN DIAGNOSTIC STUDIES OF THE GLOBAL ATMOSPHERIC CIRCULATION AS A RESULT OF THE GLOBAL WEATHER EXPERIMENT WORLD METEOROLOGICAL ORGANIZATION (1984)
- 23389. -- MIRONOVITCH V, PERTURBATIONS TROPOSPHERIQUES ET SUBSTRATOSPHERIQUES LEUR INDEPENDANCE STRUCTURE DE L ATMOSPHERE LIBRE LORS DE LEUR PASSAGE ETUDE STATISTIQUE ET SYNOPTIQUE (1949)
- 23390. -- SIKKA D R, CHRONOLOGICAL WEATHER SUMMARY FOR SUMMER MONEX (1980)
- 23391. -- SCIENTIFIC PLAN FOR THE TROPICAL OCEAN AND GLOBAL ATMOSPHERE PROGRAMME WORLD METEOROLOGICAL ORGANIZATION (1985)
- 23391. -- SCIENTIFIC PLAN FOR THE TROPICAL OCEAN AND GLOBAL ATMOSPHERE PROGRAMME RL-6 C.2 WORLD METEOROLOGICAL ORGANIZATION (1985)
- 23392. -- FIRST IMPLEMENTATION PLAN FOR THE WORLD CLIMATE RESEARCH PROGRAMME WORLD METEOROLOGICAL ORGANIZATION (1985)

# JOB OPENINGS

April 23, 1986

*NCAR/UCAR is an equal opportunity/affirmative action employer.*

Salaries for new employees and for current employees receiving reassignment will be between the range minimum and maximum shown for each job. Specific starting salaries are determined by comparing the applicant's qualifications with the requirements and assessing expected performance levels.

## ADMINISTRATIVE SECRETARY - #0541

SCD - Division Office

Non-Exempt Range: 27, \$1,345 - 1,746/mo

**DUTIES:** Provides secretarial support to the Manager of Data Support and the Manager of Advanced Methods. Prepares letters and memos from oral dictation or written notes. Provides secretarial support to the SCD monthly Users Group, including taking, transcribing and mailing minutes of the meetings to users and the SCD Advisory Panel; preparing the agenda with assistance from the group chairman and the division director, and maintaining the record book. Uses a UNIX text processing system to generate correspondence, reports, papers, and long or repetitive documents. Maintains an on-line list of SCD publications for use in various reports. Makes arrangements for outside visitor use of SCD facilities and maintains records of these visits; takes telephone messages, arranges travel accommodations, and prepares related travel documents for staff members; maintains a stock of office supplies and types purchase requisitions for special orders; maintains files; prepares and assists with SCD mailings as required. Updates and maintains the SCD Technical Library.

### **REQUIRES:**

- Accurate typing skill at approximately 70 WPM
- Thorough knowledge of English grammar, punctuation, spelling, and composition
- Skill in taking and transcribing dictation
- Skill in taking minutes where material to be recorded is of a technical or scientific nature
- Skill in handling confidential information discreetly
- High level office skills, including working with a high degree of accuracy and attention to detail

- Skill in interacting and communicating effectively with a large and diverse staff
- Skill in handling pressure and functioning well within time constraints and demands
- Skill in working with minimal supervision
- Word processing skills
- Willingness to develop a good command of technical computing terminology and jargon

### **ALSO DESIRED, BUT NOT REQUIRED:**

- Skill in the use of UNIX for text processing and formatting
- Familiarity with computing terminology and jargon

Nancy Lippincott X8729

## SCIENTIST I or II - #0542

AAP - Climate Section/Global Climate Modeling Group

Exempt Range: 84, \$2,420 - 3,630/mo

85, \$3,044 - 4,567/mo

**DUTIES:** Conducts independent and collaborative research in the field of climate modeling, focusing on the role of the ocean and sea ice. Uses existing world ocean numerical models of the climate system as well as develops improved ocean models for coupling to atmospheric models. Actively participates in and contributes to internal NCAR programs related to the Community Climate Model as well as national scientific programs (such as the National Climate Program) and the NCAR Carbon Dioxide Research Program. Presents results of research efforts at technical meetings and in scientific journals.



**ADDITIONAL DUTIES (level II):**

Participates in general divisional management, including assisting in the development of objectives and plans for research programs and projects. Participates in national advisory committees dealing with ocean modeling or related computational matters. Supervises staff in ways consistent with UCAR and its equal opportunity and affirmative action programs.

**REQUIRES:**

- Ph.D. in atmospheric sciences, oceanography, meteorology, or related physical science OR the equivalent combination of education and experience
- Strong oral and written skills, as demonstrated by presentations and publications
- Working knowledge of ocean/sea ice/atmospheric climate phenomena necessary for modeling their interactions
- Advanced knowledge of research methodologies and techniques
- Skill in FORTRAN programming
- Skill in working independently as well as with a group

**ALSO DESIRED, BUT NOT REQUIRED:**

- Familiarity with the GFDL or NCAR primitive equation ocean models

**ADDITIONAL REQUIREMENTS (level II):**

- Advanced knowledge of ocean/sea ice/atmospheric climate phenomena
- Skill in supervising and coordinating the work of others
- Skill in establishing and maintaining professional relationships inside and outside the organization

**ALSO DESIRED, BUT NOT REQUIRED (level II):**  
 -- Working knowledge of the GFDL or NCAR primitive equation ocean models

**NOTE:** Scientist I and Scientist II appointments are for terms of up to three and four, respectively. Individuals may be appointed to the next higher level of Scientist in accordance with the UCAR Scientific Appointments policy.  
 Nancy Lippincott X8729

**SECRETARY - #0538**

**This position is being opened to external candidates also.**

UCAR - Projects Office

Non-Exempt Range: 26, \$1,222-1,588/mo

**DUTIES:** Provides clerical support. Assists in the arrangements for UCAR project meetings. Included in these arrangements are: preparing materials in advance, making travel and lodging arrangements, and providing secretarial support during the meetings. Performs general office work, including answering

phones; photocopying; distributing mail; assisting in file and records maintenance; preparing drafts and final copies of letters, memoranda, meeting minutes, reports, routine UCAR correspondence, and other documents from written or transcribed materials. Maintains a working familiarity with the organization, its policies, and procedures.

**REQUIRES:**

- Skill in accurate typing at approximately 60 WPM
- Skill in the use of current office practices and procedures
- Skill in exercising initiative and judgment with regard to scheduling work priorities
- Skill in exercising judgment and professionalism in dealing with a wide variety of individuals both in person and over the telephone
- Skill in establishing and maintaining effective working relationships
- Skill in handling confidential information
- Demonstrated skill in making travel arrangements (airline reservations, car rentals, lodging)
- Demonstrated skill in learning an organization's policies and procedures quickly and efficiently
- Thorough knowledge of English, spelling, grammar, and composition
- Willingness to learn word processing
- Willingness to learn electronic mail

**ALSO DESIRED, BUT NOT REQUIRED:**

- Skill in using an NBI word processor
- Skill in using an electronic mail system

Nancy Lippincott X8729

**SECRETARY - #0539**

**This position is being opened to external candidates also.**

UCAR - President's Office

Non-Exempt Range: 26, \$1,222 - 1,588/mo

**DUTIES:** Assists in the arrangements for UCAR Trustees and Members' meetings, including helping with advance preparation of materials, making travel arrangements, and providing clerical support for participants. Performs general office work such as greeting visitors, answering telephones, photocopying, distributing mail, and running errands. Assists with the maintenance of files and records. Prepares type-written drafts and final copies of documents and correspondence. Handles confidential matters discreetly and responsibly. Handles petty cash, stamps, and office supplies.

**REQUIRES:**

- Skill in accurate typing at approximately 60 WPM
  - Skill in the use of current office practices and procedures
  - Skill in exercising initiative and judgment with regard to scheduling work priorities
  - Skill in establishing and maintaining an effective and pleasant working relationships
  - Good grammar, spelling, and punctuation skills
  - Skill in handling confidential information
  - Skill in transcribing from tape recordings
  - Willingness to work overtime as required
  - Willingness to work under time pressures
  - Willingness to work on a variety of tasks and to promote a positive work environment
  - Willingness to learn the organization's policies and procedures quickly and efficiently
  - Basic skill in word processing
- ALSO DESIRED, BUT NOT REQUIRED:**
- Skill in using an NBI word processor
- Nancy Lippincott X8729

**ADDITIONAL POSITIONS**

We are still accepting applications for the positions listed below. For information on any of the following previously published job vacancies, please contact the Personnel/EOP office on extension 8693.

**ASSOCIATE SCIENTIST II or III - #0521**

DIR - Acid Deposition Modeling Project  
Exempt Range: 81, \$2,134 - 3,201/mo  
82, \$2,561 - 3,842/mo  
Date first published in "Job Openings":  
March 5, 1986

**DIRECTOR of NCAR - #0517**

**CONTACT:**  
Dr. Roscoe R. Braham  
Chairman, UCAR Search Committee  
c/o Dr. G. Wm. Curtis  
UCAR, P.O. Box 3000  
Boulder, CO 80307  
Date first published in "Job Openings":  
March 5, 1986

**MANAGER, HAO COMPUTING SERVICES GROUP - #0450**

HAO - Administration and Research Support  
Exempt Range: 79, \$3,494 - 5,242/mo (86)  
Date first published in "Job Openings":  
April 9, 1986

**SCIENTIFIC APPLICATIONS PROGRAMMER II OR III - #0467, #0468**

**Two Positions Available**

ATD - Research Applications Program  
Exempt Range: 61, \$2,173 - 3,260/mo (II)  
62, \$2,608 - 3,912/mo (III)  
Date first published in "Job Openings":  
March 12, 1986

**SCIENTIST I - #0511**

DIR - Acid Deposition Modeling Project  
Exempt Range: 84, \$2,420 - 3,630/mo (86)  
Date first published in "Job Openings":  
February 12, 1986

**SCIENTIST II OR III - #0512**

ATD - Research Applications Program  
Exempt Range: 85, \$3,044-4,567/mo (86)  
86, \$3,653-5,480/mo (86)  
Date first published in "Job Openings":  
February 19, 1986

\* Asterisked positions are appearing in "Job Openings" for the first time.\*

# CALENDAR NOTES

April 28th through May 5, 1986

## MONDAY, April 28th

- Meeting -- NCAR Acid Deposition Modeling Project (ADMP) Technical Working Group

9:00 a.m. Monday through  
3:00 p.m. Tuesday  
NCAR Mesa Lab, Main Seminar Room

- Blood Bank -- Donation Day

9:00 a.m. to 3:00 p.m.  
RL-6 Seminar Room W179

## TUESDAY, April 29th

- AAP Seminar -- Dynamics of an Intense Surface Cold Front, David B. Parsons

3:30 p.m.  
NCAR Mesa Lab, Main Seminar Room

## WEDNESDAY, April 30th

- ACD Seminar -- The Use of Radon to Determine the Entrainment Velocity Across the Top of the Marine Boundary Layer, Jack Kay, Drexel University

8:30 a.m.  
NCAR Mesa Lab, Main Seminar Room

- Slide Show -- White Water Rafting and Kayaking, Melanie Pappas

12:00 noon  
NCAR Mesa Lab, Main Seminar Room

- ASP Seminar -- The Himalaya-Ganges Problem: Mountain Deforestation and Impacts on the Ganges Plain: Fact or Fiction?, Jack Ives, President, International Mountain Society

3:30 p.m.  
NCAR Mesa Lab, Main Seminar Room

## WEDNESDAY, April 30th (cont.)

- ATD Seminar -- A Look at Some Microburst Forcing Mechanisms and Single Doppler Applications to Forecasting, Rita Roberts

3:30 p.m.  
RL-3, Room 620

## THURSDAY, May 1

- HAO Seminar -- Accretion Disk Phenomena in Early Stellar Evolution, L. Hartmann, Smithsonian Astrophysical Observatory

10:30 a.m.  
NCAR Mesa Lab, Main Seminar Room

- CSD Seminar -- Aircraft Studies of Horizontal Pressure Gradients and Ageostrophic Accelerations, Alfred Rodi, University of Wyoming

3:30 p.m.  
RL-6, Main Seminar Room, W-179

- Meeting -- Joint NSF/UCAR Planning Committee

8:00 a.m. Thursday through  
2:00 p.m. Friday  
Fleischmann Bldg

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Calendar Notes announcements may be mailed to Sheryl Meek, ML 140. Wednesday at 12:00 Noon is the deadline for items to be included into Calendar Notes.