NRAO
NATIONAL RADIO ASTRONOMY OBSERVATORY
CHARLOTTESVILLE, VA
THE POINT SOURCE

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Budget for 2003 - Current Prospects

The 2003 budget request for the National Science Foundation, sent to Congress by the President, contained a cut of about 3 percent for the physical sciences, including disciplines such as physics, chemistry, and astronomy. As part of this general trend, the request for NRAO operations was $39,630,000, which is approximately $800,000 below the funding level for 2002. At this request level the observatory would face significant problems in conducting its programs.

In contrast to this discouraging news for operations, the request for ALMA was $30 million for the second year of construction, a substantial increase over the $12.5 million we have for 2002. It is gratifying to see the President making this very real commitment to the ALMA project in his budget request to Congress. The language that he used to describe ALMA was encouraging also: "Just as Olympic athletes need the finest equipment and training protocols to triumph, so do scientists, engineers, and their students need the most modern research instruments with the best capabilities, the farthest reach, and the finest accuracy." The budget allocates $30 million for the next phase of construction of the Atacama Large Millimeter Array (ALMA)—the world's most sensitive, highest resolution radio telescope used to study stellar evolution, galaxy formation, and the evolution of the Universe itself.

What are the prospects for the operations budget? It is too early to be confident that we will receive more than the requested amount, but there are indications that Congress might increase the funding for NSF above the request level, as has frequently happened in recent years. Meanwhile, NRAO has taken the prudent step of freezing some open positions while assessing the impact of the requested budget for 2003. If we are careful with the resources we have this year and we do share in the increased NSF appropriation expected for next year, we will be in a good position to carry out all our programs, both operating our telescopes and making scheduled progress on ALMA and EVLA.

by P. A. Vanden Bout

High School Student Competing in National Science Fair with Help of NRAO Mentor

Ms. Rachael Beaton, a junior at Altavista High School in Altavista, Virginia, was selected to compete at the national level of the 2002 Intel International Science and Engineering Fair. Her paper for this competition was entitled, "A Study of Neutral Hydrogen in the Milky Way," which was designed to find the location of the Sun in the Milky Way using archival HI data from a telescope in the Netherlands.

Jay Lockman (NRAO-GB) served as her mentor on this project. "The judges at the regional fair seemed very impressed with the project," said Beaton "and the fact that I had a mentor on the project." She hopes to continue her interest in radio astronomy, perhaps expanding her research during her senior year in high school, and continuing her studies in college.

The Intel International Science and Engineering Fair will be held in Louisville, Kentucky, May 12-18.

NRAO Making Strides in Public Outreach

After many months of strategic planning, discussions, and creative brainstorming, NRAO is embarking on a newly focused, strategic approach to its education and public outreach (EPO) efforts.

The current education and public outreach programs developed by NRAO have been a tremendous success, and have helped to enhance the visibility of the observatory and to improve the public's awareness of astronomy and science. This success has been due, in large part, to the dedication and skill of the observatory's education and media relations staff. These successes have enabled us to go beyond our previous efforts and to develop a more comprehensive and strategic program that will have an even greater public impact. To bring this to fruition, NRAO is in transition from its current EPO

program, which in many cases is driven by site-specific needs, to a more centralized and coordinated program with a national presence.

To ensure that this expanded program will meet the public needs and is the best that can be done with available resources, NRAO convened a panel of advisors on November 12-13, 2001, in Green Bank. Over this two-day period, the panel reviewed NRAO's existing outreach programs, determined where our unique strengths could be best leveraged, and made specific recommendations on how to enhance our draft EPO strategic plan.

The panel, which was co-chaired by Debra Shepherd and Jay Lockman, made a number of valuable recommendations. We're pleased that the panel's highest recommendation, hiring a full-time Head of Education and Public Outreach, has been achieved (see sidebar).

Other recommendations from the workshop include:

- Redesigning the NRAO website to be more user friendly for staff, scientists, and the public;
- Developing a media policy and crisis communications plan to help NRAO establish and maintain ties with the national science and general media (this includes a more proactive approach to building relationships with the media);
- Ensuring visitors to NRAO education centers receive a high-quality experience that promotes excitement and appreciation for science (particularly in light of the new Green Bank Education Center and the updated Visitors Center at the VLA);
- Developing a staff involvement plan for EPO, leveraging the resources of the scientific and professional staff to ensure the highest quality EPO products; and,
- Creating an external advisory committee for education.

Many of these recommendations are already in the process of being implemented. It is our hope that this exercise will provide a much needed roadmap for current priorities and future planning.

To learn more about these activities and to read the full strategic plan for NRAO EPO, please visit the web at *http://www.aoc.nrao.edu/~dshepher/nrao.ops/epo.final.report.pdf.*

by Charles E. Blue

Dr. Lee Shapiro, currently the director of the Morehead Planetarium at the University of North Carolina, will join the NRAO as Head of Education and Public Outreach Programs on May 13.

As director of the Morehead Planetarium, Shapiro managed its Star Theater, the exhibits, education programs, as well as the gift shop and public information activities. During that time, he also was an adjunct professor in the department of physics and astronomy at the University of North Carolina, where he taught introductory astronomy and astronomy laboratory courses.

Throughout his career, Shapiro has endeavored to make astronomy accessible to the public. His efforts to reach a broad segment of the public have included giving lectures as a Carolina Speaker and acting as a NASA Galileo Ambassador and a NASA Solar System Ambassador. Shapiro has also been a planetarium spokesperson for library groups, civic organizations, youth groups, lifelong learning groups, service organizations, retirement communities, and general audiences on varied astronomical topics. He also has conducted numerous pubic broadcast interviews (radio and television), including a weekly public radio column, as well as being a regular contributor of astronomical articles to local print media.

Comet C/2002 C1 Ikeya-Zhang

About thirty degrees above the west-northwest horizon at sunset during March, it was possible to see Comet C/2002 C1 Ikeya-Zhang glowing at fourth magnitude. It was discovered in the evening sky on February 1 by three amateur astronomers, Ikeya in Japan, Zhang in China, and Raymundo in Brazil. Each was using a reflector telescope of 8-10" diameter. The comet was then glowing at about 7.5 magnitudes, but has brightened as it has approached the Sun and the Earth in the interim. Closest approach to the Sun occurred on March 18 when the comet reached 0.5 AU from our star; it is closest to Earth, at about 0.4 AU, on May 1. Nakano pointed out that the orbit seemed very similar in every respect to the orbit calculated for comet C/1532 R1. As more positions were determined, the orbit became more accurately determined, and on the March 15,

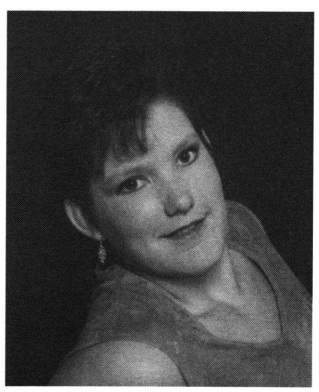
This photograph was obtained by Michael Jäger on 2002 March 5.76. It is a composite of two 3.5-minute exposures obtained with a Schmidt Camera 250/450 and Kodak Ektachrome 100 film. Copyright © 2002 by Michael Jäger (Austria)

Marsden of the Central Bureau for Astronomical Telegrams, announced the following, "A parabolic orbit no longer adequately fits the observations, and a revolution period of 400-500 years is likely. There is a possibility that the comet is identical with C/1532 R1, as first suggested by S. Nakano. . . ." However, the orbit became more precisely determined and was soon identified with C/1661 C1 instead, with a period of 367.17 years. That comet had been discovered in the morning sky after daybreak, later to be observed by the astronomer Hevelius to have structure near the nucleus. It reached 3.5 magnitude, with a six-degree tail. By February 28, the comet had brightened enough to be seen with the naked eye, possibly accomplished through a jump in brightness. Comets are loose agglomerations of ices and dust, and are easily broken up. The gases comprising the tail are created when sunlight warms the comet, and a stream or jet of gas issues from a vent. For a comet of the brightness of Ikeya-Zhang, the gases (mostly water) are produced at a rate of a few times 10^{30} per second near perihelion. That's about 70,000 pounds per second of ice being vaporized, and qualifies Ikeya-Zhang as a fairly large comet.

by Al Wootten

AUI SCHOLARSHIP WINNERS

NRAO congratulates the 2002 AUI Trustee Scholarship winners. These students will each receive an award of $3,500 per year to aid in defraying expenses at the college of their choice. Here is a brief biography of each winner as submitted at press time. Good luck in your academic pursuits!

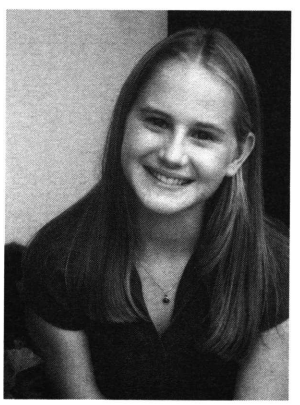


Denise Grayson

Denise is a senior at Magdalena High School in Magdalena, New Mexico. She is a National Merit Finalist and a Super Computer Challenge Finalist. Denise has been Student Body President for the past two years, and Class President for the past three years. She is also a Member of the National Honor Society. Denise is involved with many activities, including basketball, volleyball, and track. She is undecided as to the college she will be attending, but plans to major in Forensic Psychology/Forensic Computer Science.

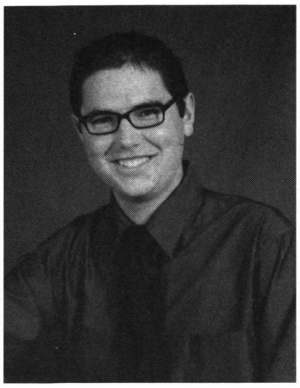
Denise is the daughter of Steven and Colleen Grayson. Steven is a Technical Specialist in Socorro.

Martyna Pospieszalska



Martyna is a senior at Albemarle High School in Charlottesville, Virginia. She is in the National Honor Society, Beta Club, Key Club, Vice President of the Art Honors Society, and President of the Math Honors Society. Martyna coaches swimming for the City Swim Team and also serves as a lifeguard. She will be attending Swarthmore College in Pennsylvania.

Martyna is the daughter of Dr. Marian Pospieszalski, a scientist at NRAO, and Dr. Maria Pospieszalska, a member of the faculty in the Department of Statistics at the University of Virginia.

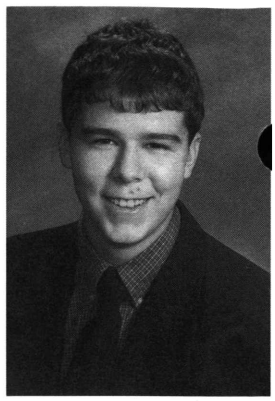


Jonathan Willoughby

Jonathan (JR) is a senior at Socorro High School. He is a member of the SHS Jazz and Marching Bands. JR has been awarded spots in the district honor band throughout his years in high school as well as one year in the New Mexico All-State Band. He is a member of the German Club and the Drama Club. JR will be attending the University of New Mexico where he will pursue a degree in music with emphasis on Jazz Studies.

JR is the son of Brent and Margaret Willoughby of San Antonio, New Mexico. Brent is a Technical Specialist in Socorro.

Andrew Lacasse



Andrew is a senior at Pocahontas County High School. He is a member of the National Honor Society, VICA, and Teen Institute. Andrew participated in soccer and the Ski Club as well as playing in the Concert Band and serving as drum major of the Marching Band. He attended the West Virginia Governor's School for the Arts and is planning to major in Art at either Marshall University or the Columbus College of Art and Design.

Andrew is the son of Richard and Jane Lacasse. Rich is Assistant Division Head of the Electronics Division at Green Bank.

Congratulations to the 2002 Winners!

Green Bank Computing Recruitment Efforts Pay Off in a Big Way

The Computing Division currently headed by Deputy Assistant Director Richard Prestage is concluding a very successful recruitment campaign. "It has taken us almost one full year to locate and hire a large number of new computing professionals, but within the next three months we will have them all aboard. This new staff will add much needed support to our current software development and systems administration team," says Richard. The addition of these positions will allow Green Bank to split the staff into logical technical groups.

"This recruiting effort was one of the most intense searches conducted by Green Bank in many years as defined by the number of computing positions to be filled at one time," remarked Roy Norville, Senior Human Resources Representative, who assisted in the recruitment. "The variety and diversity of the job classifications were also challenging, especially when you consider the challenging recruiting market in West Virginia."

Once the majority of the new staff arrives, the plan is to divide the current computing and software engineering staff into two groups. The Computing Division will be headed by Chris Clark. Chris is currently the Systems Manager for the University of London Observatory in the UK. Chris brings a wide range of system administration experience gained in an environment very similar to our own. The Computing Division will retain responsibility for all aspects of the day-to-day operation of the general purpose computing facilities in Green Bank. They will also perform system administration for the telescope computers, apart from embedded systems, which are specifically the responsibility of the software or electronics groups. The group includes current members Charlie Myers and Wolfgang Baudler.

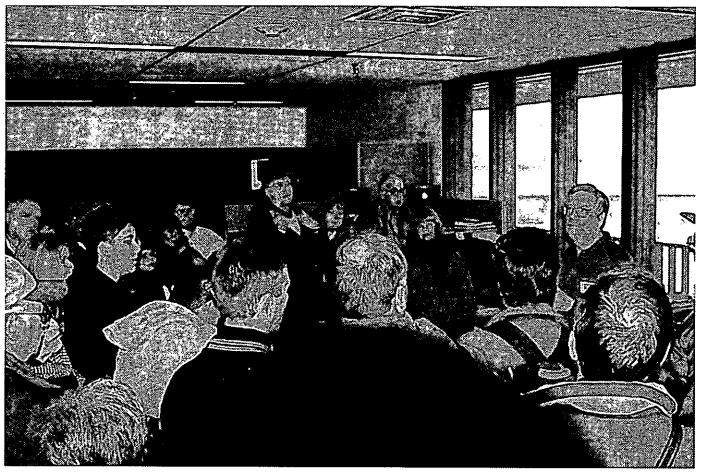
The Software Development Division will be headed by Nicole Radziwill. Nicole has a wide range of expertise in software development in both the scientific research and commercial worlds. She has held a variety of positions with Nortel Networks, as well as working at the NOAA Forecast Systems Lab. We expect Nicole's combination of software and scientific backgrounds will be a major asset to continued Green Bank Telescope development. This work will include support and further development of the current GBT software, as well as provision of software for new instrumentation and other future projects. The addition of two extra staff members to this group will provide a much-needed boost in resources, which in particular will be needed to support some major new instruments (such as the Beam Forming Array and the Penn Array Receiver), which are already in the early stages of development. Her staff will include current members Joe Brandt, Mark Clark, Ray Creager, Toney Minter, and Amy Shelton. The new Scientific Programmer Analyst addition is Melinda Mello. Melinda has a wide range of experience with embedded systems programming. In particular, she was responsible for various aspects of the control systems for four large antennas at the Kwajalein Missile Range.

This recruitment exercise started in May 2001, and included a combination of new and replacement positions. Finding and recruiting first-rate candidates was a lengthy and time-consuming process, but we are extremely pleased with the end results. The existing staff has done an excellent job of

supporting the GBT and Green Bank operations, even while heavily overloaded; we look forward to even more impressive progress now that the groups are near full strength.

by Richard Prestage and Roy Norville

Guided Tours for the General Public at the Very Large Array



For four days this winter and spring, NRAO-NM offered guided tours of the Very Large Array for the general public. It was something we haven't done for more than a decade.

Our first tour day was January 19. The announcement of the tour was big news, and we found ourselves with front page publicity in Monday's *Albuquerque Journal*. Radio and television coverage followed. Staff volunteers from an array of NRAO departments turned out to lead tours, provide explanations at various tour stops, orchestrate car parking, make coffee, and sell merchandise. The public response was overwhelmingly enthusiastic; we hosted 1,500 people. Many of them told us they had changed their plans to come, thinking it might be their only chance, perhaps for the next ten years, to see the control room and ask questions.

Television reports Saturday evening featured Assistant Director Jim Ulvestad, array operator Greg Patterson, and approving fans. The station's website linked to our own, featuring information about future tour days.

On Sunday, February 17, we held round two. We had a small paragraph on the front page of our local paper, a citation in the Friday "What to do this Weekend" section of the *Albuquerque Journal*, and radio reminders on an Albuquerque station; 267 people attended.

Tour date number three was Saturday, March 16. By now our tours were no longer "news." We rated only a small mention in the "Datebook" section of our local paper, even though we sent out press releases similar to the first two times.

The day dawned bright and calm, but alas, it was not to continue. By noon, the wind was blasting consistently higher than 40 mph and the antennas were stowed. The tour stops were changed to places at least semi-sheltered from the chilling gale. Despite the weather and the lack of publicity, we had 187 tourists. A senior citizens group and an astronomy club braved the wind and came as planned, but we found that the majority of these people did not know we were giving public tours. They just got lucky.

Our fourth tour is scheduled for Sunday, April 21. We expect to see about 200 guests.

We have learned that:

1. The number of tourists visiting the VLA on any given day is substantially higher than the number who actually sign the guest book.
2. Participant enthusiasm and comments substantiate the fact that the human (tour guide) factor adds considerably to the guest experience.
3. People will spend more money if they don't have to wait in line.
4. Radio, televison, and newspaper ads can play a big role in our numbers, but those are free only if what we are doing is "news."
5. At least *some* of our visitors have made their tour plans based on information posted on our website.
6. Many of our guests took the opportunity to leave their names and addresses for more information when we begin building our Friends of the VLA (an organization for volunteer support and fund-raising) later this summer.

The tours would not have been possible without staff volunteers. More than 42 employees unselfishly donated their time and talents to performing a valuable service for the public. We appreciate and applaud their generosity and their willingness to support education and public outreach in this way.

We will use this information in planning the future of the VLA Visitor Center and education and public outreach activities in New Mexico.

by Robyn Harrison

From the Human Resources Office

CIGNA PPO Emergency Care Coverage

Many NRAO employees have asked the Human Resources Division to explain the difference between Emergency Care and Urgent Care. We contacted CIGNA HealthCare, our healthcare provider, and this is their very comprehensive description.

What is an emergency?

An *emergency* is an accident or sudden illness that a person with an average knowledge of medical science believes needs to be treated right away or it could result in loss of life, serious medical complications or permanent disability. Emergencies are covered by your CIGNA HealthCare plan 24 hours a day, seven days a week, no matter where you are. Whenever there is a serious accident or sudden illness, and symptoms are severe and they occur unexpectedly, seek medical help immediately.

Examples of *emergency* situations include: uncontrolled bleeding, seizure or loss of consciousness, shortness of breath, chest pain or squeezing sensations in the chest, suspected overdose of medication or poisoning, sudden paralysis or slurred speech, severe burns, broken bones, or severe pain.

What do I do in an emergency?

Seek qualified help **immediately**. As CIGNA HealthCare participants, you and your family members are covered for emergency medical services anywhere, 24 hours a day. In an emergency, call for emergency assistance or go to the nearest hospital emergency room immediately. Don't worry about locating a CIGNA HealthCare participating hospital; treatment is covered at in-network benefit levels, regardless of where you receive care. However, you, a family member, or your doctor must call CIGNA HealthCare within 24 hours in the event of an admission to a hospital at 800-281-1122. This toll-free number is also listed on your CIGNA HealthCare ID card.

How is it covered?

Emergency care is covered at 100 percent after a $50 copay. If you are admitted to the hospital, the $50 copay is waived. HOWEVER; if you are admitted, the $100 in-hospital copay will apply. Please note that what qualifies as an *emergency* is subject to CIGNA's definitions of an emergency.

What's urgent care?

When prompt medical attention is needed in a non-emergency situation, that is called *urgent* care.

Examples of *urgent* care needs include: ear infections, sprains, high fevers, vomiting, and urinary tract infections. Call your regular physician if you are able. If you or a covered family member experiences a severe medical condition and time is critical or you are away from home, seek care at the closest medical facility. Or call the CIGNA HealthCare toll-free CareLine at 800-281-1122 for help in locating the closest participating provider. If the urgent care provider participates in a CIGNA HealthCare network, you'll have the advantage of in-network benefit levels for your covered services. **Be aware that *urgent* situations are not considered emergencies.**

How is it covered?

If you go to the emergency room for urgent care it will only be covered at 90 percent after a $50 copay. Urgent care provided at your physician's office, or another participating provider (other than the emergency room) will be covered at 100 percent after a $15 copay.

Is emergency/urgent care away from home covered?

Yes, you are always covered wherever you are.

Hopefully you won't need it, but you are covered for emergency care wherever you are, 24 hours a day. We don't want you to hesitate in getting proper medical attention if you've suffered a serious injury or sudden, severe illness. Seek help immediately. Then, call the Customer Service at 800-281-1122 as shown on your CIGNA HealthCare ID card if you've been hospitalized—within 48 hours or as soon as possible. This will ensure you receive your maximum emergency benefits coverage.

Since CIGNA does not have any contracted physicians in countries outside the United States, therefore you will likely be required to pay for any medical treatment received and then you should file a claim for reimbursement. You can do this by submitting an itemized statement from the physician along with a claim form to the Claims Office on your CIGNA HealthCare ID card. Use the online claim form or you may obtain one from your local Human Resources representative.

Ted Miller Joins the Observatory Administrative Staff

Joining the staff at NRAO headquarters in Charlottesville on February 20 is Ted Miller. Ted is NRAO's Deputy Associate Director for Administration. Among his responsibilities, Ted is working with the MIS and Fiscal teams to ensure the Work Breakdown Structure and new Chart of Accounts projects remain on-track for an October 1 "go live" date.

In looking toward what else he hopes to accomplish, Ted mentioned, "I think the key to moving forward is finding ways to invest in our people. I'm a big proponent of job specific education and training that keeps employees current in their field while preparing them to move ahead with new initiatives that support the mission."

Ted comes to us after serving as company owner and senior consultant for IDEAs, Inc., where he collaborated

with Georgia Tech and the U. S. Navy in the successful development and fielding of notebook computers used by aircraft mechanics to diagnose aircraft malfunctions and capture logistics data. He also consulted in developing the aircraft maintenance support concepts for the next generation aircraft carrier.

Prior to this Ted held the position of Director of Telecommunications and Office Automation at Rollins, Inc. where his business unit supported the voice and data needs of over 8000 employees at 350 branch offices nationwide. Among his other experiences, Ted served in numerous positions in the U.S. Navy as an Aircraft Maintenance Duty Officer, including Logistics Manager in the Navy's airborne vehicles research and development organization.

Ted received his bachelor's degree in Mechanical Engineering from the University of Texas at Austin, and his master's degree in Administrative Science from the Naval Postgraduate School located in Monterey, CA.

Graduate Course Reimbursement now seen as nontaxable

In June 2001, President Bush signed into law the Economic Growth and Tax Reconciliation and Relief Act (EGTRRA). EGTRRA represents the most comprehensive benefits legislation enacted by Congress since the 1980s. While most of the EGTRRA benefits provisions apply to retirement plans which the HR Division presented in the fall of 2001, it also contains provisions relating to employer-provided education benefits.

Beginning on or after January 1, 2002, graduate courses will be eligible for reimbursement under Section 127 of the Internal Revenue Code. Thus, graduate education up to $5,250 per year will not have to meet the IRS "job-related" test in order to qualify for nontaxable reimbursement.

Certain Mileage May Be Tax Deductible or Reimbursable

Bruce McKean, Sr. Systems Analyst, wrote to the Point Source to share that while preparing for 2001 tax time he found that the IRS, for the upcoming year 2002, has set the following mileage rates that can be claimed on federal tax forms: 36.5 cents a mile for business purposes, 14 cents a mile for charitable ones, and 13 cents a mile for medical reasons. Most individuals with company sponsored medical coverage do not qualify for those deductions due to the high limit, 7.5 percent of adjusted gross income, however they may claim it when submitting flexible spending account reimbursements. "I know that 13 cents a mile, in 2001, doesn't seem like much, but it sure adds up if you live in Green Bank or Socorro," says Bruce. "I did not think to claim the mileage for several years and I would guess many of our employees do not claim it either."

For more information on the Flex Plan deductions, refer to the Flexible Spending Account section of the Employee Handbook. You can access CIGNA HealthCare web site, *www.cigna.com*, for more information dealing with flexible spending account questions and forms.

The IRS has an in-depth web page that can be accessed at www.irs.gov. NRAO does not warrant the information in this article and encourages each employee to review their own company benefit elections and consult their tax advisor.

by Roy Norville with assistance of B. McKean and T. Kelly

Commuter Benefit Reimbursement Program Updated

Effective January 1, 2002, the reimbursement amounts available under NRAO's Commuter Benefit Reimbursement Program have been increased. The van pool or mass transit monthly pretax deduction increased from $65 to $100 and parking increased from $175 to $180. Biweekly amounts are calculated accordingly. Forms are available from the Human Resources or Business Office at your site.

In October 1998, NRAO introduced the Commuter Benefit Reimbursement Program, which enables employees to set aside a limited amount of money per month in a pretax account from which they can be reimbursed for public transit or qualified van pool commuting costs. This program is similar to the medical and dependent care reimbursement accounts, which many employees have maintained for several years. Participating employees realize a saving by avoiding income taxes, as well as FICA and Medicare taxes, on salary set aside for such purposes.

In 1999, the Commuter Benefits Reimbursement Program was expanded to include parking expenses. Employees may set aside a limited amount of money per month in a pretax account to cover parking expenses associated with their employment. Complete information is available by calling the Charlottesville Human Resources Office at 434-296-0312.

FSA May Cover Weight Loss Programs if Prescribed by a Physician

The Internal Revenue Service (IRS) announced that the costs of attending weight-loss programs may qualify as expenses for medical care if the individual is diagnosed as obese or is directed by a physician to lose weight. The ruling affects non-insured individuals as well as those others, like NRAO employees, covered by cafeteria plans that include flexible spending accounts (FSAs). A cafeteria plan may now reimburse through an FSA the costs of attending a weight loss program prescribed by a doctor. *NRAO has for many years provided this reimbursable benefit to FSA participants.*

In its ruling, the IRS noted that obesity has been described as a disease by several government agencies, including the National Institutes of Health. Since obesity is recognized as a disease, the costs of weight-loss programs can be considered medical care for treatment of the disease. As a result, the costs of such programs may now be a qualified benefit under cafeteria plans. **This new ruling cannot be the basis for allowing a change in the amount of an FSA election during the 2002 plan year.**

As with any condition, the obesity must be diagnosed by a physician to qualify. For the expense to qualify as medical care, a taxpayer will have to participate in a weight-loss program for medically valid reasons. Simply joining a gym or a weight-control program to improve appearance, general health and sense of well-being will not qualify.

The ruling is not limited to people suffering from obesity. Any disease which requires weight loss as a method of treatment qualifies the expense as medical care. For example, if a person is directed by his physician to attend a weight-loss program as treatment for hypertension, the costs of the weight-loss program will qualify as medical care.

In addition to the cost of joining the program, the fees associated with joining the program such as attending periodic meetings where participants develop a diet plan, receive diet menus and literature, and discuss problems encountered in dieting can qualify as medical care. However, the cost of reduced calorie diet foods does not qualify as medical care. Diet foods that are substitutes for foods normally consumed and which satisfy nutritional requirements are not a medical expense.

This article is based on the most recent information available at the time of this newsletter publication. For more information specific to your situation contact the CIGNA HealthCare line at 800-281-1122.

by the HR Office

A Note from the Editor:

Articles or ideas for the Point Source newsletter are welcomed. If you would like to submit an article, please contact the editor at phone (434) 296-0265 or by email to: rnorvill@nrao.edu.

Deadline for article submission for the upcoming Summer Issue is August 10, 2002.

NRAO is an Equal Opportunity - Affirmative Action Employer.

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Roy Norville, Editor
Patricia Smiley, Layout and Design

Printed on Recycled Paper

Staff Changes

(September 1, 2001, to February 28, 2002)

NEW EMPLOYEES

CHARLOTTESVILLE
Peter Gray, Project Engineer
Ted Miller, Deputy Associate Director
Denise Utley, Human Resources Assistant

GREEN BANK
Jeffrey Acree, Electronics Engineer
Carla Beaudet, Electronics Engineer
Wolfgang Baudler, Senior Systems Analyst
Kim Constantikes, Electronics Engineer
Harry Morton, Technical Support Supervisor
Carl Overstreet, Technical Specialist
Steven Stricklin, Telescope Operator
Andrea Taggart, Secretary

SOCORRO
Duane Clark, Technical Specialist, Kitt Peak
Ian Hoffman, Junior Research Associate
Robert Zavala, Junior Research Associate
Christine Wingenter, Reservationist
Sanjay Bhatnagar, Assistant Scientist
Ylva Pihlstrom, Research Associate
Lorant Sjouwerman, Assistant Scientist
Michelle Jenkins, Electronics Engineer
Jonathan Jakischa, Array Operator
Aaron Taylor, Correlator Operator
Kathryn Jakischa, Array Operator
Cody James, Intermediate Technician
Lonnie Guin, Advanced Technician
Tomislav Markovic, Junior Research Associate
Bradley Strong, Senior Accounting Clerk
Travis Newton, Electronics Engineer
Travis Rector, Research Associate
Jerry Langevin, Technical Specialist
James Sullivan, Safety Officer
Thomas Morgan, Senior Scientific Programming Analyst
Christopher Boyden, Junior Engineering Associate
Carlos Marrero, Senior Technician
Conrad Sarvis, Senior Technician
Honglin Ye, Senior Scientific Programming Analyst
Kelly Greene, Telescope Mechanic
Andres Vaiza, Telescope Mechanic

TUCSON
Jack Chang, Electronics
Christian Holmstedt, Electronics Engineer
Ivan Marquez, Junior Engineering Associate

DEPARTURES

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Ellen Ary
Colleen Gino
Virginia Goret

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Ferdinand Patt