



February 2003

JOB REGISTER

American Astronomical Society

2000 Florida Ave., NW, Suite 400, Washington, DC 20009, USA
202-328-2010 * FAX 202-234-2560 * aas@aas.org

Editorial - February 2003

Payment Changes

Beginning with the March 1 Job Register, the American Astronomical Society will no longer be accepting purchase orders for payment of advertisement fees. This policy change is necessary to facilitate a change from the current Job Register submission and billing system to an online database-driven system. This change will make the submission, billing, proofing and publishing processes simpler from both an administrative perspective and for our advertisers. Should your organization have any special problems with this policy change, please contact Dr. Kevin B. Marvel, Deputy Executive Officer (marvel@aas.org).

AAS Employment Committee

The AAS Employment Committee would like to mention that a special column on non-traditional careers was published in the June AAS Newsletter. This article, by Mike Kaplan of Boeing-SVS, is part of an ongoing series of articles by astronomers describing how they got where they are today, and offering career advice. The committee is actively seeking contributions to this series, and article suggestions can be sent to the committee chair, Andrea Schweitzer [schweitzer@frii.com].

The Committee would also like to thank Boeing-SVS for sponsoring the Graduate Student reception at the June AAS meeting in Albuquerque. More than 50 graduate students participated in this networking event, which all employers (and especially advertisers in the Job Register) are encouraged to attend. Ball Aerospace will be sponsoring the event at the January meeting in Seattle and the AAS is always seeking additional sponsors for this growing event.

Also planned for the Seattle AAS meeting: an employment session with a panel discussion on non-traditional careers for astronomers.

Andrea Schweitzer, Employment Committee Chair
and
Kevin Marvel, Deputy Executive Officer

Publication Policy for the AAS *Job Register*

Deadline

The deadline for submission of job announcements is the 15th of each month for publication in the subsequent issue.

15 February - Deadline for the March *Job Register*

15 March - Deadline for the April *Job Register*

Rate Sheet

There is a publication charge of \$109 per job announcement, per issue. The maximum announcement length is 250 words. We reserve the right to edit announcements that exceed this maximum.

Employers must note how they will pay for their announcement at the time of submission. We accept payment by:

Check, in US currency drawn on a US bank.
VISA and MasterCard, and AMEX be sure to include expiration date.
Purchase Orders

Checks and purchase orders should be made payable to American Astronomical Society and sent to the following address:

American Astronomical Society
2000 Florida Ave., NW, Suite 400
Washington, DC 20009-1231, USA

FAX: 202-234-2560

The AAS is a small, scientific, non-profit organization. The AAS Federal Identification number is 21-0735173.

If your institution requires a purchase order for billing, we must have the purchase order number no later than fifteen (15) days after the job is submitted for publication. We will invoice for job announcements at the end of each month.

Announcement Requirements

Jobs will not be published without the following:

- (1) an accompanying statement assuring that the vacancy is bona fide and the position has not been promised to anyone;
- (2) for first time publication, an application closing date that falls no earlier than the last day of the month of publication; and
- (3) a check or appropriate billing information as described above.

We encourage advertisers to include URLs to relevant web sites with their job announcements.

Previously published jobs may be re-published in the current issue with an application closing date earlier than the last day of the current month.

The decision to run an ad without 30 days response time is left to the originators.

The AAS *Job Register* cannot require overseas employers to comply with any U.S. regulations regarding employment discrimination.

Submission

Please read the requirements above before submitting your job. If possible, use the **Web Submission Form** or send your advertisement by electronic mail to jobs@aaas.org. If electronic mail is not available, job announcements are also accepted by US mail, and by FAX at 202-234-2560.

Frequency and Circulation

The *Job Register* is published monthly. On the average, 60 new jobs are announced in each issue. Since the *Job Register* is freely available to anyone with Internet access, circulation numbers are hard to estimate. In February 2001, over 6,000 unique IP addresses accessed the *Job Register*.

Job Register statistics are published on the Career webpages and in the Annual Report of the Society in the *Bulletin of the American Astronomical Society*.

The *Job Register* is published on the Web at: <http://www.aas.org/JobRegister>.

Member Notification

The AAS maintains a list of members that like to be notified when a New Job Register is posted. Members may be added to the *Job Register* email notice list by sending a message to address@aaas.org.

Jobs from Previous Months

(Note: Some jobs reposted from prior months may have closing dates during the current month. Readers should pay careful attention to the posted closing dates.)

No. 13128

Tenure-Track (possibly TENURED) staff position in extragalactic astrophysics or cosmology

MAX-PLANCK-INSTITUT FUER ASTROPHYSIK

Karl-Schwarzschild-Str. 1

85748 Garching

Germany

Tel: +49-89-30000-2201

FAX: +49-89-30000-2899

Email Inquiries: swhite@mpa-garching.mpg.de

Attention: Appointments Committee

The Max Planck Institute for Astrophysics (MPA) seeks candidates for a staff position in extragalactic astrophysics or cosmology.

The MPA is an independent institute within the Max-Planck-Society and carries out a broad programme of theory and data analysis covering much of astrophysics. It has a particularly strong tradition in numerical astrophysics. Areas of concentration in extragalactic astrophysics include: galactic dynamics; galaxy formation and evolution; galaxy clusters; large-scale structure; gravitational lensing; the intergalactic medium; microwave background studies; AGN formation and evolution; physical cosmology. These are supported by active participation in ESA's Planck mission, in the Sloan Digital Sky Survey, in the ESO Distant Cluster Survey and in a number of European research networks. Further information about MPA and its research programmes can be found at <http://www.mpa-garching.mpg.de/>.

Long-term staff at MPA are expected to carry out independent research programmes which complement and interact with those of other institute scientists. Typically they work with a number of the institute's postdocs and graduate students. Collaboration with other institute staff in all areas is strongly encouraged. The present post will be filled at tenure-track or, for an exceptional candidate, at tenured level.

Applicants should provide a CV, a publication list, and a one-page research plan and send it to The Appointments Committee at the above address.

They should also ask three referees to send letters to the same address. The deadline is 15 February 2003 but applications will be accepted until the post is filled.

The MPA encourages applications from women, minorities and disabled persons.

No. 13159
Postdoctoral Position in Theoretical Astrophysics
CfA
60 Garden St.
MS-51
Cambridge, MA 02138
Tel: 617-495-7091
FAX: 617-495-7093

Attention: R. Di Stefano

Applications are invited for a postdoctoral position in theoretical astrophysics. We encourage applications from researchers with interest and experience in the following research areas: binary evolution, accretion disks, the influence of binaries on their environments, and the interface between predictions and observations across wavebands, particularly at X-ray wavelengths.

The appointment is expected to be for two years, with a possibility of a third year.

Applicants should send a CV, list of publications, a brief statement of research interests, and arrange for a minimum of three letters of recommendation to be received by 15 January 2003. Applications will be considered until the position is filled.

No. 13174

Research Associate in Astrophysics

UNIVERSITY OF MINNESOTA

116 Church Street SE

368 Physics

Minneapolis, MN 55455

Tel: 612-624-5711

FAX: 612-626-2029

Email Submission Address: kd@astro.umn.edu

Email Inquiries: kd@astro.umn.edu

Attention: Professor Kris Davidson

A post-doctoral research associate position in astrophysics is available at the University of Minnesota, to work on the Eta Carinae HST Treasury Project. Concentrating on Eta's mysterious "event" during 2002--2004, in several respects this will be one of the most ambitious and intensive programs ever attempted with the Hubble Space Telescope. The successful applicant will work closely with the PI Prof. Kris Davidson, and co-investigators, with two main goals: to create an archival database and to help interpret the results. The data concern exotic nebular processes, very massive stars, gas-dynamics, and other branches of astrophysics. Familiarity with either stellar, nebular, or laboratory spectroscopy is desirable, and programming experience will be valuable, especially in C and perhaps IDL. The position can begin in early 2003. Applicants should send a CV, a brief summary of research experience and interests, a bibliography, and the names of two or more references to Prof. Davidson, at the above address. E-mail inquiries: kd@astro.umn.edu. The University of Minnesota is an affirmative action/equal opportunity employer.

No. 13189

Astronomer - Program Director

NATIONAL SCIENCE FOUNDATION

4201 Wilson Blvd

Suite 315

Arlington, VA 22230

FAX: 703-292-9279

URL: www.nsf.gov/oirm/hrm/jobs

Attention: Jacqueline S. Jackson, Human Resource Specialist

NSF's Division of Astronomical Sciences is seeking qualified applicants for the position of Program Director, Education and Special Programs (ESP). The position will be filled on a 1- or 2-year visiting scientist, temporary, or Intergovernmental Personnel Act (IPA) basis to commence in the fall of 2003.

The salary range, which includes locality pay adjustment, is from \$78,265 to \$121,967 per annum. Applicants must have a Ph.D. or equivalent experience in Astronomy or a related field of science plus 6 or more years of successful research experience beyond the Ph.D. Applicants must submit a resume or other application form of choice along with up to three letters of recommendation. Applications must specify the job title for which you are applying, and they should include the following information: country of citizenship; information about education, including major and type and year of degree(s); complete information about experiences related to this job, including job titles, duties and accomplishments, employer's name and phone number, starting and ending dates; and salary to: National Science Foundation, Executive Visiting Personnel Branch 4201 Wilson Blvd. Suite 315, Arlington, VA 22230, Attn: Jacqueline S. Jackson. For more information see the full description at <http://www.nsf.gov/oirm/hrm/jobs>. When applying, applicants should refer to vacancy announcement number E20030019-Rotator. For more information, contact Dr. Eileen Friel, Executive Officer, 703-292-4895. Hearing impaired individuals should call 703-292-8044. NSF is committed to employing a highly qualified staff that reflects the diversity of our Nation.

No. 13195

Postdoctoral Fellow in Computational MHD
INSTITUTE FOR COMPUTATIONAL ASTROPHYSICS
Department of Astronomy and Physics
Saint Mary's University
Halifax, Nova Scotia B3H 3C3
CANADA
Tel: 902-420-5830
FAX: 902-496 8218
Email Submission Address: dclarke@ap.stmarys.ca
Email Inquiries: dclarke@ap.stmarys.ca
URL: <http://www.ap.stmarys.ca/>

Attention: Dr. David Clarke, Acting Director, ICA

Applications are solicited for a postdoctoral position in the newly formed Institute for Computational Astrophysics (ICA). Subject to NSERC funding, the appointment is initially for two years, renewable for a third. The successful candidate will hold a PhD in astronomy, astrophysics, or physics, have experience in computational astrophysical fluid dynamics, and spend at least half of their time working on code development (AZEUS) and on problems related to accretion/ejection and gravitational collapse. Teaching opportunities for additional remuneration are also available.

The Department of Astronomy and Physics currently has eleven full-time faculty members (with five in the ICA including two Canada Research Chairs) and operates a ten-processor Sun Enterprise 4500. Access to other facilities in Canada can be made available via C3.ca if needed. As a new institute, the ICA will be acquiring new platforms such as a Beowulf cluster, and is participating in a regional supercomputing initiative (AC3.ca). Current areas of interest in the ICA include stellar structure, evolution, pulsation, and hydrodynamics; MHD outflows and collapse; non-LTE stellar atmospheres; and planetary formation and dynamics. A common theme for all areas is multi-dimensional numerical simulations.

Applicants should submit a curriculum vitae, list of publications, statement of research interests, and have three letters of reference sent to the above address by 14 March 2003. For more information,

contact dclarke@ap.stmarys.ca or visit <http://www.ap.stmarys.ca/>. While this advertisement is directed in the first instance to Canadian citizens and permanent residents, all qualified candidates are strongly encouraged to apply. Saint Mary's University is committed to the principles of employment equity.

No. 13196

Postdoctoral Fellow (up to 5 years)

INSTITUTE FOR COMPUTATIONAL ASTROPHYSICS

Department of Astronomy and Physics

Saint Mary's University

Halifax, Nova Scotia B3H 3C3

CANADA

Tel: 902-420-5830

FAX: 902-496 8218

Email Submission Address: rdeupree@ap.stmarys.ca

Email Inquiries: rdeupree@ap.stmarys.ca

URL: <http://www.ap.stmarys.ca/>

Attention: Professor Robert Deupree, Director Designate, ICA

Applications are solicited for a postdoctoral position in the newly formed Institute for Computational Astrophysics (ICA). The appointment is initially for two years and renewable for up to five. The successful candidate will hold a PhD in astronomy, astrophysics, or physics, and will be free to pursue his or her own research agenda in any area of computational astrophysics. Teaching opportunities for additional remuneration are also available.

The ICA has five full-time faculty members including two Canada Research Chairs (CRCs) and was formed by the University Senate as a focus for some of its CRC allocation and to fill a niche in the Canadian astrophysical community. Current areas of ICA research and interests include stellar structure, evolution, pulsation, and hydrodynamics; MHD outflows and collapse; non-LTE stellar atmospheres; and planetary formation and dynamics. A common theme for all areas is multi-dimensional numerical simulations.

The Department of Astronomy and Physics (with eleven full-time faculty members) operates a ten-processor Sun Enterprise 4500. Access to other facilities in Canada can be made available via C3.ca if needed. As a new institute, the ICA will be acquiring new platforms such as a Beowulf cluster, and is participating in a regional supercomputing initiative (AC3.CA).

Applicants should submit a curriculum vitae, list of publications, statement of research interests, and have three letters of reference sent to the above address by 14 March 2003. The starting date is at the discretion of the candidate and the ICA, and could be as early as June, 2003. For more information, contact rdeupree@ap.stmarys.ca or visit <http://www.ap.stmarys.ca/>. While this advertisement is directed in the first instance to Canadian citizens and permanent residents, all qualified candidates are strongly encouraged to apply. Saint Mary's University is committed to the principles of employment equity.

No. 13204

Postdoctoral position on Supernovae

INAF OSSERVATORIO DI PADOVA

Vicolo dell'Osservatorio 5
Padova, 35122
Italy
Tel: +39-049-8293439
FAX: +39-049-8759840
Email Submission Address: turatto@pd.astro.it
Email Inquiries: turatto@pd.astro.it
URL: <http://www.pd.astro.it/public/competition.htm>

Attention: Dr. Massimo Turatto

A postdoc position, funded by the Osservatorio Astronomico of Padova, is open for application. The funding is 100% for 3 years.

The candidate will be involved in the ongoing observational projects of our Group and will have access to the facilities of ESO-Paranal and La Silla, TNG (La Palma) and Asiago (Italy). In particular he is expected to collaborate in the management, observation, reduction and analysis of the data collected within an European collaboration on SNe. The main goal of this research work is to reach a better understanding of both the explosive nucleosynthesis and the physical properties of the progenitors, as well as to study how supernovae can be used as cosmological probes. Part of his time will be devoted to the definition and implementation of an archive of the material of this collaboration. Observational and data reduction experience and a good physics background are important. Computational skills will be positively considered. The applicant must have a PhD in physics, astronomy, or a closely related field.

The successful applicant will be part of the Padova node of a Research Training Network of the European Community for studies of Supernovae (RTN2-2001-00037). According to EU conditions, the successful applicant must be national of a Member State of the Community or of an Associated State or residing in the Community for at least 5 years prior of his/her appointment. Moreover, he/she must not be Italian citizen and cannot have carried out his normal activity in Italy for more than 12 of the 24 months prior to his/her appointment. The net emolument of the Student will be of the order of 2300-2400 euro/month.

The application should include:

- 1) curriculum vitae,
- 2) extract of undergraduate and graduate studies including grades,
- 3) a copy of the PhD thesis,
- 4) three recommendation letters,
- 5) possible description of own research and research interests
- 6) other relevant material for our selection process.

The deadline for application is 28 February 2003. The successful applicant is expected to start ASAP.

No. 13206
Postdoctoral Position in Interstellar/Intergalactic Medium Studies
UNIVERSITY OF MASSACHUSETTS
619 E Lederle Graduate Research Tower
710 N. Pleasant Street
Amherst, MA 01003

Tel: 413-545-0789
FAX: 413-545-4223
Email Submission Address: keywordh@astro.umass.edu
URL: <http://www.astro.umass.edu/>

Attention: Barbara Keyworth, Departmental Assistant

Applications are invited for an observational postdoctoral research position in the Astronomy Department at the University of Massachusetts to work in the field of galaxy formation and evolution with Prof. Todd Tripp. Emphasis will be placed on observations of interstellar and intergalactic gas and their roles in the evolution of galaxies and large scale structures. Expertise in ISM/IGM physics, high-resolution spectroscopy, absorption lines in the spectra of QSOs and hot stars, and reduction and analysis of spectroscopic and imaging data are highly desired. The successful applicant will be expected to make use of high-resolution spectra that we are obtaining with the Hubble Space Telescope and the Far Ultraviolet Spectroscopic Explorer. The position will be available beginning September 2003, and is initially for two years, with the possibility of renewal for a third year. Candidates must hold a PhD in Astronomy, Physics, or a related field. Salary will be commensurate with experience. Applicants should submit a curriculum vitae, list of publications, and brief description of research interests, and arrange for three letters of recommendation to be sent to:

Postdoctoral Position in Interstellar/Intergalactic Medium Studies
c/o Barbara Keyworth, Departmental Assistant
University of Massachusetts
619 E Lederle Graduate Research Tower
710 N. Pleasant Street
Amherst, MA 01003

Evaluation of applications will begin on 15 February 2003. Further information on the Department of Astronomy at University of Massachusetts can also be found on the web at <http://www.astro.umass.edu/>.

The University of Massachusetts is an equal opportunity/affirmative action employer. Women and members of minority groups are encouraged to apply.

No. 13210

Postdoctoral Positions in High Energy Astrophysics

UNIVERSITY OF MASSACHUSETTS

619 E Lederle Graduate Research Tower

710 N. Pleasant Street

Amherst, MA 01003

Tel: 413-545-0789

FAX: 413-545-4223

Email Submission Address: keywordh@astro.umass.edu

URL: <http://www.astro.umass.edu/>

Attention: Daniel Wang c/o Barbara Keyworth

Applicants are invited for one or more postdoctoral research positions in the UMASS high energy astrophysics group led by Daniel Wang. The successful applicants will be involved in the planning and

implementation of observing programs, the analysis and interpretation of data from HST, Chandra, and XMM-Newton as well as other space and ground-based observatories, and the publication of scientific results. A PhD is required, and strong background in both theory and data analysis of diffuse X-ray emission would be a significant advantage. The salary will be commensurate with qualifications and experience. The position is for two years initially with the possibility of renewal for a third year. To apply, please submit a resume consisting of CV and a statement of research interests and arrange for three letters of recommendation to be sent to :

Postdoctoral Research Positions in High Energy Astrophysics
Daniel Way, c/o Barbara Keyworth
University of Massachusetts
619 E Lederle Graduate Research Tower
710 N. Pleasant Street
Amherst, MA 01003

Review of applications will begin 15 February 2003 and will continue until the positions are filled. Start dates are negotiable.

Women and members of minority groups are encouraged to apply. AAE/EOE

No. 13215

Canada Research Chair in Star Formation

UNIVERSITY OF WESTERN ONTARIO

Department of Physics and Astronomy

1151 Richmond Street

London, Ontario N6A 3K7

Canada

Tel: 519-661-2111 Ext. 86441

FAX: 519-661-2033

Email Submission Address: cottam@uwo.ca

Email Inquiries: njwilson@uwo.ca

Attention: Professor Michael G. Cottam, Chair

The Department of Physics & Astronomy announces a search for a Tier II (Junior) Canada Research Chair at the Assistant or Associate Professor probationary (tenure-track) level in observational star formation. All CRC appointments are subject to approval by the CRC with an anticipated starting date of 1 January 2004 or thereafter.

The Canada Research Chair (CRC) program has been established by the Government of Canada to enable Canadian universities to foster world-class research excellence (see <http://www.chairs.gc.ca/>).

The successful candidate will have an outstanding record of accomplishments in star formation research, demonstrate potential for leadership in the use of the current and upcoming generation of world-class observatories, and be expected to develop a vigorous research program involving the training of graduate students. Teaching at both the undergraduate and graduate levels will also be expected. CRC positions are open to candidates of any nationality.

The Department of Physics & Astronomy has major research groups in astronomy, atomic and

molecular physics, condensed matter physics, and space and atmospheric physics. For more information, see <http://www.physics.uwo.ca/> and <http://www.astro.uwo.ca/>.

We will begin considering applications and letters of recommendation on April 30, 2003. The search will continue until the position is filled. Candidates should submit a curriculum vitae, list of publications, and research plan, and arrange for at least three letters of reference to be sent to the above address.

The University of Western Ontario is committed to employment equity and welcomes applications from all qualified women and men, including visible minorities, aboriginal people and persons with disabilities.

No. 13216

Temporary Faculty Position in Astrophysics

SWARTHMORE COLLEGE

Swarthmore College

500 College Ave.

Swarthmore, PA 19081

Tel: 610-328-8257

FAX: 610-328-7895

Email Submission Address:

Email Inquiries: abug1@swarthmore.edu

URL: <http://physics.swarthmore.edu/>

Attention: Amy Bug, Chair

The Department of Physics & Astronomy at Swarthmore College (<http://physics.swarthmore.edu/>) invites applications for a temporary leave replacement position in Astronomy at the Assistant Professor level starting in September 2003. The initial appointment will be for one year, with the possibility of renewal for a second year. The successful candidate must have a strong interest in undergraduate teaching at a four-year liberal arts college and be excited by the opportunity to participate in a growing astronomy/astrophysics program. The primary teaching duties will include classes ranging from introductory astronomy for non-majors (up to 30 students) with labs to advanced seminars on specific topics for upper level students. The deadline for receipt of applications is March 1, 2003. On-campus interviews, which will include both teaching a class and presenting a research colloquium, will take place subsequently. Applicants should submit an application consisting of (1) a curriculum vitae, (2) a statement describing teaching experience and approach to teaching at a four-year liberal arts college, and (3) a description of the research program the applicant has pursued and might continue at Swarthmore. In addition, applicants should ensure that at least three letters of recommendation are received before the deadline. Applications and letters of recommendation should be sent to Associate Professor Amy Bug, Chair, Department of Physics & Astronomy, Swarthmore College, Swarthmore, PA 19081. Swarthmore College is an Equal Opportunity Employer. Women and minority candidates are strongly encouraged to apply.

No. 13220

Postgraduate Researcher in Very-High-Energy Gamma-Ray Astrophysics

UNIVERSITY OF CALIFORNIA, SANTA CRUZ

1156 High Street

Santa Cruz, CA 95064
Tel: 831-459-3032
FAX: 831-459-5777
Email Submission Address: daw@scipp.ucsc.edu
Email Inquiries: daw@scipp.ucsc.edu
URL: <http://scipp.ucsc.edu/info/employment/milagro.pdf>

Attention: David A. Williams, Prof.

The Santa Cruz Institute for Particle Physics (SCIPP) invites applications for a Postgraduate Research Physicist in the field of very-high-energy gamma-ray astrophysics.

SCIPP is a leading group in the Milagro experiment, a wide-aperture water Cherenkov detector designed to survey and study transients in the high-energy gamma-ray sky. The successful candidate will be expected to become actively involved in the data analysis and ongoing operations of Milagro, as well as possibly participating in development for future projects.

Details are posted on the website.

No. 13221
Theory Staff Position (C3 Tenure-Track/Tenured)
MAX-PLANCK-INSTITUTE FOR ASTRONOMY
Koenigstuhl 17
Heidelberg, 69117
Germany
Tel: +49-6221-528-210
FAX: +49-6221-528-339
Email Submission Inquiries: rix@mpia.de

Attention: Personnel Department

The Max Planck Institute for Astronomy (MPIA) seeks outstanding candidates for a C3 staff position to lead a theoretical group in the research area of galaxies and cosmology.

The MPIA carries out a broad range of astrophysical research through observations, theory and instrumentation developments. Overall research foci at the MPIA are "Star and Planet Formation" and "Galaxies and Cosmology". In the area of galaxies and cosmology, the research currently encompasses stellar populations, Galactic structure, galaxy structure and dynamics, active galactic nuclei, galaxy formation and evolution, cosmological surveys. These activities are supported by high-performance computing facilities, presently including two Beowulf PC clusters and four workstations with GRAPE5/6 boards. The MPIA is an active participant in the Sloan Digital Sky Survey, and has privileged access to Calar Alto, VLT and to the future LBT Observatory. The MPIA is actively involved in a number of future space missions, such as Herschel and NGST. Currently, theoretical work in this area revolves around N-body and hydrodynamical simulations of galaxy and halo formation, on galaxy interactions, as well as semi-analytic modelling (<http://www.mpia-hd.mpg.de/THEORY/index.html>).

The successful applicant is expected to lead a group of postdocs and graduate students, carrying out

independent research programmes in the broad area of "galaxies and cosmology". Collaboration with other scientists at the MPIA is strongly encouraged. Substantive resources will be available to the successful applicant to maintain a lively visitor program, to organize workshops and to ensure computational competitiveness. The present C3 position will likely be filled as tenure-track, with a promotion to tenure foreseen after 3-5 years. An offer with tenure will be considered for exceptional senior candidates. Applicants should provide a CV, a publication list, a brief description of the current work and an outline of planned research at the MPIA. This should be sent to the Personnel Department at the above address, with reference 14-02. For general information, see http://www.mpia-hd.mpg.de/Public/index_en.html.

Applicants should also ask three referees to send letters to the same address. The deadline is 15 March 2003 but applications will be accepted until the post is filled.

Handicapped applicants will be given preference in case of equal qualifications. The Max Planck Society as the employer aims at increasing the number of female scientists in fields where underrepresented. Therefore, women are particularly encouraged to apply.

No. 13222

Postdoctoral Position in Experimental Cosmology

COLUMBIA UNIVERSITY

550 W. 120th St.

1027 Pupin, Mail Code 5247

New York, NY 10027

Tel: 212-854-4987

FAX: 212-854-8121

Email Submission Address: amber@calvin.phys.columbia.edu

Email Inquiries: amber@calvin.phys.columbia.edu

URL: <http://calvin.phys.columbia.edu/>

Attention: Amber Miller, Assistant Professor

Applications are invited for a postdoctoral position at Columbia University. The successful candidate will work with Professor Amber Miller's experimental cosmology group. Potential projects include the integration and deployment of the Sunyaev-Zel'dovich Array (SZA) and the design, construction, and deployment of the Atacama Cosmology Telescope (ACT). Science goals of these projects include measurement of primary and secondary CMB anisotropy on arcminute scales and the Sunyaev-Zel'dovich effect in clusters of galaxies.

Applicants should have experience in experimental astrophysics and a research interest in cosmology. Needs of this project include cryogenic receiver technology, optical and electrical design, microwave engineering, and computer programming. Preference will be given to candidates with related experience.

Applicants should send a CV, a description of research interests, and three letters of recommendation to the above address. For full consideration, all materials should arrive by 15 February and applicants should be able to start by the end of summer 2003. Columbia University is an equal opportunity/affirmative action employer, women and minorities are encouraged to apply.

No. 13223

**Programmer - Software Development Astrophysics
COMBINED ARRAY FOR MILLIMETER-WAVE ASTRONOMY
Astronomy Department
University of Maryland
College Park, MD 20742
Email Submission Address: mpound@astro.umd.edu
Email Inquiries: mpound@astro.umd.edu**

Attention: Marc Pound, Astronomy Department

The Combined Array for Millimeter-wave Astronomy (CARMA) consortium is seeking experienced programmers to participate in software development for a new interferometric array of radio telescopes. The successful candidates will work with a team including several other programmers and scientists to design and implement software for telescope control and monitoring, data acquisition and processing, and user interface. We are looking for candidates with experience in object-oriented programming, especially C++. The development platform is Linux. CORBA experience a plus, as is knowledge of radio interferometry or general astronomy. A description of the instrument is available at <http://www.mmarray.org/>.

CARMA expects to hire a total of 3-4 programmers to be distributed among its consortium members: University of California, Berkeley; University of Chicago; University of Illinois, Champaign-Urbana; University of Maryland, College Park; and Caltech's Owens Valley Radio Observatory. Applicants should indicate their location preference. Positions should commence early in 2003 and are initially for three years, with renewal possible beyond that period. CARMA is EOE/AEE.

**No. 13226
Two Instructors of Astronomy
BOWLING GREEN STATE UNIVERSITY
104 Overman Hall
Dept. of Physics & Astronomy
Bowling Green, OH 43403
Tel: 419-372-7244
FAX: 419-372-9938
Email Inquiries: laird@tycho.bgsu.edu
URL: <http://physics.bgsu.edu/>**

Attention: John B. Laird, Chair

Applications are invited for two astronomy instructor positions beginning in August 2003. These are full-time positions teaching undergraduate astronomy and possibly physics courses during the academic year, with additional teaching available during the summer if desired. The initial appointments are for one year, but one will be a continuing position and the other has the potential to continue. A Ph.D. in astronomy or physics is strongly preferred, but an exceptional candidate with an M.S. will be considered. The successful candidates will be expected to contribute to the overall teaching mission of the Department. They will also be encouraged to be involved in research, either independently or as part

of an existing Department program. Applicants should send curriculum vitae and a description of experience and teaching goals and philosophy, and should arrange to have three original letters of recommendation submitted directly on their behalf to: John B. Laird, Chair, at the above address. Completed applications received by 28 February 2003 will receive full consideration. BGSU is an Affirmative Action/Equal Employment employer and encourages applications from women, minorities, veterans and individuals with disabilities.

No. 13227

Postdoctoral Fellowship in Theoretical Stellar/Binary Astrophysics

BISHOP'S UNIVERSITY

40 College, Johnson 117D

Bishop's University

Sherbrooke, Quebec J1M 1Z7

Canada

Tel: 819-822-9600x2355

FAX: 819-822-9661

Email Submission Address: jporter@ubishops.ca

Email Inquiries: jporter@ubishops.ca

URL: www.ubishops.ca/ccc/div/sci/phy/pdf/

Attention: Jean Porter, Departmental Secretary

Applications are invited for one or more postdoctoral research fellowships in the Department of Physics at Bishop's University. The focus of the research will be in the area of theoretical astrophysics with particular emphasis on stellar evolution and interacting binaries containing compact objects. Preference will be given to candidates who have had experience with thermonuclear flash codes or the evolution of brown dwarfs, cataclysmic variables, novae, and degenerate dwarfs. We hope to be able to complete the selection process before the middle of March 2003, but late applications will be accepted until the appointments are made. The expected starting dates of the fellowships are negotiable but will normally be on or after March 31st, 2003. The appointments are for one year, renewable annually based on satisfactory performance and the availability of funding, for up to a total of two additional years. The principal selection criterion for all appointments will be outstanding research accomplishment and promise of future achievement. Fellows may be offered teaching duties at the undergraduate level, in which case they will receive additional remuneration.

Interested individuals should send a Curriculum Vitae, a brief statement (two-page limit) of research interests, and the names of at least three referees who have been asked to submit letters of recommendation to Jean Porter, at the above address. Applications that are received by 3 March 2003 will receive full consideration.

No. 13234

Post-Doctoral Position in Astronomy/Astrophysics

CEA, SACLAY, SERVICE D'ASTROPHYSIQUE

Orme des Merisiers

Gif-sur-Yvette, 91191

France

Tel: 33-1-69-08-92-76

FAX: 33-1-69-08-65-77

Attention: Suzanne Madden

The CEA, Saclay Astrophysics Department is inviting applications for at least one post-doctoral research associate (perhaps 2) to begin in the fall of 2003. The Astrophysics Department (Service d'Astrophysique) in Saclay, located 15 km south-west of Paris near several other astronomy centers, is a major space astrophysics laboratory and is also involved in ground-based instrumentation. The department is engaged in research projects which include extragalactic astrophysics, cosmology, solar/stellar physics, star formation and high energy astrophysics. Research activities are primarily in support of our contributions to space projects such as SOHO, CASSINI, XMM, INTEGRAL, GLAST, HERSCHEL, PLANCK, and JWST and also in the numerical and theoretical modelling of the corresponding astrophysical phenomena. The department is also involved in ground-based projects such as MEGACAM on the CFHT and VISIR on the VLT. Interested applicants with science contributions in these areas are invited to apply.

The duration of this post doc is two years. There is no restriction on nationality. Interested applicants, please send a cv, bibliography, description of research interests and arrange to have 3 letters of recommendations sent to the above address by 21 February 2003.

No. 13235
Postdoctoral Scholar
CALIFORNIA INSTITUTE OF TECHNOLOGY
Infrared Astrophysics
MS-314-6
Pasadena, CA 91125

Attention: Dr. George Helou

Applications are invited for a Caltech Postdoctoral Scholar position in infrared astrophysics to work with George Helou and Lee Armus primarily on analysis and interpretation of Space Infrared Telescope Facility (SIRTF) data. The successful candidate will participate in the SIRTF Legacy science project "SIRTF Nearby Galaxy Survey (SINGS)", and will have access to excellent research facilities and support. The SINGS project focuses on the interstellar medium and star formation in well resolved galaxies, and the implications for their global properties and evolution. See <http://sings.stsci.edu/> for more detail.

Candidates should have obtained, by the starting date, a Ph.D. in astronomy, physics or equivalent, in an area relevant to the SINGS science themes. Experience with infrared or extragalactic astronomy is highly desirable. The successful candidate is expected to participate in the reduction and analysis of SIRTF and ancillary ground and space-based data related to the SINGS project.

The appointment is for one year renewable, and could start as early as April 2003. To apply, please send resume, bibliography, and statement of research to the above address by 1 March 2003, and have three letters of reference forwarded to the same address. Caltech is an Affirmative Action/Equal Opportunity Employer. Women, Minorities, Veterans, and Disabled Persons are encouraged to apply.

No. 13237
Postdoctoral Position in Observational Astrophysics
LOS ALAMOS NATIONAL LABORATORY
NIS-2, MS-D436
Los Alamos, New Mexico 87544
Tel: 505-665-9542
FAX: 505-665-4414
Email Submission Address: vestrand@lanl.gov
Email Inquiries: vestrand@lanl.gov

Attention: Dr. Tom Vestrand

The Space and Remote Sensing Sciences Group at the Los Alamos National Laboratory (LANL) is seeking candidates for a Postdoctoral fellowship appointment to work on the XMM-Newton team and/or Rapid Telescopes for Optical Response (RAPTOR) team. As a member of our XMM-Newton team the candidate can work on a broad range of problems in high-energy astrophysics. The primary goal of the RAPTOR project is wide-field stereoscopic monitoring of optical sky for astrophysical transients, planetary transients, and interesting variations in known sources. The successful candidate will have the opportunity to participate in all facets of the projects including instrumentation and software development, observing, and analysis of the observations.

Applicants should hold a Ph.D. in astronomy or physics that was completed within the last 5 years. Experience with astronomical instrumentation and software development is desirable. The ideal candidate would also have experience with large datasets and a solid publication record. The position is a two-year appointment, which is renewable for a third year. The starting salary is at least \$59.3K annually and is supplemented by a generous, comprehensive, benefits package. Interested applicants should submit a statement of their research interests, a curriculum vita, and three letters of recommendation to Dr. Tom Vestrand at the above address. Applications received before 15 February 2003 will be assured of full consideration.

Affirmative Action/Equal Opportunity Employer. Individuals with disabilities needing reasonable accommodation should call (505) 667-8622. Los Alamos National Laboratory is operated by the University of California for the US Department of Energy.

No. 13238
One year renewable visiting appointment in Astronomy
FRANKLIN AND MARSHALL COLLEGE
P.O. Box 3003
Lancaster, PA 17604-3003
Tel: 717-291-4136
FAX: 717-358-4474
Email Submission Address: dana.backman@fandm.edu
Email Inquiries: dana.backman@fandm.edu
URL: <http://www.fandm.edu/Departments/Physics>

Attention: Dr. Dana Backman, Chairman, Physics and Astronomy

The Physics and Astronomy Department at Franklin and Marshall College invites applications for a one-year renewable visiting appointment in astronomy beginning in fall, 2003. The position will be renewable for up to two years on evidence of good teaching. Minimum qualifications are a Ph.D. or Ph.D. ABD in astronomy or astrophysics. Applicants should demonstrate clear commitment to undergraduate astronomy teaching. The position will include responsibility for teaching introductory and upper level astronomy and astrophysics courses and invitation to teach in the college's Foundations program of interdisciplinary introductory courses.

Deadline for application is 3 March 2003. A complete application will include a curriculum vitae, statement of teaching philosophy, and copies of both graduate and undergraduate transcripts. Reference letters (at least 3) should be sent directly to Dr. Dana Backman, Chair, at the above address.

F&M is a selective private liberal arts college with 1,850 students located in Lancaster, Pennsylvania, a small city of 50,000 about 1-1/2 hours from Baltimore and Philadelphia. Information about our astronomy and physics staff and facilities can be found at: <http://www.fandm.edu/Departments/Physics/Physics.html>. Franklin & Marshall is committed to cultural pluralism through the hiring of women and minorities and encourages all interested persons to apply. EOE/AA.

No. 13239

Physicist Postdoctoral Fellow

BERKELEY LAB

One Cyclotron Road, Mailstop 50A-4037

Berkeley , CA 94720

Email Submission Address: gensciemployment@lbl.gov

Email Inquiries: gensciemployment@lbl.gov

URL: <http://www-physics.lbl.gov/>

Attention: Madelyn Bello, Sr. Human Resources Generalist

Postdoctoral Positions in Supernova Cosmology Program

The Supernova Cosmology research group of Berkeley Lab has multiple Postdoctoral positions available. These are two-year term positions with the possibility of renewal. This is an exciting opportunity for a wide range of investigations concerning cosmological parameters, the acceleration of the universe, and the "dark energy" explanations for the acceleration.

Projects include high-redshift supernova studies of the cosmological parameters, intensive discovery and follow-up of low-redshift supernovae to understand these cosmological tools, and the development, design, and instrument-prototype construction of a dedicated space-based telescope facility. Candidates should have interest and abilities in any of the following: observation and analysis related to cosmology or supernovae, astronomical instrumentation (ground- and space-based), and/or novel real-time data analysis techniques for large-dataset projects.

Requires a Ph.D. or equivalent experience in astronomy and/or physics. Applications, including CV, list of publications, description of research interests and skills, and three letters of recommendation should be sent to:

Berkeley Lab Search Committee
c/o Ms. Madelyn Bello
Berkeley Laboratory
One Cyclotron Road, Mailstop 50A-4037
Berkeley, CA 94720

<http://supernova.lbl.gov/> and <http://snap.lbl.gov/>

or e-mail to gensciemployment@lbl.gov (inquiries should also be forwarded to this e-mail address). Applicants can contact ALSpadafora@lbl.gov to arrange a preliminary interview at the January 2003 AAS meeting in Seattle. Please cite job number PH/015554/WAAS. Applications will be considered beginning by 1 February 2003.

Berkeley Lab is an AA/EEO employer.

No. 13240

Postdoctoral Scholars / Virtual Observatory Development

MS 105-24

Pasadena, CA 91125

Tel: 626-395-4415

FAX: 626-568-9352

Email Submission Address: george@astro.caltech.edu

Email Inquiries: roy@cacr.caltech.edu

URL: <http://us-vo.org/>

Attention: Prof. S. G. Djorgovski, professor

One or more postdoctoral positions to work on projects related to the National Virtual Observatory may be offered, subject to available funding. Appointments may be at a level of a Postdoctoral Scholar or a Senior Postdoctoral Scholar, depending on the applicant's background and qualifications.

The work would be on an interface of astronomy and computation, related to the development of the National Virtual Observatory, in the groups supervised by Dr. Roy Williams and Prof. S. George Djorgovski. Interested applicants should contact by email both: roy@cacr.caltech.edu and george@astro.caltech.edu. All application materials should be provided by email or ftp. They should include the applicant's c.v., publication list, a statement of research interests, and names of 3 scientists who could be contacted as references. We are seeking applicants with a demonstrated expertise and interests in the areas of large digital sky surveys, massive data sets, databases, virtual observatories, and the suitable computational/programming skills.

The initial appointments would be for 1 year, extendable for up to 3 years subject to a mutual agreement and availability of funds. The start dates are negotiable. PhD in astronomy, computer science, or a related field is required.

Caltech is an AA/EO employer. Women, minorities, veterans, and persons with disabilities are encouraged to apply.

No. 13241

Physicist Scientist

BERKELEY LAB

**One Cyclotron Road, Mailstop 50A-4037
Berkeley, CA 94720
Email Submission Address: gensciemployment@lbl.gov
Email Inquiries: gensciemployment@lbl.gov
URL: <http://www-physics.lbl.gov/>**

Attention: Madelyn Bello, Senior Human Resources Generalist

The Supernova Cosmology research group of Berkeley Lab has multiple Scientist positions available. These are two-year term positions with the possibility of renewal. This is an exciting opportunity for a wide range of investigations concerning cosmological parameters, the acceleration of the universe, and the "dark energy" explanations for the acceleration.

Projects include high-redshift supernova studies of the cosmological parameters, intensive discovery and follow-up of low-redshift supernovae to understand these cosmological tools, and the development, design, and instrument-prototype construction of a dedicated space-based telescope facility. Candidates will be expected to take leadership roles in any of the following: observation and analysis related to cosmology or supernovae, astronomical instrumentation (ground- and space-based), and/or novel real-time data analysis techniques for large-dataset projects.

Berkeley Lab Search Committee
c/o Ms. Madelyn Bello
Lawrence Berkeley National Laboratory
One Cyclotron Road, Mailstop 50A-4037
Berkeley, CA 94720

<http://supernova.lbl.gov%20and%20http://snap.lbl.gov>

or e-mail to gensciemployment@lbl.gov (inquiries should also be forwarded to this e-mail address). Applicants can contact ALSpadafora@lbl.gov to arrange a preliminary interview at the January 2003 AAS meeting in Seattle. Please cite job number PH/015555/WAAS. Applications will be considered beginning by 1 February 2003.

Berkeley Lab is an AA/EEO employer.

**No. 13243
One-Year, Full-Time, Temporary, Faculty Position in Astronomy
KUTZTOWN UNIVERSITY OF PENNSYLVANIA
Department of Physical Science
P.O. Box 730
Kutztown, PA 19530**

Attention: Chairperson of the Temporary Astronomy Search Committee

Kutztown University of Pennsylvania is interested in hiring employees who have extensive experience with diverse populations. The following position is available.

The Department of Physical Sciences invites applications for a one-year, full-time, temporary, faculty position in Astronomy beginning August 2003. A Master's degree, or higher, in Astronomy is required,

with three years, or equivalent, prior experience teaching introductory or intermediate astronomy at the college level. A commitment to undergraduate teaching is expected. Teaching responsibilities will include both lecture and laboratory sections of astronomy along with planetarium presentations to visiting groups. The planetarium at Kutztown University is a Spitz A3-P with a 100-seat theater. Some prior experience with a planetarium is desirable. The teaching load consists of twelve contact hours per week for each semester. A successful interview and a demonstration of teaching ability are required. Submit a hard copy letter of application, curriculum vita, undergraduate and graduate transcripts, a brief statement of teaching philosophy, and three current letters of reference to the Chairperson at the above address. Review of applicants begins 3 February 2003, and will continue until the position is filled.

For full description, criteria and complete listing of vacancies, please call 610-683-4000 or visit our website at www.kutztown.edu/employment. Kutztown University is an AA/EOE member of the PA State System of Higher Education and actively solicits applications from women and minorities.

No. 13245

Multi-beam System Project Manager

NATIONAL ASTRONOMY AND IONOSPHERE CENTER

Cornell University

Space Sciences Bldg.

Ithaca, NY 14853-6801

Tel: 607-255-3735

FAX: 607-255-8803

Email Submission Address: jtm14@cornell.edu

Email Inquiries: campbell@astro.cornell.edu

URL: www.naic.edu/%7Eastro/astronomy.htm

Attention: Director

The National Astronomy and Ionosphere Center (NAIC) has openings for scientific staff positions in radio astronomy at the Arecibo Observatory in Puerto Rico at the level of Senior Research Associate, Research Associate or Postdoctoral Research Associate. NAIC is an NSF-funded National Center for research in radio and radar astronomy, and in atmospheric science, accepting observing proposals from scientists worldwide. The Arecibo 305-m telescope has recently been upgraded with a Gregorian reflector system and instrumentation which permits observations within a frequency range spanning 300 MHz to 10 GHz. This upgrade has resulted in significant improvements in available bandwidths, system noise and gain. The successful candidate will have the opportunity to capitalize on these improved capabilities and to contribute to further instrumental developments.

The Arecibo Observatory is located in the karst hills of the beautiful Caribbean island of Puerto Rico. A stimulating research environment is provided by approximately 20 resident staff scientists, postdoctoral fellows and graduate students, as well as over 200 visiting scientists per year. In addition, physics and engineering faculty and students of the University of Puerto Rico have a cooperative research and educational association with the Observatory. NAIC and the Arecibo Observatory are operated by Cornell University under a cooperative agreement with the National Science Foundation.

All applicants whose research interests include any field of radio astronomy that can be exploited with the Arecibo telescope will be considered for the position. We particularly encourage applications from individuals with observational interests in such areas as pulsars, HI and OH in our galaxy and external

galaxies, molecular lines, and high sensitivity VLBI. A 7-element multibeam system at 21 cm is expected to be operational in late 2004 for pulsar searches, HI surveys, etc. All Arecibo scientific staff are expected to have broad interest. Travel for use of other telescopes and to conferences is encouraged. Besides conducting an independent research program, Observatory staff scientists are expected to advise visiting scientists in all aspects of their observations, and to help define and implement improvements in equipment, observing procedures and data reduction.

A PhD in astronomy or a related field is required. The level of appointment will depend upon the qualifications and experience of the applicant. Postdoctoral appointments are made for a period of two or three years. Senior Research Associates and Research Associates are appointed for longer periods, with renewal based on periodic reviews. The successful candidate will be an employee of Cornell University, and hence eligible for all applicable University/Observatory benefits. Salary and benefits are competitive, attractive, and include a relocation allowance. Details will depend upon the candidate's qualifications and experience. Evaluation of applications will begin 25 January 2003, although applications received later than this may be considered. Please send a complete resumé of academic, professional and personal data, a research plan, and names and contact information of at least three references, to the Director at the above address. EOE/AAE. For further information about NAIC/Arecibo Observatory, see <http://www.naic.edu/>.

No. 13247

IT Specialist (Data Processing Specialist)

SMITHSONIAN ASTROPHYSICAL OBSERVATORY

60 Garden St.

MS-17

Cambridge, MA 02138

Tel: 617-495-7371

FAX: 617-495-7263

Email Submission Address: saoresumes@cfa.harvard.edu

URL: <http://cfa-www.harvard.edu/sao-home.html>

Attention: Kim Pulnik

We have an opportunity for an entry-level to mid-level IT/Data Processing Specialist in our High Energy Astrophysics Division. This position will provide data processing support to the Chandra X-ray Center, which is developing a data system to receive and archive data from the Chandra X-ray Observatory.

Duties may include activities such as running software to process scientific data downlinked from Chandra, distributing data to Chandra users, maintaining careful quality control of the pipeline processing activities, developing computer scripts and procedures to automate and document data processing activities, drafting and maintaining materials for web sites, and supporting computer programmers and scientists in solving data-related problems.

To qualify, candidates are to be detail-oriented and possess basic computer skills in UNIX, troubleshooting ability, and the ability to work accurately with data such as numbers, codes, and/or symbols. A basic knowledge of astronomy and enthusiasm for the topic are required. Computer related experience, which provides a basic knowledge of data processing functions, is highly desired. Knowledge of Perl, databases, data analysis software, and/or HTML is a plus.

We offer a competitive salary, a comprehensive benefits package, and a stimulating environment. To view our complete vacancy announcement for this position, please go to: <http://cfa-www.harvard.edu/cfa/hr/postings/23-12.htm>.

Interested candidates should forward resume to the mailing or e-mail address above. We are an equal employment opportunity employer, committed to diversity in our workplace.

No. 13250 Two Faculty Positions
SOUTH AFRICAN ASTRONOMICAL OBSERVATORY/UNIVERSITY OF NATAL
Email Inquiries: cressc@nu.ac.za

Attention: Catherine Cress

The 10m-class Southern African Large Telescope is scheduled to see first light in 2004 and many opportunities for astronomers will be opening up in South Africa over the next few years.

The University of Natal is currently offering two positions:

1. A fixed-term faculty position in Physics/Computational Physics based in Pietermaritzburg but allowing significant time at SAAO in Cape Town
2. A faculty position in Physics (Durban campus)

For further information please contact Catherine Cress at cressc@nu.ac.za

Useful websites: <http://www.saa.ac.za,%20roger.phy.unp.ac.za/>, <http://www.nu.ac.za/physics,%20www.star.ac.za/>, swift.ph.und.ac.za:8080/spri/homepage.html, <http://www.southafrica.net/>.

New Jobs This Month

Postdoctoral Scientist, SN 1987A and Other SNe-COLUMBIA UNIVERSITY

No. 13252

Postdoctoral Scientist, SN 1987A and Other SNe
COLUMBIA UNIVERSITY

550 West 120th Street
1027 Pupin Hall, MC 5247
New York, NY 10027

Tel: 212-854-3257

FAX: 212-854-8121

Email Submission Address: arlin@astro.columbia.edu

Email Inquiries: arlin@astro.columbia.edu

Attention: Arlin Crotts, Associate Professor

We seek a postdoctoral scientist to conduct research into the circumstellar and interstellar environment of Supernova 1987A. The work will include completed, ongoing and planned observations of SN1987A and its surroundings, including approved ground-based and HST programs, plus data from IUE, UIT, ISO, HST and ground-based Telescopes, and including preparation for observations with future ground, airborne and space-based instruments. Research topics include mapping the SN's circumstellar nebula and the interstellar medium of the 30 Doradus region using light echoes, detailing the composition, density and velocity structure of the circumstellar envelope, analyzing polarimetric and photometric properties of surrounding dust, measuring the reflected ultraviolet flux from SN shock breakout, and observing interaction between the SN ejecta and circumstellar envelope during the formation of Supernova Remnant 1987A. We seek excellent candidates practiced in some of the above observational techniques and knowledgeable concerning circumstellar and interstellar processes. The person selected will study these problems with an established, successful team, as well as develop her/his own related investigations, with support for observation, publication and professional travel, and access to the LZT 6-meter Telescope and MDM Observatory's 1.3-meter and 2.4-meter Telescopes. This funded position is available for two years with the possible extension to three years, starting in mid-to-late 2003. Applicants should provide curriculum vitae, research summary, and arrange for three letters of reference sent to the address above by 28 February 2003. Email submission is accepted (in TeX, LaTeX - special macros included, HTML, plain text, or plain MSWord.docs). Columbia University is an Affirmative Action/Equal Opportunity Employer.

No. 13253

Visiting Assistant Professor in Physics and Astronomy

BUCKNELL UNIVERSITY

Department of Physics

Lewisburg, PA 17837

Tel: 570-577-1207

FAX: 570-577-3153

Email Submission Address: schoepf@bucknell.edu

Email Inquiries: schoepf@bucknell.edu

URL: <http://www.eg.bucknell.edu/physics>

Attention: David C. Schoepf, Associate Professor & Chair

The Physics Department (<http://www.eg.bucknell.edu/physics>) is seeking candidates for two leave replacement positions, one for two years and the other for one year. Both positions are entry-level positions at the assistant professor level beginning August 2003. Candidates are expected to have a Ph.D. in physics or astronomy (or equivalent) and potential for excellence in teaching. (ABD candidates will be considered.) The successful candidate for one of the two positions will have responsibility for teaching astronomy and maintaining the observatory program. Bucknell is a highly selective, predominately undergraduate, private university with 3500 students and a Physics Department with 11 permanent faculty. Support includes an electronics shop and a machine shop, and extensively networked computers. Send a resume, evidence of teaching potential, a description of research interests, and three letters of reference to David Schoepf, Chair, (schoepf@bucknell.edu) at the above address. Candidates are also asked to indicate whether they wish to be considered for the one-year or two-year position, or both. Review of applications will begin on 14 February 2003, and continue until both positions are filled. Bucknell University encourages applications from women and members of minority groups (EEO/AA).

No. 13254

Postdoctoral Research Associate in X-ray Astronomy
JOINT CENTER FOR ASTROPHYSICS, UNIVERSITY OF MARYLAND,
BALTIMORE COUNTY
1000 Hilltop Circle
Baltimore, Maryland 21250
Tel: 410-455-1980
FAX: 410-455-1072
Email Submission Address: mark@jca.umbc.edu
Email Inquiries: mark@jca.umbc.edu
URL: www.jca.umbc.edu

Attention: Dr. Mark Henriksen, Director

The Joint Center for Astrophysics at the University of Maryland, Baltimore County has a Postdoctoral Research Associate position beginning September 2003. The postdoctoral duties will be divided between research in the field of clusters of galaxies, administering a small cluster of Linux machines for the astronomy group, and helping with an optical telescope on campus for a few evenings per semester. The successful applicant's research responsibilities will include analyzing cluster X-ray data from the XMM and Chandra satellites, and preparing observing proposals.

The candidate should have strengths in one or more of the following: experience with X-ray astronomical data analysis methods and analysis packages (FTOOLS, CIAO, XSPEC), fluency in a scientific programming language (IDL, C, etc.), and familiarity with emission from diffuse plasma in the X-ray band. Multiwavelength experience is desirable. The position requires a Ph.D. in Astronomy, Physics, or closely related field.

For full consideration, completed applications should be received before 31 March 2003, although applications will be reviewed until the position is filled. Applicants should submit their CV, bibliography, research interests, and the names of three references to the attention of the Joint Center for Astrophysics at the above address.

Email inquires may be addressed to Dr. Mark Henriksen, mark@jca.umbc.edu.

No. 13255

Postdoctoral Fellowships For Radio Astronomy in India
THE NATIONAL CENTRE FOR RADIO ASTROPHYSICS
Pune University Campus
Poona University Campus
Pune-411007
India

Attention: Centre Director, NCRA-TIFR

The National Centre for Radio Astrophysics (NCRA) of the Tata Institute of Fundamental Research invites applications for postdoctoral fellowships extendable upto 3 years. NCRA is located inside the

salubrious Pune University campus in the Deccan plateau of India 200 km east of Bombay. NCRA has built and operates the Giant Metrewave Radio Telescope (GMRT) as an international facility (<http://www.ncra.tifr.res.in>). GMRT consists of 30 fully steerable antennas of 45-meter dia each, installed across a 25 km region 90 km north of Pune city. NCRA has about 20 researchers including graduate students and postdoctoral fellows. Research interests include: Normal, dwarf, starburst and active galaxies, clusters of galaxies, intergalactic medium, pulsars, our Galaxy and its ISM, the sun and the solar wind. NCRA members have significant academic interaction with the neighbouring university departments and Inter-University Centre for Astronomy and Astrophysics.

Applicants with strengths/interests in observatory support activities including system tests and software/hardware development in addition to astronomical research programmes are also encouraged. Applicants should send their curriculum vitae and list of publications and arrange for three confidential letters of reference to be sent independently to the Centre Director, at the above address. Successful candidates will be provided flatlet type accomodation and medical cover (on nominal payment) and can use subsidised canteen facility of NCRA. An honorarium will be paid to cover the living expenses. NCRA is seeking additional regular academic staff, including those with major participation in observatory related activities, and interested postdoctoral fellows who do very well can be considered for these positions.

No. 13256

Graduate and Postdoctoral Research on Soft X-ray emission from clusters of galaxies

DEPT. OF PHYSICS, UNIVERSITY OF ALABAMA AT HUNTSVILLE

Sparkman Drive

Huntsville, AL 35899

Tel: 256-824-1425

FAX: 256-824-6873

Email Submission Address: lieur@cspar.uah.edu

Email Inquiries: lieur@cspar.uah.edu

URL: <http://www.uah.edu/news/ClusterGalaxies>

Attention: Richard Lieu, Prof.

Two opportunities exist at the Physics Department of the University of Alabama, Huntsville, for concienious and motivated individuals to pursue graduate (PhD) and postdoctoral research on the flourishing field of soft X-ray and EUV excess emission from clusters of galaxies. The successful candidates will collaborate with Richard Lieu and Jonathan Mittaz to work primarily on the very exciting observations of the XMM/Newton mission, which discovered O VII and O VIII emissions from clusters, indicating that at least part of the soft excess must be due to large quantities of warm missing baryons, while the rest may originate from inverse- Compton scattering or synchrotron radiation. Ideally the graduate studentship will be offered to a person with a BSc or MSc in Physics/Astrophysics, while the postdoctoral fellow should be familiar with the analysis of X-ray data, and should have sound knowledge of the physics underlying thermal and non-thermal processes responsible for EUV and X-ray emissions. Apart from XMM data, opportunities may exist for pursuing investigations that involve passbands at higher or lower energies, including gamma-ray data from INTEGRAL, optical observing and radio SZ measurements. Start date is negotiable, between 1 May and 1 September. Both openings are subject to annual review. The postdoctoral fellowship is for an initial period of two years. Please ensure that your curriculum vita and letters of reference (two for the studentship and three for the postdoctoral fellowship) arrive at the above address by 15 March 2003.

No. 13257

Full-time Instructor of Astronomy and Physics
UNIVERSITY OF ALABAMA AT BIRMINGHAM
Department of Physics, CH 310
1530 3rd Ave S
Birmingham, AL 35294-1170
Tel: 205-934-4736
FAX: 205-934-8042
Email Submission Address: dls@uab.edu
URL: <http://www.phy.uab.edu>

Attention: David L. Shealy, Chair

The Department of Physics [<http://www.phy.uab.edu>] invites applications to fill the position of full-time Instructor (non-tenure track), to begin in August 2003. The successful applicant will have a full-time assignment teaching introductory astronomy, physics, and physical sciences. Preference will be given to candidates with doctorates in astronomy or physics and a demonstrated commitment to teaching excellence. A master's degree in astronomy or physics, plus two years of full-time teaching experience in areas of astronomy should be viewed as a minimum requirement. The Department currently teaches approximately 600 undergraduates, of diverse backgrounds, in six introductory astronomy courses per year. Subjects include cosmology, stars and galaxies, the solar system and astrobiology. Applicants should send curriculum vitae, statement of teaching philosophy, and a list of three references to David L. Shealy, Chair, at the above address. Consideration of applications will begin on 21 March 2003, and continue until the position is filled. Electronic submission of materials is welcome at email: dls@uab.edu. Salary will be competitive and commensurate with qualifications. UAB is an equal opportunity, affirmative action employer.

No. 13258

Visiting Assistant Professor
VALPARAISO UNIVERSITY
Valparaiso, IN 46383
Tel: 219-464-5379
FAX: 219-464-5489
Email Submission Address: Bruce.Hrivnak@valpo.edu
Email Inquiries: Bruce.Hrivnak@valpo.edu
URL: www.physics.valpo.edu

Attention: Dr. Bruce J. Hrivnak

The Department of Physics and Astronomy at Valparaiso University invites applications for a visiting assistant professor position for the 2003-04 academic year to begin in August 2003. The appointment is for one year, but there is a possibility of subsequent renewals, based upon satisfactory performance. Candidates must possess a Ph.D. by the start of the fall term 2003. The duties of the position involve quality undergraduate teaching in physics and astronomy. The successful candidate should give evidence of a strong desire to teach well; prior teaching experience is preferred but not required.

Valparaiso University is a highly regarded private school with 3000 undergraduates, and is associated with the Lutheran church. It is located 60 miles SE of Chicago. Areas of active research in the Department include nuclear physics, condensed matter physics, and stellar astrophysics. More details about the Department, including students, active research programs, facilities, and curriculum can be found at the above www site. Additional information about Valparaiso University is available at the University www site www.valpo.edu. Salary will be based upon teaching and research experience.

Applicants should send a curriculum vita, summary of teaching experience and teaching philosophy, bibliography, statement of research interests, and list of three references. Review of applications will begin 3 March and continue until the position is filled. EOE.

No. 13259

NRC Postdoctoral Research Award at the Jet Propulsion Laboratory

JET PROPULSION LABORATORY

4800 Oak Grove Drive

Pasadena, CA 91109

Tel: 818-354-7774

Email Inquiries: dj@sgra.jpl.nasa.gov

Attention: Dayton L. Jones

The Astronomical Measurements Group at the Jet Propulsion Laboratory (JPL), California Institute of Technology, is inviting applicants to apply for a National Research Council (NRC) Research Associate award at JPL. The Research Associate will participate in basic astronomical research, either observational or theoretical. Our group has ongoing programs in observational radio astronomy, numerical general relativity, end-to-end astrophysical mission simulation, and numerical studies of accretion disks and jet formation in galactic microquasars and in active galactic nuclei. We are also involved in the design of large arrays of radio antennas for the future Deep Space Network. We seek applicants who are interested in contributing to one or more of these areas. Qualified applicants should have a Ph.D. in astronomy by the proposed starting date and strong written and verbal communications skills. The successful applicant will have access to good research facilities and support at JPL including considerable computing resources and access (through competitive proposals) to antennas of the Deep Space Network and the Palomar 5-m Hale Telescope. The award is for one year, renewable for an additional year. Annual starting salary for a recent Ph.D. is approximately \$45,000 and can vary somewhat depending on the applicant's qualifications. Separate funds for travel are also available.

To apply, refer to the NRC Web site at <http://www.nationalacademies.org/rap> for instructions, forms, and deadlines. Applications may also be submitted online on the NRC Web site. Note that the next deadline for applications is 1 May 2003. Before applying, please contact Dr. Dayton Jones at the address listed above.

No. 13260

Schwinger Fellowship in Origins of Solar Systems

UNIVERSITY OF CALIFORNIA, LOS ANGELES

Box 951562

Los Angeles, CA 90095-1562

Tel: 310-206-0420

FAX: 310-206-2096

Attention: Andrea Ghez, Prof

The Department of Physics & Astronomy at the University of California, Los Angeles, is pleased to announce a solicitation of applications for the Julian Schwinger Fellow. The Schwinger Fellow honors the late Professor Schwinger and recognizes his many contributions to the advancement of physics. This year we are seeking an outstanding young scientist in the area Origins of Solar Systems (observational or theoretical). The Schwinger Fellow is a three-year, non-renewable appointment at the rank of Adjunct Assistant Professor. The Fellow is expected to teach a reduced load of two courses per academic year (one lecture and one seminar course) and to carry out personal and collaborative research. The appointment can start on or after July 1, 2003.

Facilities available to the Schwinger Fellow include Keck Observatory, Lick Observatory, and the UCLA Infrared Laboratory. UCLA is also a member of NSF's Center of Adaptive Optics in Astronomy & Vision Science, NASA's Astrobiology Institute, and NASA's Stratospheric Observatory For Infrared Astronomy (SOFIA)

Applications should be sent to the Selection Committee, Schwinger Fellow, c/o Andrea Ghez at the above address.

Applications should include a curriculum vitae, a statement of research interests and the names of at least three people who can be contacted for further information. Deadline is 15 April 2003. The University of California is an affirmative action and equal opportunity employer. For further information contact Andrea Ghez (ghez@astro.ucla.edu).

No. 13261
Post-Doctoral Position in Adaptive Optics
UNIVERSITY OF CALIFORNIA, LOS ANGELES
Box 951562
Los Angeles, CA 90095-1562
Tel: 310-206-0420
FAX: 310-206-2096

Attention: Andrea GhezProf

The Department of Physics and Astronomy at University of California Los Angeles (<http://www.astro.ucla.edu>) invites applications for a postdoctoral research position in adaptive optics. The successful applicant will join Prof. Andrea Ghez's effort on galactic center research in the NSF Science & Technology for Adaptive Optics in Astronomy and Vision Science. This work will be carried out primarily at the W. M. Keck 10-m telescopes.

A PhD in astronomy or physics and previous experience in the general area of high spatial resolution is preferable. The initial appointment is for two years, with the possibility of a third year, beginning in the Fall 2003. To apply, send your curriculum vitae, a letter of application, and 3 letters of reference to Prof. Andrea Ghez at the above address by 15 April 2003.

For further information contact Andrea Ghez (ghez@astro.ucla.edu). UCLA is an affirmative action/equal opportunity employer; women and members of minorities are especially encouraged to apply for these positions.

No. 13262
PostGraduate Researcher in Astronomy
UNIVERSITY OF CALIFORNIA, SANTA CRUZ
1156 High Street
Santa Cruz, CA 95064
Tel: 831-459-2991
FAX: 831-459-5244
Email Submission Address: jacky@ucolick.org
URL: <http://adcam.pha.jhu.edu>

Attention: UCO/Lick Observatory, Office of the Director, Postgraduate Researcher Recruitment

The University of California Observatories/Lick Observatory invites applications for a postgraduate researcher position. The initial appointment will be for one year, beginning spring/summer 2003, and may be extended for up to three more years, contingent on funding. The appointee will work with the Hubble Space Telescope's (HST) Advanced Camera for Surveys (ACS) project at the University of California, Santa Cruz with Garth Illingworth, deputy-PI of the ACS. The ACS science team has a comprehensive program on the characterization of the optical, radio, and infrared evolution of galaxies and clusters of galaxies at redshifts z between 0.2 and 6. The successful applicant will be based in Santa Cruz and be expected to lead a program in this area, collaborating with the (international) ACS team (see <http://adcam.pha.jhu.edu/>). A small percentage of time will be available for independent research. Candidates should have a good publication record, with the ability to work as part of a team. Experience with the analysis and/or interpretation of optical/IR imaging and spectroscopic data on galaxies is necessary, with like experience on distant galaxies being considered a plus.

RANK: Postgraduate Researcher Step III to Step IX

SALARY: \$33,864 - \$43,908

MINIMUM QUALIFICATIONS: PhD or equivalent in Astronomy or Physics or a closely related field, relevant refereed publications, and experience with astronomical software and other programming languages is essential, as is research experience on galaxies.

TERM OF APPOINTMENT: One year, with possible extension to four, contingent on availability of funding.

POSITION START DATE: 1 June 2003 (negotiable).

URL FOR MORE INFO: <http://adcam.pha.jhu.edu/>

APPLICATION MATERIALS: Please send a vita, two-page summary of relevant experience and plans, and three or more letters of recommendation.

SUBMISSION ADDRESS:

UCO/Lick, Office of the Director, Postgraduate Researcher Recruitment at the above address. Please refer to provision #T03-22 in your reply.

CLOSING DATE: All materials must be received no later than 1 March 2003. The University of California is an equal opportunity and affirmative action employer.

No. 13263

Postdoctoral position in astronomy

ASTRON

Postbus 2

Dwingeloo, 7990 AA

The Netherlands

Tel: 31-521-595257

FAX: 31-521-597332

Email Submission Address: ger@astron.nl

Email Inquiries: ger@astron.nl

URL: www.astron.nl

Attention: ger@astron.nl, Professor

The Netherlands Foundation for Research in Astronomy (NFRA, Dutch name ASTRON) has one or more positions available for postdoctoral research in astronomy. Candidates are expected to pursue research in any of the fields covered by the available facilities. ASTRON operates the WSRT, which participates in the EVN and global VLBI networks. The WSRT has recently completed a major upgrade with a wide suite of new receivers and extremely powerful and versatile backends. Other frontline research facilities available to astronomers in the Netherlands are the JCMT and the VLT/VLTI.

The ASTRON institute also hosts the Joint Institute for VLBI in Europe (JIVE). ASTRON and JIVE staff are engaged in many frontline research activities: HI kinematics and studies of nearby galaxies, AGN (structure, variability, spectroscopy), starburst galaxies, molecular lines, cosmology, pulsars and the ISM in our and nearby galaxies.

ASTRON also has a world-class technical division engaged in the design of future radio telescopes and backends (LOFAR, ALMA, SKA) and optical instrumentation for the VLT, VLTI and NGST.

Appointments are initially for two years and can be renewed for a third year. Applications, including a CV and research plan, and two letters of reference, can be submitted by email and should be received by March 15, 2003. The employee will be in the formal employ of the Netherlands Organization for Scientific Research (NWO) at a salary commensurate with age and experience.

For further information contact Prof. Ger de Bruyn (ger@astron.nl) or Dr. Willem Baan (baan@astron.nl).

No. 13264

Postdoc/Research Programmer for Astrophysical Applications

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

152 CAB

605 E. Springfield Ave.

Champaign, Illinois 61820

Tel: 217-244-1214

FAX: 217-244-0287

Email Submission Address: rplante@ncsa.uiuc.edu

Email Inquiries: rplante@ncsa.uiuc.edu

Attention: Dr. Raymond Plante

The Radio Astronomy Imaging Group at the National Center for Supercomputing Applications (NCSA) is seeking to fill 1-2 Postdoctoral or Research Programmer positions to carry out software development for astrophysical applications. Primary areas of focus include distributed computing in a Grid environment, the National Virtual Observatory, and pipeline processing of radio astronomy data. Postdoctoral candidates should have a PhD in astronomy, computer science, or a related field. Research Programmer candidates should have a bachelor's degree in computer science, astronomy, or related field. Experience programming in C/C++, Java, and a high-end scripting language (Perl, Python, or Glish) is highly desired. Experience with observational radio astronomy is also preferred. Familiarity with the concepts of data grids, parallel processing, and distributed computing is helpful.

Applicants should submit a curriculum vita. Three letters of recommendation should be requested by the applicant and sent directly to the above address. Applications must be complete by 15 March 2003 to receive full consideration. Minorities and women are particularly encouraged to apply.

No. 13265

**Postdoctoral Position in Numerical Hydrodynamics of Wind-Blown
Nebulae/Supernova Remnants**

UNIVERSITY OF CHICAGO

ASCI Flash Center, Univ of Chicago

5640 S. Ellis Ave, RI 451

Chicago, IL 60637

Tel: 773-834-3724

FAX: 773-834-3230

Email Submission Address: vikram@flash.uchicago.edu

Email Inquiries: vikram@flash.uchicago.edu

Attention: Vikram Dwarkadas

Pending budget approval, we invite applications for a postdoctoral research position, based at the ASCI Flash Center in the department of Astronomy and Astrophysics, Univ of Chicago. The applicant will work with Dr. Vikram Dwarkadas and collaborators on numerical studies related to the formation and evolution of wind-blown nebulae around massive stars, and/or the evolution of supernovae within these nebulae. Expertise in computational astrophysical fluid dynamics is desirable. Experience in theory of wind-blown bubbles or supernova-circumstellar interaction would be preferred. A PhD in astrophysics is required.

The ASCI Flash Center's (<http://flash.uchicago.edu>) purpose is to develop and apply a general-purpose multi-physics adaptive mesh refinement code, FLASH, which would be available to the successful applicant.

The position is initially for a year, with the possibility of renewal for up to two more years, depending

on performance and the availability of funding.

To apply, please submit to the address listed above a curriculum vitae, a list of publications, a summary of research experience, a brief description of research interests, and the names and contact information (including email) for three references. Applications may be submitted electronically, only in postscript or PDF format, but please send hardcopy also. For further information please feel free to contact vikram@flash.uchicago.edu. Applications received prior to 1 March 2003 will receive first consideration. Women and minorities are strongly encouraged to apply. AAE/EOE.

No. 13266

Lectureship in Theoretical Astrophysics

UNIVERSITY OF LEICESTER

Leicester, LE1 7RH

UK

Tel: +44-(0)116-252-5114

FAX: +44-(0)116-252-5140

Email Inquiries: andrew.king@astro.le.ac.uk

URL: <http://www.le.ac.uk/physics/>

Attention: Lectureship in Theoretical Astrophysics (Please reference A5543)

A permanent faculty position is available in the Department's internationally renowned theoretical astrophysics programme. Applicants should have an active research programme in theoretical astrophysics, an excellent publication record and clear leadership potential.

Informal enquiries may be made to Prof A.R.King via email at andrew.king@astro.le.ac.uk.

Application forms and further particulars are available from the Personnel Office. Tel: +44 (0)116-252-5114. Fax: +44 (0)116-252-5140. Email: jobs@le.ac.uk or via the web on www.le.ac.uk/personnel/jobs.

Closing date: 28 February 2003

No. 12367

Postdoctoral position in Radio Astronomy with LOFAR

KAPTEYN INSTITUTE GRONINGEN / ASTRON

P.O. Box 800

Groningen, 9700 AV

The Netherlands

Tel: 31-521-595257

FAX: 31-521-597332

Email Submission Address: ger@astron.nl

Email Inquiries: ger@astron.nl

URL: www.astro.rug.nl; www.lofar.org

Attention: A.G. de Bruyn, Professor

LOFAR, the low frequency array, will open a new window on the Universe with unprecedented sensitivity and angular resolution. This year the project enters a crucial phase with a preliminary design review scheduled for March 2003.

At the Kapteyn Institute in Groningen, we are looking for a radio astronomer who is interested in technical and astronomical questions surrounding observations of redshifted HI at the Epoch of Reionization (EoR) using LOFAR.

Candidates must have a PhD in astronomy or related field and have affinity with, and become actively (50%) involved in, design issues related to the LOFAR. Relevant issues are the core configuration, the correlator/processor, data calibration and 3-D image processing. The candidate is also expected to pursue radioastronomical research in collaboration with local staff members using the low-frequency facilities at the WSRT, GMRT and/or VLA. Persons interested in redshifted HI, foreground contaminants to EoR-signals, and signal extraction methods at high (spectral) dynamic range are encouraged to apply.

The successful candidate will be based at the Kapteyn Institute at the University of Groningen but is expected to keep a strong liaison with the LOFAR group (engineers and scientists) at the ASTRON (NFRA) headquarters (www.astron.nl), in Dwingeloo, about 50 km south of Groningen. The appointment is for two years, renewable for a third year.

Applicants should send a CV, bibliography and research plan, as well as the names of three referees, to prof. A. G. de Bruyn (ger@astron.nl) before 15 March 2003.

No. 13268

Assistant Professor in Infrared Astrophysics

CORNELL UNIVERSITY

228 Space Sciences Building

Ithaca, NY 14853

Tel: 607-255-4805

FAX: 607-255-5875

Email Submission Address: lm19@cornell.edu

Email Inquiries: lm19@cornell.edu

Attention: Laurie McCall, Executive Staff Assistant

The Cornell University Astronomy Department invites applications for a tenure-track assistant professor position in its Infrared Astrophysics Group. Preference will be given to individuals with research interests and expertise in both infrared instrumentation and space and ground-based observational infrared astronomy. The successful applicant will have the opportunity to participate in the SIRTF Infrared Spectrograph (IRS) team at Cornell, as well as the department's project to explore building a 15 meter-class telescope in the high Atacama Desert in northern Chile. The Infrared Astrophysics group at Cornell is actively involved in a large number of research and instrumentation projects, including instruments for SIRTF, SOFIA, Palomar Observatory, JCMT, and AST/RO. Cornell facilities include the Palomar 200-inch telescope (25% of the observing time) and the Arecibo Observatory radio telescope, and group members are regularly awarded observing time at other national and international observatories.

Applicants should send a statement of research interests and prior experience, a curriculum vita, and the

names of three individuals to be contacted for references to Laurie McCall, at the above address. Applications are currently being reviewed and will be accepted until 15 March 2003. The expected start date for this position is approximately 1 July 2003.

Cornell is an Equal Opportunity / Affirmative Action Employer.

No. 13269

**Recruitment Program: New Horizons - New Opportunities Program
NATIONAL RESEARCH COUNCIL CANADA**

Herzberg Institute of Astrophysics

5071 W. Saanich Rd.

Victoria, BC V9E 2E7

CANADA

Tel: 250-363-0049

FAX: 250-363-8766

Email Submission Address: please use URL below

Email Inquiries: Briana.Robertson@nrc-cnrc.gc.ca

URL: <http://careers-carrieres.nrc-cnrc.gc.ca>

Attention: Briana Robertson, Staffing & HR Planning Specialist

The National Research Council of Canada (NRC) recently launched an exciting new recruitment initiative entitled "New Horizons - New Opportunities".

The purpose of this initiative is to recruit 50 outstanding researchers within the 2002-2007 period. The initiative specifically targets outstanding individuals with the potential to become world leaders in their field, as well as established and exceptional researchers.

NRC's Herzberg Institute of Astrophysics (HIA) is a champion of this initiative and encourages outstanding astronomers and engineers to apply. For further information on how to apply, please visit the following URL: http://careers-carrieres.nrc-cnrc.gc.ca/Careers/career_main.nsf/pagee/newhorizons.html

Information on HIA can be obtained at <http://www.hia-ihh.nrc-cnrc.gc.ca/>.

Please note that preference will be given to Canadian Citizens and Permanent Residents of Canada.

No. 13270

**Postdoctoral Research Positions in Adaptive Optics and / or Wide Field Astronomy
ISAAC NEWTON GROUP OF TELESCOPES**

Apartado de correos 321

38700 Santa Cruz de la Palma, Spain

Tel: +34 922 425415

FAX: +34 922 425401

Email Submission Address: lal@ing.iac.es

Email Inquiries: djl@ing.iac.es

URL: www.ing.iac.es

Attention: Lucy Lawler, Head of Personnel

The Isaac Newton Group of Telescopes invites applications for two Postdoctoral Research Fellowship positions in the areas of Adaptive Optics and / or Wide Field Astronomy. These posts are based in La Palma, Canary Islands and are available immediately. Appointments will be made for a period of up to three years.

The successful candidates will spend up to 50% of their time on operational activities, primarily related to the support of the Adaptive Optics programme and Wide Field Astronomy. The remaining time will be available for research.

Applicants should hold, or be about to obtain a Ph.D. in astronomy or another relevant discipline.

The salary range for these positions is from £19,795 to £22,299, with scope for progression to £28,916. Appointment to a higher band will be considered for applicants with extensive postdoctoral work experience. The salary range for the higher band is £24,745 to £27,873, with scope for progression to £39,997. In addition, rent-free accommodation, a relocation package and overseas allowances will be made available.

For further details on ING see: www.ing.iac.es. For further information on the posts see: http://www.ing.iac.es/About-ING/Vacancies/INGCVNLP1_03.htm.

Applicants should send CV, publication list, statement of proposed research programmes and three letters of recommendation to: Lucy Lawler, Head of Personnel, at the above address.

The closing date for applications is 14 March 2003.

No. 13271

Postdoctoral Fellowship in Astrophysics for Theoretical Studies Massive Black Holes

WEIZMANN INSTITUTE OF SCIENCE

Faculty of Physics

P.O. Box 26

Rehovot, 76100

Israel

Tel: 972-8-9344483

FAX: 972-8-9344477

Email Submission Address: tal.alexander@weizmann.ac.il

Email Inquiries: tal.alexander@weizmann.ac.il

URL: www.weizmann.ac.il/home/tal/pd.html

Attention: Dr Tal Alexander

A 2 year postdoctoral fellowship in theoretical astrophysics is available for working with Dr. Tal Alexander on issues relating to massive black holes in galactic centers, starting spring 2003 (starting date and duration flexible; extension possible upon successful completion).

A strong background in stellar dynamics or stellar physics and in computational physics is an advantage.

Projects are available involving theoretical and simulational studies of stellar processes near massive black holes. Time will be available for independent research.

Applications should preferably arrive by 31 March 2003 but may be considered up to 30 April 2003. Material should include a CV, a list of publications, a brief summary of current research, and three letters of recommendation (to be sent in directly). It may be sent by e-mail (preferred), fax, or regular mail. Email inquiries are welcome. There are no restrictions on citizenship. Candidates must hold a PhD in astronomy or physics by the date of appointment.

Research and teaching at the Weizmann institute are conducted in English. A significant fraction of the students and postdocs are from overseas.

The fellowship is about US \$1600 per month tax free, but a higher amount may be possible depending on competitive fellowships (application deadline May 2003). Research costs (computing, professional travel) and airfare for one round trip from the country of origin will be provided. On-campus accommodations (for non-Israelis) are available, as well as medical insurance at about US \$45 per person per month. Some rent subsidy is possible. Additional information can be found at http://www.Weizmann.ac.il/feinberg/postdoc_fell_weiz.shtml

No. 13272

Postdoctoral Research Position

SMITHSONIAN ASTROPHYSICAL OBSERVATORY

60 Garden Street

Cambridge, MA 02138

Tel: 617-496-7852

FAX: 617-496-7356

Email Submission Address: kim@cfa.harvard.edu

Attention: Dr. Dong-Woo Kim, Astrophysicist

A position is available in the High Energy Astrophysics Division of the Harvard-Smithsonian Center for Astrophysics for a recent recipient of the Ph.D. degree with expertise and interests in the study of galaxies in X-rays, including the study of X-ray source populations in different types of galaxies, the properties of the hot ISM, and the study of low-luminosity nuclei. The position involves analysis, interpretation, and modeling of data principally from Chandra and XMM and/or comparison with data at different wavelengths and with models as appropriate.

Candidates must possess: a Ph.D. or equivalent in astronomy, physics, or a closely related field; experience in observational research related to external galaxies and in the analysis and modeling of data; experience with data from X-ray missions is desirable. To carry out the required research tasks successfully, candidates must have familiarity with modern computer techniques as well as demonstrated ability to communicate and work with other scientists and to prepare material for publication and presentation at meetings.

The initial appointment will be for one year, beginning as soon as possible, at an initial stipend of about \$44,000, with renewal for a second year subject to satisfactory performance. Interested applicants should send a CV, statement of research interests, and the names of three references to the above address; applications received by 15 Jan 2002 will be given full consideration.

For further information please contact Dr. Dong-Woo Kim (kim@cfa.harvard.edu).

No. 13273

Education Outreach Specialist in Planetary Science

LUNAR & PLANETARY INSTITUTE

3600 Bay Area Blvd

Houston, TX 77058

Tel: 281-486-2180

FAX: 281-486-2127

Email Submission Address: jordan@lpi.usra.edu

Attention: Jodi Jordan, Executive Administrator

Come lead the outreach team at the Lunar and Planetary Institute (LPI). LPI is a research institute devoted to study of the solar system and furthering the goals of NASA's Office of Space Science. We are managed by the Universities Space Research Association, a non-profit consortium of universities. Our outreach program has local to national elements that include teaching students, conducting workshops for educators, training scientists in outreach techniques, and working with museums and planetariums. The outreach department contains a staff of five which is mostly funded through external grants. We have an immediate need for an Education and Public Outreach Manager. Applicants must have an M.S. (Ph.D. preferred) in the natural sciences and a minimum of 3 years teaching and/or E/PO experience. Supervisory skills and the ability to manage long-term professional projects required. Knowledge of space science, the structure of NASA, and national K-12 science standards is desired. Excellent communication skills and experience working effectively with professionals from various disciplines required. Some travel is expected. Interested candidates should send a resume, letter of interest and three references to Ms. Jodi Jordan at the above address.

Review of applications will begin on 28 February 2003, and positions will remain open until filled.

UNIVERSITIES SPACE RESEARCH ASSOCIATION IS AN EQUAL OPPORTUNITY EMPLOYER

No. 13274

Postdoctoral Position in Planetary Astronomy

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Earth, Atmospheric & Planetary Sci.

77 Massachusetts Ave., Rm. 54-410

Cambridge, MA 02139

Tel: 617-253-6308

FAX: 617-253-2886

Email Submission Address: jle@mit.edu

Attention: James L. Elliot, Professor

The Planetary Astronomy group has a postdoctoral position available for the summer or fall of 2003 and is looking for someone who would enhance their research programs. Research interests in the group primarily concern observations of the outer solar system, instrumentation for instructional research on

small telescopes at MIT's Wallace Astrophysical Observatory, and instrumentation for the 6.5-m Magellan telescopes (on which MIT is a partner). The group also collaborates with Lowell Observatory on the HIPO instrument for SOFIA. Required qualifications for this position are a Doctoral degree in astronomy or physics, research experience in planetary astronomy, and some knowledge of instrumentation. Additional useful qualifications are experience with Mathematica and/or IDL and knowledge of Macintosh operating systems. Applicants should send a CV and statement of interests and experience, along with the names of three references, to Professor James L. Elliot at the above address. Review of applicants will begin in February and continue until 28 February 2003.

No. 13275

Director of the Institute

JOINT INSTITUTE FOR VLBI IN EUROPE

Via P. Gobetti, 101

Bologna, I-40129

Italy

Tel: +39-051-639-9377

FAX: +39-051-639-9431

Email Submission Address: fmantovani@ira.cnr.it

Email Inquiries: roorda@astron.nl

URL: www.jive.nl

Attention: Franco Mantovani, Dr.

JOINT INSTITUTE FOR VLBI IN EUROPE (JIVE)

The Board of the Joint Institute for VLBI in Europe invites applicants for the position of Director of the Institute.

JIVE was set up by the European VLBI Network (EVN), in collaboration with the Netherlands Research Council (NWO), to build and operate its 16 station VLBI data processing centre. The host institute for JIVE is the Netherlands Foundation for Astronomy (ASTRON) and the institute is located at their headquarters in Dwingeloo. Funding for JIVE is provided by Research Organisations from around Europe. JIVE frequently assumes responsibility for VLBI related projects funded by the European Union.

The EVN is a consortium of radio astronomy observatories in Europe, with members in China and South Africa, performing VLBI observations with up to 14 nationally funded telescopes and regularly participating in global VLBI observations. Through JIVE the EVN facilitates access of the wide scientific community to programmes of high angular resolution radio astronomy, and ensures the development of new technologies and concepts for VLBI.

The Director, formally an employee of NWO, reports to the JIVE Board. He/she is responsible for the operation and management of JIVE and for developing policies within the framework of the Board. These tasks involve close liaison with the EVN observatories, and with public servants both in the Netherlands and in the European Union. The position also carries membership of the EVN Consortium Board and the ASTRON management team.

The position is for 5 years, in the first instance. Professional requirements for the position include a PhD

in Astronomy or Physics, active involvement in astronomical research, extensive experience in scientific and personnel management, and a good command of the English language, both written and verbal. Information on JIVE, the EVN Consortium and ASTRON may be found at: <http://www.jive.nl>
<http://www.evbi.org>
<http://www.astron.nl>

Letters of application for the position, including names of three referees, should be sent to Dr. Franco Mantovani at the above address.

THE APPLICATION DEADLINE IS 1 MARCH 2003.

No. 13276

Postdoctoral Research Associate

BROWN UNIVERSITY

184 Hope Street

Providence, RI 02912

Tel: 401-863-1441

FAX: 401-863-3359

Email Submission Address: tucker@physics.brown.edu

Email Inquiries: tucker@physics.brown.edu

URL: <http://astro.physics.brown.edu>

Attention: Professor Greg Tucker

The Observational Cosmology Group at Brown University invites applications for one or two research associate positions. The group is working on three experiments: the Balloon-borne Large Aperture Submillimeter Telescope (BLAST), the Microwave Anisotropy Probe (MAP) and the Millimeter-wave Bolometric Interferometer (MBI). We are looking to fill positions to work on BLAST and/or MBI. The successful candidate will assume a large role in BLAST and/or MBI. The first flight of BLAST is expected to occur in 2003. We have started a design study for MBI and are funded to produce a prototype instrument. Applicants should have experience in one or more of the following areas: bolometers, cryogenics, interferometry, low-noise electronics, microwave/optical design, scientific ballooning. Applicants should have a Ph.D. in physics or a related field prior to starting this position. Candidates should send a letter of application, curriculum vitae, and three letters of recommendation to Prof. Greg Tucker, Department of Physics, Box 1843, Brown University, Providence, RI 02912. Applications received by 31 May 2003 will receive full consideration, but the search will remain open until the position is closed or filled. For more information please contact Prof. Tucker at tucker@physics.brown.edu or visit <http://astro.physics.brown.edu>. Brown University is an affirmative action/equal opportunity employer. Women and minorities are encouraged to apply.

No. 13277

Astronomy Instructor

CITY COLLEGE OF SAN FRANCISCO

33 Gough Street

San Francisco, CA 94103

Tel: 415-241-2246

FAX: 415-241-2335

Email Inquiries: lkao@ccsf.edu
URL: <http://www.ccsf.edu/hr>

Attention: Clara Starr, Director of Human Resources

Application Deadline: February 14, 2003, no later than 4 p. m.

Candidates must obtain a job announcement and application forms from the CCSF Human Resources Department (these documents can be obtained from CCSF's Human Resources website at <http://www.ccsf.edu/hr/>). The announcement describes duties, desirable qualifications, and the interview process. The start date is Fall Semester 2003. Additional information is available from the Department chair, Lancelot Kao, by calling (415)239-3654, by email inquiry to lkao@ccsf.edu, or by writing to City College of San Francisco, 50 Phelan Avenue, Box S95, San Francisco, CA 94112.

As a community college, CCSF enrolls 95,000+ students per semester at eleven campuses and centers. The Astronomy Department has three full time faculty and two adjunct instructors. Facilities include a planetarium and an observatory at the main campus. Astronomy offerings include the usual survey course, a solar system course, laboratory, introduction to astrophysics, and a planetarium-based class, all at the freshman/sophomore level. A course listing is available from the Astronomy Department website at <http://www.ccsf.edu/Departments/Astronomy/>.

CCSF does not provide research opportunities. However, the Astronomy Department has a sixty year tradition of faculty research ranging from modest to substantial. Members in the Department are pursuing observational or theoretical projects. Astronomy faculty have forged partnerships with Bay Area universities, NASA, and high tech corporations. Applications are encouraged from candidates committed to excellence in undergraduate education who may want to continue their research interests.

CCSF is an Equal Opportunity Employer, AA/EEO.

No. 13278

Faculty Position in Astrobiology/Astronomy

ARIZONA STATE UNIVERSITY DEPARTMENT OF PHYSICS & ASTRONOMY

P.O. Box 871504

Tempe, AZ 85287-1504

Tel: 480-965-4702

FAX: 480-965-8093

Email Submission Address: Joelina.Peck@asu.edu

Email Inquiries: Joelina.Peck@asu.edu

URL: <http://phy.asu.edu>

Attention: Jeff Hester, c/o Ms. Joelina Peck, Search Coordinator

The Department of Physics and Astronomy at Arizona State University seeks to fill a tenure-track faculty position in the astronomical aspects of Astrobiology. The appointment will be at the assistant professor level, with a preferred starting date of 16 August 2003. Areas of specialization might include observational or theoretical aspects of star-formation, circumstellar disks, planet formation, early solar system processes, or related fields.

The successful candidate will be expected to lead an active research program, as well as develop strong interdisciplinary ties with ASU's Astrobiology initiative. The candidate must have a Ph.D. by the time of the appointment, and relevant research experience. Teaching in the Department's extensive undergraduate and graduate programs is an important component of the evaluation of faculty.

The initial closing date is 3 March 2003. If necessary, applications will be reviewed each two weeks thereafter until the position is filled. A complete application consists of a letter of application describing research and teaching experience and interests, a CV, and three letters of reference. Please arrange to have letters sent directly to ASU, and include the names of references in the application. Materials must be sent to Jeff Hester, c/o Ms. Joelina Peck, Search Coordinator, at the above address. Both application letters and reference letters are preferred via edmail to Joelina.Peck@asu.edu. AA/EOE.

No. 13279

Faculty Positions in Astrophysics

DEPARTMENT OF ASTRONOMY, UNIVERSIDAD DE CHILE

Departamento de Astronomia

Camino El Observatorio 1515

Las Condes, Santiago

Casilla 36-D

Chile

Tel: (56-2)-2294002

FAX: (56-2)-2294101

Email Submission Address: mtruiz@das.uchile.cl

Email Inquiries: guido@das.uchile.cl

URL: <http://www.das.uchile.cl>

Attention: Maria Teresa Ruiz, Professor

The Department of Astronomy at the Universidad de Chile invites applications for two new faculty positions in astrophysics. Preference will be given to applicants at the Assistant Professor level but more senior appointments will be considered. The new faculty members are expected to carry out vigorous programs of research and to participate fully in the teaching program in the department. Candidates are expected to have a Ph.D. degree and a demonstrated ability in independent research.

The positions are open to candidates working in any area of astronomy. Preference may be given to those whose research relates to ongoing efforts in the department. A list with the research interests of the thirteen faculty members of our Astronomy Department can be found at <http://www.das.uchile.cl/profes.html>. One position is expected to be filled in the area of stellar astrophysics. The successful applicants will have access to the reserved 10% of telescope time in all the astronomical facilities located in Chile.

Interested individuals should submit applications by regular mail, including a curriculum vitae, a publications list, and a brief description of research interests. In addition, three letters of recommendation should be sent to Prof. Maria Teresa Ruiz, Chair, at the above address. Review of applications will begin on 15 March 2003, and will continue to do so until the positions are filled.

Further information can be obtained at <http://www.das.uchile.cl> or from Guido Garay (guido@das.uchile.cl)

No. 13280
Astronomy or Physics Education
CALIFORNIA STATE UNIVERSITY LOS ANGELES
5151 State University Drive
Los Angeles, CA 90032
Tel: 323-343-2100
FAX: 323-343-2497
Email Submission Address: wtaylor@calstatela.edu
Email Inquiries: wtaylor@calstatela.edu
URL: <http://www.calstatela.edu/faculty/>

Attention: William A. Taylor, Chair

The Physics and Astronomy Department invites applications for a tenure track Astronomy or Physics Education position at the Assistant Professor level starting Fall 2003. Duties will include teaching undergraduate astronomy or physics courses, and development of a research program involving undergraduate and graduate (Masters level) students. Start-up funds are available. The successful candidate will be expected to seek external funding for astronomy and physics education research. A Ph.D. in astronomy or physics is required, post-doctoral experience in astronomy or physics is desirable. The application package should include a letter of application, curriculum vita, statement of research plan and teaching philosophy. Applicants should arrange to have three letters of recommendations sent separately to William Taylor, Chair, at wtaylor@calstatela.edu or at the above address. Review of applications will begin 2 January 2003 and continue until the position is filled.

Employment contingent upon proof of eligibility to work in the United States. CSLA is an Equal Opportunity/Title IX/ADA Employer. Qualified women and minorities are encouraged to apply.

No. 13281
AAO Research Fellow
ANGLO-AUSTRALIAN OBSERVATORY
PO Box 296
Epping
NSW 1710
Australia
Tel: +61 2 93724863
FAX: +61 2 93724860
Email Submission Address: gcs@aoepp.aao.gov.au
Email Inquiries: cgt@aoepp.aao.gov.au
URL: <http://www.aao.gov.au>

Attention: Greta Simms, Personnel Officer

The Australian Research Council and the UK Particle Physics and Astronomy Research council jointly fund a research fellowship for British and Australian astronomers. The fellowship is tenable for up to two years at the Anglo-Australian Observatory. Applications are sought for a Research Fellow to fill a position as soon as possible. The position will be based at the AAO's Epping site in Sydney.

The Observatory comprises the 3.9 metre Anglo-Australian Telescope (AAT) and the 1.2 metre Schmidt Telescope near Coonabarabran, NSW, and a laboratory in Epping, about 25km from the centre of Sydney. There is a scientific staff of 12 astronomers, most of whom are based in Epping, which is also the headquarters of the Australia Telescope National Facility.

Candidates must have a strong background in astronomy, astrophysics or a related branch of experimental physics. Applications are now sought for this position, to start as soon as possible.

The appointment will be for a period of two years, subject to the satisfactory completion of a 6 month probationary period. The salary will be \$A52,240 p.a. plus employer superannuation contributions. Reasonable relocation expenses (including airfare to Australia and return on completion of the appointment) will also be paid

Applications should include a covering letter that lists each criterion and demonstrates, from past experience, knowledge and education, how the candidate meets the criterion. Include also a curriculum vitae, list of publications, a statement of proposed research programs and full contact details (including phone and e-mail) of three referees familiar with the applicant's work. The applicant must arrange for references to be sent before the closing date, which is 28 February 2003.

Prospective candidates should submit their applications (in writing) to The Personnel Officer at the above address.

Further information about the position may be obtained from <http://www.aao.gov.au/local/www/jobs>
Questions about the position may be addressed to Dr Chris Tinney, Head of Astronomy, phone +61 2 9372 4849, Fax +61 2 9372 4880, or e-mail: cgt@aaoepp.aao.gov.au

The Anglo-Australian Observatory is an equal opportunity employer!

No. 13282

Astrophysics

PURDUE UNIVERSITY

Department of Physics

525 Northwestern Avenue

West Lafayette, IN 47907-2036

Email Submissions: faculty_search@physics.purdue.edu

Attention: Faculty Search, c/o Ms. Lynn Gerrard

The Department of Physics at Purdue University invites applications for faculty positions expected to be available in the 2003-2004 academic year. We are seeking outstanding individuals with strong leadership qualities to join our internationally recognized forefront research in astrophysics. Faculty members are expected to initiate and maintain vigorous research programs and to teach at the undergraduate and graduate levels. Applications by both theorists and experimentalists at all levels are welcome and should include a vita and research plans. Electronic submission is strongly preferred. Candidates should arrange for three letters of reference to be sent to the Faculty Search, c/o Ms. Lynn Gerrard, at the above address. Purdue University is an Equal/Affirmative Employer! Women and minorities are encouraged to apply.

No. 13283
Assistant Scientist
NATIONAL RADIO ASTRONOMY OBSERVATORY
520 Edgemont Road
Charlottesville, VA 22903

Attention: Dr. K. Y. Lo, Director

The National Radio Astronomy Observatory invites applications for an Assistant Scientist to work in Green Bank, West Virginia, within the AIPS++ Project. This position requires a Ph.D. in astronomy, astrophysics, physics or a related field, demonstrated research ability and strong skills in scientific computing. The AIPS++ project is an international collaboration by a consortium of radio observatories, managed by the NRAO, with the goal of developing a software package for the processing of radio astronomical data from a wide range of instruments. The successful candidate will be expected to maintain a program of independent scientific research. The initial appointment is for three years with the possibility of future extensions and an eventual permanent appointment. In exceptional cases a more senior initial appointment may be considered.

Information about the NRAO, and AIPS++ is available at <http://www.nrao.edu>.

The successful candidate will develop software applications within AIPS++, with responsibilities in new code development, code maintenance and user support. Experience in radio astronomical data reduction algorithms and techniques is important for this position. Proficiency in C++ and prior experience in team software development and user support would be advantageous.

Applications should be sent to Dr. K.Y. Lo, Director, at the above address and should include: curriculum vitae, a letter with a description of research interests, and arrange for three letters of reference. Applications received before 1 April 2003 will receive full consideration.

No. 13284
Lectureship/Senior Lectureship in Theoretical Astrophysics, Department of Physics and Astronomy
CARDIFF UNIVERSITY
Email Submission Address: vacancies@cardiff.ac.uk
Email Inquiries: mge@astro.cardiff.ac.uk
URL: www.cardiff.ac.uk/jobs

Attention: Professor Mike Edmunds, Head of Department

Lectureship/Senior Lectureship in Theoretical Astrophysics Department of Physics and Astronomy

Applications are sought from those with expertise in the area of gravitational waves, the early-Universe and Cosmic Microwave Background, with particular emphasis on theoretical and/or data analysis aspects of gravitational waves. You will be expected to strengthen further the existing programmes in these areas, and have demonstrated an existing world-class programme of research. You will be expected to teach general relativity and other theoretical astrophysics courses at undergraduate and postgraduate level. The post will take effect from 1 September 2003.

The Department of Physics and Astronomy at Cardiff University has undergone substantial expansion in the past few years, and has very strong research groups in gravitational wave physics (with major involvement in GEO, LIGO and LISA), astronomical instrumentation (with particular emphasis on CMB projects including Boomerang, ACBAR, Planck, QUEST and others), extragalactic astronomy and cosmology, star-formation, optoelectronics, acoustics and mesoscopic physics. There are presently 13 academic staff involved in astrophysics and relativity, with 23 postdoctoral researchers and 21 PhD students.

Informal enquiries can be made to the Head of Department, Professor Mike Edmunds, email mge@astro.cardiff.ac.uk

Salary: Lecturer: £21125 - £33679 per annum
Senior Lecturer: £35251 - £39958 per annum

For an application pack and details of all our vacancies, visit www.cardiff.ac.uk/jobs Alternatively email vacancies@cardiff.ac.uk or telephone + 44 (0) 29 2087 4017 quoting vacancy number 015.

Closing Date: 14 March 2003

No. 13285
Postdoctoral Research Associate
NATIONAL OPTICAL ASTRONOMY OBSERVATORY
P.O. Box 26732
Tucson, AZ 85726-6732
FAX: 520-318-8560
Email Inquiries: hrnao@noao.edu

Attention: NOAO Human Resources Manager

The National Optical Astronomy Observatory (NOAO) invites applications for the position of a Postdoctoral Research Associate to work with Dr. Arjun Dey on the analyses of optical and X-ray observations of the NOAO Deep Wide-Field Survey (NDWFS). The NDWFS <http://www.noao.edu/noao/noaodeep/> is a project to map two 9 square degree patches of sky in order to study the evolution and large scale clustering of galaxies over a wide range in redshift. The northern field of the survey (in Bootes) is being targeted at X-ray (Chandra), UV (GALEX), optical and near-IR (NOAO), mid-IR and far-IR (SIRTF), and radio (Westerbork and VLA) wavelengths and by spectroscopic surveys at NOAO, Keck and MMT. In particular, the full 9 square degrees in Bootes will be mapped by Chandra and SIRTF (IRAC and MIPS) during the coming year (Chandra Cycle 4; SIRTF GTO). The Bootes field therefore provides the unprecedented opportunity to study galaxy evolution and clustering over a wide range in redshift.

During the first year, the postdoctoral researcher will carry out the optical identification, characterization, and statistical study of the X-ray source population. After the construction of the initial matched catalogs, the main focus of the research will be to understand the properties of the faint X-ray source population and study its clustering evolution. The successful applicant will be able to lead and carry out research projects based on the X-ray and optical/IR survey data. The associate is welcome to work closely with other members of the NDWFS team and to carry out independent research projects. The NDWFS/Chandra collaboration involves researchers at NOAO, Ohio University and the Center for Astrophysics. The initial appointment will be for two years with the possibility of an extension for an

additional year contingent upon funding.

Applicants should submit a letter outlining their qualifications and reason for interest in the NOAO Deep Wide-Field Survey, a statement of their research interests, CV, bibliography, and at least two letters of recommendation to the address below. Interested applicants are encouraged to contact Dr. Arjun Dey (adey@noao.edu) for more information. Applications will be reviewed beginning on 28 February 2003. We will continue to accept applications until the position is filled. (596)

NOAO is an affirmative action and equal opportunity employer.

Please submit to NOAO Human Resources Manager at the above address.

No. 13286

Two Postdoctoral Positions in Origin of Planetary Systems

STOCKHOLM UNIVERSITY

SCFAB

Stockholm, SE-10691

Sweden

Tel: +46-855378549

FAX: +46-855378510

Email Submission Address: pawel@astro.su.se

URL: www.astro.su.se/~pawel/netwrk/postdocs.html

Attention: Pawel Artymowicz, Associate Professor

Two postdoctoral Research Associate positions in astrophysics of planetary system formation at Stockholm Observatory (Department of Astronomy, Stockholm University, Sweden) are available. While both positions are mostly theoretical/computational, candidates combining theory and observations may also apply.

The first position is a part of a new European Research Training Network "The Origin of Planetary Systems", with 8 nodes located in Geneva, Heidelberg, Leiden, London, Paris, Stockholm and Warsaw. Network activities, such as conferences and collaborative visits, will be supported. We seek an astrophysicist below 36 years of age, a national or resident of European Union except Sweden, or of an EU-associated state (e.g., Switzerland, East European applicants to EU, Israel). The successful candidate will model the dynamics and interpret the observations of debris disks, study extrasolar planet formation in self-gravitating, multidimensional solar nebulae models, and/or investigate migration, growth, and eccentricity evolution of protoplanets in disks. The salary covers 2.5 years at 2600 Euro per month.

The second position will be funded for nearly 2 years by the Swedish Science Research Council (VR). The successful candidate will be free to conduct either basic research or more object-specific modeling of extrasolar systems with disks. We seek a candidate with strong astrophysical and computational background, eager to enter new, rapidly developing fields. This position is for non-Swedish candidates holding a PhD awarded after 1998, with exceptions due to special circumstances. The monthly salary will be 24,000 SEK per month, or 2600 EUR/month (\$32400 per year).

Stockholm Observatory is a leading Swedish astronomy center (<http://www.astro.su.se/>). The Planetary Systems Formation group provides excellent computing facilities (i.a., a Beowulf cluster with Gigabit

interconnect). For more information on the selection procedure, host institution, the European Network, and its eligibility criteria please visit www.astro.su.se/~pawel/netwrk/postdocs.html.

Applications should include: Curriculum Vitae, list of publications, statement of research interests, and a minimum of three names and e-mail addresses of scientists familiar with the candidate. We encourage submission via Web pages, email, or fax.

No. 13287

Postdoctoral Research Associate, X-ray Studies of AGN

UNIVERSITY OF MARYLAND

Department of Astronomy

Space Sciences Building

College Park, MD 20742

Email Inquiries: wilson@astro.umd.edu

Attention: Dr. Andrew Wilson

Applications are invited for a postdoctoral position involving analysis of X-ray observations of active galactic nuclei (AGN), especially Low Luminosity AGN, with the Chandra and XMM Observatories. The successful applicant will investigate X-ray emission from both compact and spatially extended structures in AGN. Related studies at other wavelengths (especially VLBI radio astronomy) may be involved. Candidates would ideally have expertise in some of the following areas: theory and modelling of the X-ray emission from thermal gases, both photo- and collisionally-ionized; observational X-ray astronomy; active galactic nuclei; and CCD image processing.

The University of Maryland is close to many major institutes in the Baltimore-Washington area with astronomical departments or programs, including the Space Telescope Science Institute, Johns Hopkins University, NASA Goddard Space Flight Center, Naval Research Laboratory, and the U.S. Naval Observatory. The National Radio Astronomy Observatory and University of Virginia, in Charlottesville, VA, are about 2 hours drive away. Excellent possibilities exist for interaction with the many astronomers working in extragalactic astronomy, including the X-ray astronomy group at the nearby Goddard Space Flight Center.

This research associateship will be for one year initially and is renewable annually for two more years. Applicants must have a Ph. D. degree in astronomy or physics and should mail a curriculum vitae, a description of their research plans, and should arrange for three letters of recommendation to be sent. Applications received before 31 March 2003 will be assured of full consideration. EOE/AEE.

No. 13288

Planetary Science/Education Post-Doctoral Fellow or Junior Staff Scientist

PLANETARY SCIENCE INSTITUTE

620 N. 6th Avenue

Tucson, AZ 85705 Email Inquiries: betts@psi.edu

Attention: Dr. Bruce Betts

Planetary Science Institute solicits applications for a post-doc or junior scientist position. Position

involves participating in planetary science research involving MGS Mars surface studies and general planetary lab spectroscopy, and will also involve developing and running education/public outreach programs and assisting in existing programs. The person who fills the position can be in residence at the PSI office in Laguna Niguel, CA, or in Tucson, AZ.

Ph.D. in planetary science or a closely related field required. Desirable experience: MGS studies of Mars, particularly involving TES, MOLA, and/or MOC data; infrared laboratory spectroscopy of planetary analog materials; education and outreach activities including presentations to students and the public, as well as development of education related programs/materials; videoconferencing experience; strong computer skills; ability to work independently and get along well with others in and out of science fields.

PSI, is a non-profit 501(c)(3) organization, pursuing planetary science research and education. Related facilities include laboratory infrared reflectance spectrometers, computers, support staff, and volunteers.

The nominal position is for two years, likely extendable to three years. Successful applicant will be encouraged to seek their own independent funding, thereby possibly leading to a permanent position with the Institute.

Interested parties should send resumes to Dr. Bruce Betts at the above address.

No. 13289

Faculty Position: Astronomer with Small Telescope/CCD Experience

UNITED STATES NAVAL ACADEMY

Physics Department

572M Holloway Road

Annapolis, MD 21402-5026

Email Inquiries: search@nadm.navy.mil

Attention: Search Committee

The Physics Department invites applications for one or more tenure-track positions at the assistant professor level, beginning in August 2003. The positions are available contingent on approval of funding. Exceptionally qualified candidates may be considered at the level of associate professor. A successful applicant will have a Ph.D. in physics or physics education research (with a solid academic background in physics), a strong interest in teaching undergraduates and involving them in research, and the ability to teach both lecture and laboratory courses. Fields of particular interest include a) astrophysics with a CCD camera on a 20-inch telescope, b) physics education research, and c) acoustics. Major departmental facilities include a 1.7-MV tandem electrostatic accelerator, 20-inch reflecting and 8-inch refracting telescopes, ultra fast dye- and solid-state lasers, a helium dilution refrigerator, pulsed/cw NMR system, and a well-equipped acoustics laboratory. Upper-division elective courses include Astrophysics, Acoustics, Condensed Matter Physics, Nuclear Physics, and Optics. The department has 25 civilian faculty, teaches about 1000 students per year in its core course (which emphasizes computer-based instructional laboratories), and graduates about 20 physics majors per year. To apply, send a letter of application, a resume, unofficial undergraduate and graduate transcripts, a statement of your teaching philosophy, and a description of your research plans to Search Committee, at the above address. Inquiries may be sent via e-mail to search@nadm.navy.mil. The United States Naval Academy is an Affirmative Action/Equal Employment Opportunity Employer. This agency provides reasonable accommodation to applicants with disabilities.

No. 13290
Chair of Astronomy
UNIVERSITY OF DURHAM
Personnel Department
Old Shire Hall
Durham DH1 3HP
England

Attention: Director of Personnel (Please quote reference C2072 on all correspondence)

Durham University hosts a world-renowned centre of excellence in astronomical research, with thriving groups in observations, theory (including computational cosmology) and astronomical instrumentation. The Chair of Astronomy was established in 1985 to mark the 150th anniversary of the foundation of Durham University. Applicants should have an internationally recognized record of excellence in research in any area of Astronomy and be able to exercise academic leadership. The successful candidate will be eligible to become head of a group which currently comprises 85 members actively involved in astronomical research, including 15 teaching staff.

The salary is negotiable within the Professorial range. The starting date will be by arrangement with the Chairman of the Physics Department. Applications (5 copies), including the names of 3 referees, should be sent to Mr J Boyd, Director of Personnel at the above address by the closing date of 14 March 2003. (Candidates outside the UK may submit one copy only).

Further particulars may be obtained from the Personnel Department (<http://www.dur.ac.uk/Personnel/vacancies/jobs.htm>). Informal enquiries may be addressed in confidence to Professors Michael Pennington (m.r.pennington@durham.ac.uk) or Carlos Frenk (c.s.frenk@durham.ac.uk).

No. 13291
Assistant Scientist
NATIONAL RADIO ASTRONOMY OBSERVATORY
520 Edgemont Road
Charlottesville, VA 22903

Attention: Dr. K. Y. Lo, Director

The National Radio Astronomy Observatory invites applications for an Assistant Scientist to work in Socorro, New Mexico, in the Data Management Division to develop radio-astronomical imaging software for the Atacama Large Millimeter Array (ALMA). The software is to be written in the AIPS++ package. This position requires a Ph.D. in astronomy, astrophysics, physics or a related field, demonstrated research ability and strong skills in scientific computing. The successful candidate will be expected to maintain a program of independent scientific research. The initial appointment is for three years with the possibility of future extensions and an eventual permanent appointment. In exceptional cases a more senior initial appointment may be considered.

Information about the NRAO, ALMA, and AIPS++ is available at <http://www.nrao.edu>.

The successful candidate will participate in the design and coding of software for automated pipeline reduction of observations from ALMA. Experience in software development, preferably with object oriented methods and C++ is essential. Experience with radio astronomy is desirable as well as previous experience of working with a large software project team.

Applications should be sent to Dr. K.Y. Lo, Director, at the above address and should include: curriculum vitae, a letter with a description of research interests, and arrange for three letters of reference. Applications received before 1 April 2003 will receive full consideration.

No. 13292

Physicist (B.S.), Astrophysicist (Reference No. 02/03)
THE MAX-PLANCK-INSTITUTE FÜR ASTRONOMIE
Königstuhl 17
D-69117 Heidelberg
Germany

Attention: Personalabteilung (Please reference No. 02/03)

The Max-Planck-Institut für Astronomie participates in scientific satellite projects of the European Space Agency dedicated to investigations of star formation and galaxy formation in the universe. Within the framework of the HERSCHEL mission we participate in the development of the PACS-Instrument for the infrared range and in the development of the scientific ground control centre.

For the collaboration in this project we are looking for a Physicist (B.S.), Astrophysicist (Ref. No. 02/03).

Special emphasis will be on the development of analysis-software for the ground calibration of the far-infrared cameras, as well as the in-flight calibration of the different observation modes of the instrument. The laboratory software is developed with IDL, the interactive analysis-software with Java/Jython. The candidate should have an interest in astrophysical data analysis.

The salary will be according to the Bundesangestelltentarif (BAT). The contract will initially be limited for a duration of two years and is therefore also suitable for postdoctoral positions. There is the possibility of an extension. The Max Planck Gesellschaft is an equal opportunity employer; in particular, women and disabled persons are encouraged to apply.

More information about the MPIA may be found on the following web page: <http://www.mpia-hd.mpg.de>.

The deadline is 15 April 2003 but applications will be accepted until the position is filled.

Please include the job reference number 02/03.

For additional inquiries, please call Prof. Dr. Dietrich Lemke (Manager of the Project): +49.6221.528 259, or Mrs Ingrid Apfel (Personnel Department): +49.6221.528.283.

No. 13293

Postdoctoral Research Fellow in Infrared Astronomy

UNIVERSITY OF FLORIDA
Department of Astronomy
P.O. Box 112055
Gainesville, FL 32611-2055
Tel: 352-392-2052 ext. 260
Email Inquiries: eikenberry@astro.ufl.edu

Attention: Dr. Stephen S. Eikenberry

Applications are invited for a postdoctoral research position in the infrared astronomy group of the Department of Astronomy at the University of Florida. The primary focus of the successful applicant's activities will be on development of the Canarias Infrared Camera Experiment (CIRCE) - a near-infrared camera for the Gran Telescopio Canarias (GTC) in the Canary Islands, Spain. The University is a partner in the 10.4-meter GTC, which is expected to begin science operations in 2004. CIRCE is a fully-funded visitor instrument for GTC, and is scheduled for completion near the beginning of GTC science team on the design, fabrication, integration, testing, and commissioning of CRICE. He or she will also participate as a science team member in acquisition of science observations as part of payback time to the instrument development team. Candidates must possess a Ph.D. or equivalent in Astrophysics, or a closely related field, and must have Spanish citizenship. Interested in infrared instrument development is necessary, but previous experience is not required. Appointment will be for three years, beginning as early as 1 August 2003. Applicants should send a CV, statement of research interests, and have three letters of reference sent to Dr. Stephen S. Eikenberry at the above address. Deadline for receipt of applications is 1 June 2003. AAE/EOE.