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CANADIAN INSTRUMENTS FOR GEMINI?

At the February meeting of the Canadian Science Steering Committee held in Victoria, we discussed at length our priorities for the first round of instruments for the Gemini telescopes. David Crampton and John Glaspey drew up a short list based on the community response to John's questionnaire and on discussions David held with different

astronomical groups across Canada. The list was further refined during the meeting. Interestingly, the general view was that the best choice would be a different set of instruments on each telescope. In order of priority they would be, tentatively:

Mauna Kea	Cerro Pachon
Adaptive optics	Adaptive optics
Slit-fed multi-object spectrograph	High res spectrograph + fibre-feed
Cooled grating spectrograph	Fibre-fed multi-object spectrograph
Infrared imager	Infrared imager

Optically, this choice reflects the prominence of the Galactic Centre, Magellanic Clouds and Globular Clusters for the southern telescope and an emphasis on background limited spectroscopy in the north.

The international Science Advisory Committee will meet on 13 and 14 March in the UK to set instrument priorities and to consider how the resources of the three countries can best be used to build them.

With Canada now firmly established with a 15% share, a Canadian Project Office has been set up at the DAO with Andy Woodsworth as interim-Manager. Tim Davidge has been employed full time through UBC on NSERC funds since the beginning of February as Canadian Project Astronomer. His immediate concern is with the instrumentation. The Project Office will try to draw together those groups in Canada at the Universities, government labs, and in industry to provide a Canadian response to the Requests for Proposals this Fall which will be issued by the Tucson Project Office to build one or more of the Gemini first-round instruments. Equally important, the Canadian Project Office will also try to coordinate efforts in instrumentation between CFHT, Gemini and other national facilities.

This April, NRC hopes to hire one or more engineers to add to the Canadian Project Office. We shall have to

move quickly if we are to establish our credentials as a viable instrument building group. Individual instruments are expected to cost in excess of \$2M and be operated remotely. If you or anyone in your group would like to be involved in this effort please contact Tim Davidge (davidge@dao.nrc.ca) right away. We plan to have an evening 'formation' meeting during the CFHT users meeting in Victoria in early May.

There is extensive detail on the current state of the project and activities in the Tucson Project Office in the Gemini Project Newsletter which Andy Woodsworth is now distributing. If you would like a copy you can contact him at woodsworth@dao.nrc.ca. Please note some recent changes to the information in that Newsletter. René Racine will now serve on the recently created Adaptive Optics Working Group, Bob McClure will replace him on the Building and Enclosure WG, and Simon Lilly will take René's place on the Scientific Advisory Committee following the UK meeting in March.

The Canadian Science Steering Committee members remain: David Crampton, Eduardo Hardy, Simon Lilly, Tony Moffat, Don Morton, Chris Pritchett, Derrick Salmon, Gordon Walker, Doug Welch.

GORDON WALKER
2 March 1992

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC. PROJECT SCIENTIST - GEMINI 8-METER TELESCOPE PROJECT

A full time position as Project Scientist is available in AURA's GEMINI Project in Tucson, Arizona. GEMINI is an international collaboration with Canada and the United Kingdom. GEMINI will construct 8-meter telescopes in Hawaii and in Chile. AURA manages the program for the National Science Foundation. The Project Scientist will work with the science communities of the three countries, represent the project, work with the Project Manager to meet science requirements, and manage the scientific efforts required by GEMINI. The Project Scientist concurs in major project actions. The Project Scientist is encouraged to carry out independent scientific research. Project Scientist and Manager report to AURA at the same level.

Applicants should have attained distinction through contributions to scientific knowledge. This may be demonstrated through significant scientific papers in astronomy.

Applicants must have demonstrated skills to plan, organize and coordinate the scientific design and development of a major project. A Ph.D. in astrophysics, astronomy or a related science from an accredited university or college is required. The successful applicant is likely to have experience in observational astronomy, in the development of related instrumentation and software, and in leading research groups.

Applications are due by April 30, 1992 to: Chair, GEMINI search Committee, AURA, 1625 Massachusetts Ave., NW, Suite 701, Washington, D.C. 20036. Applications should include statement of interest, resumé, list of publications, and three professional references. Salary and benefits are commensurate with experience and qualifications. Applications from women and minorities are encouraged. AURA is an EOE/AA/M/P/H/V employer.

COSMOLOGISTE OBSERVATIONNEL

L'Observatoire Fédéral d'Astrophysique (OFA) en collaboration avec des astronomes universitaires et des membres de l'Institut Canadien d'Astrophysique Théorique, est en train de développer un programme de cosmologie observationnelle pour traiter de problèmes d'avant-garde de la recherche. Le candidat participera à la conception et à l'exécution de programmes de recherche, et il devra concevoir et mener une recherche originale du plus haut standard. On préfère quelqu'un ayant une connaissance étendue de la cosmologie observationnelle, c'est-à-dire des fonctions de luminosité et des distributions spatiales des galaxies, des amas de galaxies et des quasars; des propriétés de tels corps dans tous les domaines de longueur d'onde à partir d'observations au sol et dans l'espace; des techniques de traitement de données et des techniques d'observation. L'OFA est une institution scientifique nationale et le candidat participera à son fonctionnement de préférence en aidant à établir les exigences scientifiques et les dessins conceptuels pour les télescopes astronomiques à la pointe du progrès et pour les instruments qui leur sont associés.

Les candidats devront posséder un doctorat en astro-

nomie ou en physique, ainsi que plusieurs années d'expérience après leur doctorat. Ils devront aussi avoir fait leurs preuves dans l'initiation, l'exécution et la supervision de projets de recherche en cosmologie observationnelle. L'expérience dans la conception des instruments et/ou des nouvelles techniques de traitement de données serait un avantage. Il est essentiel d'avoir la capacité de travailler avec d'autres scientifiques et ingénieurs dans des domaines variés de recherche d'avant-garde et de fonctionnement d'institutions nationales. Il est aussi essentiel de pouvoir communiquer effectivement oralement et par écrit. Le candidat devra pouvoir recevoir l'approbation d'un médecin pour travailler à 4200m d'altitude. Une vérification de sécurité sera requise.

Échelle de traitement: Selon la formation et l'expérience.

Les personnes intéressées doivent faire parvenir leur demande par écrit, donnant des détails complets sur leur éducation et leur expérience avant le 15 mai 1992 à: la section de la dotation et du recrutement, Conseil national de recherches, Ottawa, ON, K1A 0R6. Veuillez donner la référence HI-91-09.

OBSERVATIONAL COSMOLOGIST

The Dominion Astrophysical Observatory (DAO), together with university astronomers and members of the Canadian Institute for Theoretical Astrophysics, is developing an observational cosmology program to address forefront research problems. The incumbent will participate in designing and executing the research programs, and is expected to perform and lead original research of the very highest standard. A broad knowledge of observational cosmology is preferred, e.g., luminosity functions and space distributions of galaxies, clusters of galaxies and quasars; knowledge of properties of such objects in all wavelength domains from ground- and space-based observations; data handling and observing techniques. DAO operates as a national scientific facility, and the incumbent will participate in those operations, preferably by assisting in establishing scientific requirements and conceptual designs for state-of-the-art astronomical telescopes and associated instrumentation.

Candidates must have a Ph.D. in Astronomy or Physics and have several years of postdoctoral experience, with a proven record in initiating, performing and supervising research projects in observational cosmology. Experience in conceiving instruments and/or innovative data reduction techniques would be an asset. The ability to work with other scientists and engineers in diverse areas of forefront research and of national facilities operations is essential, as is the ability to communicate effectively, orally and in writing. Must be medically certifiable for work at 4200m altitude. A security screening will be required.

Salary: Commensurate with qualifications.

Apply in writing, before 15 May 1992, giving complete details of education and experience to: The Recruitment and Staffing Section, National Research Council of Canada, Ottawa, ON, K1A 0R6. In reply, please quote HI-91-09.

OBSERVATIONAL COSMOLOGY

Canadian observers and theorists are active researchers in various fields of cosmology. Recognizing that science benefits from the exchange of ideas and information, a meeting to initiate scientific interchange and set up a loose umbrella organization was held at the University of Toronto on January 25. The scientific discussion was focused on the faint galaxy problems, emphasizing the overlap of theoretical and observational interests. Participants came from CITA, Toronto, York, Victoria, DAO and the IoA. The group agreed to the following initiatives:

1. To have another meeting around the time of the CFHT User's meeting in Victoria, in early May. contact: crampton@dao.nrc.ca
2. Urge the CFHT SAC and CTAC to implement an

observing time proposal category which would allow longer term projects.

3. Data taken for one purpose can often have considerable value for other scientific projects. At the least it would be valuable to know the fields where suitable images, grism spectra, etcetera, have been taken. The group agreed to maintain a database containing the co-ordinates, type of data, and contact person. contact: lilly@merlin.astro.utoronto.ca abraham@dao.nrc.ca

For more information contact:

carlberg@moonray.astro.utoronto.ca

REVIVAL OF THE HERITAGE COMMITTEE

With Peter Millman's passing, the CASCA Heritage Committee ceased operations. The Council recently elected Prof Richard Jarrell of York University to the Society and he has agreed to act as chair of the committee. In the past, this committee was active on several fronts and worked with the historical committee of the RASC; Prof Jarrell would like to revive these activities.

To ensure that those with a keen interest in the history of astronomy are not left off the committee, would those willing to stand for election please contact Prof Jarrell at the Dept of Science Studies, Atkinson College, York University, North York, Ont M3J 1P3. Telephone (416) 736-5213/FAX (416) 736-5103/Internet: RJARRELL@VM2.YORKU.CA.

CADC NEWS

The contract with the Space Telescope Science Institute to pay for the costs of copying HST data for the CADC was finally signed in February after close to two years of discussion. The software developed by the CADC to search the database for public datasets and copy them to optical disk has been delivered to STScI but has not yet been formally accepted and installed on their operational system. We expect that the Institute will have started copying data for us by the time you read this article. Meanwhile, we are continuing to receive daily updates of the HST observing catalogs which are available to CADC users through STARCAT.

Andy Woodsworth has temporarily left the CADC to become Canadian Project Manager for Gemini. Dennis Crabtree will fill in for Andy as CADC Coordinator for the time that Andy is working on the Gemini project. This effectively removes one person from the CADC for this period of time as we will not receive a replacement.

Progress has been made on the implementation of the CFHT archive. CFHT has purchased a 6.5 GB Sony optical disk drive and we will be delivering the software necessary for writing files to the Sony drive in the appropriate archive format to CFHT in April. Once data are written to these disks CFHT will then send them to the CADC

where they will be incorporated into the archive. The CFHT catalog will be updated daily from the FITS headers of the data files as they are written to the optical disk. We expect to make the catalog public sometime this summer.

The CADC and the ST-ECF are working on improvements to STARCAT, the user interface to the HST archive and other catalogs. Rather than login to a CADC machine to run STARCAT, users will be able to run STARCAT on their own machines (SPARC only). This mode of operation is necessary for the new "preview" capability of STARCAT that the CADC and ST-ECF are developing which allows a user to preview the spectra and images when searching the HST catalog. This preview capability means that remote STARCAT users will be able to produce an actual plot or image on their workstation before deciding to request the HST dataset. We feel this is an important tool for efficiently searching the HST catalog. This preview capability will also be available for the CFHT archive once those data become publicly available.

The CADC will be presenting a demonstration of our services, including the new STARCAT with previewer, at the CASCA meeting in Halifax this June.

LE RAPPORT DU CCDA

Le contrat avec le Space Telescope Science Institute (STScI) pour la distribution des données publiques du HST sur disques optiques au CCDA a finalement été signé au mois de février après deux ans de pourparlers. Le logiciel développé par le CCDA pour automatiser cette distribution a été donné au STScI mais nous attendons toujours qu'il soit officiellement accepté et installé sur leur système opérationnel. Lorsque cet article vous parviendra, nous croyons que le STScI aura commencé la distribution de nos disques optiques. Entre temps, nous continuons de recevoir les données pour tenir à jour le catalogue du HST, qui est disponible à nos usagers via le système STARCAT.

Andy Woodsworth a assumé par intérim le poste de coordonnateur du projet Gemini canadien. Dennis Crabtree remplacera Andy au poste de coordonnateur du CCDA pendant cette période d'affectation. Etant donné qu'il n'y aura pas de remplaçant pour Dennis, le CCDA sera à court d'une personne.

Nous avons fait beaucoup de progrès vers la création du système d'archives pour le télescope Canada-France-Hawaï (TCFH). Les unités de disque optique SONY de 6,5 gigabytes ont été achetées. Le développement du logi-

ciel nécessaire à écrire les fichiers *FITS* dans le format d'archive du CCDA de façon automatique est presque complété. Le système sera installé au TCFH au mois d'avril. A mesure que les fichiers seront écrits, leurs entêtes seront envoyés au CCDA à partir desquels le catalogue de l'archive sera mis à jour. Ce catalogue sera disponible plus tard cet été. Lorsque un disque optique au TCFH est rempli, il sera envoyé au CCDA où il se fera incorporé dans notre système d'archives.

Le CCDA collabore avec le Space Telescope - European Coordinating Facility (ST-ECF) pour améliorer STARCAT, le système d'interface aux catalogues astronomiques tel que le HST. Sur un plan nous travaillons à faire de STARCAT un système *client-serveur*. Au lieu de se relier directement aux ordinateurs du CCDA, nos usagers pourront dorénavant exécuter STARCAT sur leurs ordinateurs (SPARCstation seulement) qui résultera à une meilleure performance. Sur un autre plan, nous avons ajouté à STARCAT une fonction *preview* pour les données du HST. Cette fonction permet aux usagers d'afficher sur leurs écrans (XWindow seulement) une vue préliminaire des spectres et des images en consultant le catalogue. Cette

vue préliminaire aidera les usagers de déterminer s'il/elles veulent faire la demande des fichiers de données. C'est un outil important pour effectuer des recherches efficaces dans le catalogue du HST. Au fur et à mesure que les données du TCFH deviendront publique, elles seront aussi

disponible pour la fonction *preview*.

Le CCDA présentera une démonstration de ses services, y compris la nouvelle version de STARCAT, lors de la conférence CASCA au mois de juin à Halifax.

Preliminary Announcement
WORKSHOP ON THE FUTURE OF
MILLIMETER AND SUBMILLIMETER
INTERFEROMETRY IN CANADA

April 23 and 24, 1992
 McMaster University, Hamilton, Ontario

One of the most exciting new developments in radio astronomy this past decade has been the emergence of high-frequency interferometry. A number of mm arrays have been built, many mm VLBI experiments have been carried out, and efforts at sub-mm wavelengths are well advanced. The Canadian community has been active in these areas, especially since the JCMT began operations. There is an immediate need to open national discussion of our long term plans at these frequencies.

This Workshop will provide a forum for Canadian astronomers to examine the scientific and instrumental frontiers of mm and sub-mm interferometry. All interested Canadian astronomers are invited to participate. The first day of the Workshop will feature presentations from representatives of operating or planned international facilities. The second day will be devoted to exploring the scientific frontiers of the subject both observationally and theoretically.

Finally, there will be an open discussion of possible future long-term directions for Canadian participation in mm/sub-mm interferometry. There will be no published Workshop proceedings but the SOC will meet immediately following the Workshop to draft a written summary of the discussion. This summary will be circulated throughout the community. We have applied for funding to partially offset the costs for a few participants, but will not know the results of this application until at least the end of March.

Invited Speakers

J.R. Bond (CITA)	P.T.P. Ho (CfA)	R. Padman (Cambridge)
R. Booth (Onsala)	P.P. Kronberg (Toronto)	R.E. Pudritz (McMaster)
R.G. Carlberg (Toronto)	T.H. Legg (HIA)	W.J. Welch (U.C. Berkeley)
J.E. Carlstrom (Caltech)	H.E. Mathews (JAC-Hilo)	C. Wilson (Maryland)
Greving (IRAM)	G.F. Mitchell (St. Mary's)	

Organizers: M. Fich (Waterloo) and R.E. Pudritz (McMaster)

SOC: P. Dewdney (DRAO), G.F. Mitchell (St. Mary's), and A.R. Taylor (Calgary).

To have your name added to the mailing list for this workshop or for more information contact:

Interferometry Workshop
 c/o Ms. Jackie Collin; Workshop Co-ordinator
 Department of Physics and Astronomy
 McMaster University
 Hamilton, Ontario L8S 4M1

Workshop e-mail: physics@sscvox.cis.mcmaster.ca
 Telephone: (416) 525 9140 ext 3175; FAX: (416) 546 1252

EXECUTIVE DIRECTOR CANADA-FRANCE-HAWAII TELESCOPE CORPORATION

Applications are invited for the position of Executive Director of the Canada-France-Hawaii Telescope, a 3.6m optical telescope located on Mauna Kea, Hawaii, that is one of the world's leading research instruments. The position is available from August 1993 for a three year term, renewable for a further two years.

The Executive Director is appointed by the Board of the Canada-France-Hawaii Telescope Corporation, a non-profit corporation incorporated in the State of Hawaii by the National Research Council of Canada, the Centre National de la Recherche Scientifique of France, and the University of Hawaii. The Executive Director is responsible to the Corporation for managing all aspects of the Corporation's affairs, including the preparation of budgets; the administration of financial affairs; the appointment and removal of personnel as authorized by the Board and in accordance with its policies; establishing the duties of personnel; and the implementation of the scientific and technical program of the Corporation.

A Scientific Advisory Council of scientists from the three partner countries and institutions reports to the Board and advises the Executive Director on the allocation of telescope time; on the development, purchase, or modification of instrumentation and scientific equipment; and on terms for the use of the Corporation's facilities. There will be an Associate Executive Director nominated by the Centre National de la Recherche Scientifique.

The successful candidate will have an advanced degree

in a discipline relevant to astronomical research, or equivalent experience. He or she should have expertise in observational astronomy or astrophysics and a good knowledge of advanced instrumentation for optical and infrared astronomy. The successful candidate must have a demonstrable ability to manage a self-contained organisation of 50 employees and to achieve scientific and technical objectives. Fluency in French and English would be an asset. Preference will be given to Canadian citizens or landed immigrants.

Salary will be in accordance with qualifications and experience. A generous benefits package is also available. The position is located in Waimea (Kameula), Hawaii.

Applications will be confidential to the Board of the Canada-France-Hawaii Telescope Corporation. The closing date for application is 15 April 1992. Interviews of selected candidates will be conducted in Victoria, B.C. by a committee of the CFHT Board during the week of 4 to 8 May 1992. There may be a further interview by the full Board in Hawaii during the week of 7 to 11 December 1992. Applications should be in writing, and accompanied by a curriculum vitae and the names of two references.

Applications should be submitted to, or further information can be obtained from, Dr. B.H. Andrew, Chairman, Board of the Canada-France-Hawaii Telescope Corporation, c/o National Research Council, Herzberg Institute of Astrophysics, 100 Sussex Drive, Ottawa K1A 0R6, Ontario, Canada.

DIRECTEUR EXÉCUTIF SOCIÉTÉ DE TÉLESCOPE CANADA-FRANCE-HAWAÏ

On sollicite des candidatures au poste de directeur exécutif du télescope Canada-France-Hawaï, un télescope optique de 3,6 mètres situé à Mauna Kea (Hawaï), l'un des instruments de pointe en matière de recherche dans le monde. La personne retenue entrera en fonction en août 1993 pour un mandat de trois ans, renouvelable pour une période supplémentaire de deux ans.

Le directeur exécutif est nommé par le Conseil d'administration de la Société de télescope Canada-France Hawaï, organisme sans but lucratif incorporé dans l'État d'Hawaï par le Conseil national de recherches du Canada, le Centre national de la recherche scientifique de France et l'Université de Hawaï. Le directeur exécutif doit rendre compte à la Société de la gestion de tous les aspects des affaires de la Société, y compris la

préparation des budgets; l'administration des affaires financières; la nomination et le renvoi de personnel avec l'autorisation du Conseil et conformément aux politiques stables; l'établissement des fonctions du personnel; et la mise en oeuvre du programme scientifique et technique de la Société.

Un conseil consultatif scientifique formé de scientifiques des trois pays et institutions participant à la Société rend compte au Conseil d'administration et conseille le directeur exécutif sur l'affectation du temps d'utilisation du télescope; le développement, l'acquisition ou la modification d'instruments et d'équipement scientifiques; et les conditions d'utilisation des installations de la Société. Le Centre national de la recherche scientifique nommera un directeur adjoint.

La personne retenue aura un diplôme supérieur dans une discipline pertinente à la recherche astronomique ou une expérience équivalente. Cette personne devrait avoir une expertise en astronomie d'observation ou en astrophysique et une bonne connaissance des instruments perfectionnés d'astronomie optique et à infra-rouge. La personne retenue doit avoir une capacité manifeste de gérer une organisation autonome de 50 employés et de réaliser des objectifs scientifiques et techniques. La maîtrise du français et de l'anglais serait un atout. La préférence ira aux citoyens canadiens ou aux immigrants regus.

Le traitement est proportionnel aux qualifications et à l'expérience et est assorti d'un excellent régime d'avantages sociaux. Le poste est à Waimea (Kamuela), à Hawaï.

Les candidatures soumises au Conseil d'administration de la Société de télescope Canada-France-Hawaï seront

traitées en toute confidentialité. La date limite pour l'envoi des candidatures est le 15 avril 1992. Un comité du Conseil d'administration de la STCFH interviewera les personnes sélectionnées à Victoria (C.-B.) au cours de la semaine du 4 au 8 mai 1992. Il pourrait y avoir une autre entrevue en présence du Conseil d'administration à Hawaï au cours de la semaine du 7 au 11 décembre 1992. Les demandes écrites doivent comprendre un curriculum vitae, ainsi que deux références.

Les candidatures et les demandes de renseignements doivent être adressées à Dr. B.H. Andrew, président, Conseil d'administration de la Corporation de télescope Canada-France-Hawaï, a/s Institut Herzberg d'astrophysique, Conseil national de recherches du Canada, 100 promenade Sussex, Ottawa (Ontario), K1A 0R6

MEMBERSHIP IN CITA, INC.

The Canadian Institute for Theoretical Astrophysics is intended to serve as a national institute that is hosted by—rather than a part of—an individual university. To help maintain CITA's national character distinct from its host university, CITA has been incorporated under the name Canadian Institute for Theoretical Astrophysics—Institut canadien d'astrophysique théorique.

An important part of the structure of CITA, Inc. is its members. In particular, the members elect four of the seven members of the CITA Council; the four elected Council members must be members of CITA, Inc.; and any changes in the by-laws of CITA, Inc. must be approved by the members. In addition, the membership list is the basis for mailing our newsletter and for announcements of CITA programs, postdoctoral fellowships, etc. It is also our hope that the CITA membership will be broadly representative of the community of theoretical astrophysicists in Canada, in much the same way that the CAS represents the community of astronomers.

The conditions for membership are: (1) members must hold a doctorate degree awarded by a recognized university for work related to astronomy or astrophysics, or else have equivalent experience, and their research should have a major component in the broad field of theoretical astrophysics; (2) members must be professionally engaged at a university or research laboratory and be eligible to hold an NSERC operating grant, or else be engaged in equiv-

alent positions in Canadian Government Research Laboratories, or be a Canadian citizen working abroad in an equivalent position; (3) members must be members in good standing of the CAS.

There are no dues. However, we encourage and solicit donations by the members of CITA, Inc. or other persons wishing to support theoretical astrophysics in Canada. CITA, Inc. has charitable status with Revenue Canada so that all contributions are tax-deductible.

Membership is for five years. The current membership list, along with the expiry dates, is given below.

New members are elected at the Annual General Meeting, which is planned to occur during the CAS meeting in June. If you would like to join, please send a curriculum vitae plus a covering letter stating that you fulfil conditions (1), (2), and (3) above, to: Dr. Scott Tremaine, CITA, McLennan Labs, University of Toronto, 60 St. George St., Toronto M5S 1A7, Ontario.

If you would like to withdraw from membership, please send me a written notice of resignation.

We hope that all eligible CAS members with an interest in theoretical astrophysics will continue to join so that the input from our membership remains as broadly-based and representative as possible.

Scott Tremaine, Director

March 2, 1992

COMMENT DEVENIR MEMBRE DE L'ICAT INC.

Le but de l'Institut canadien d'astrophysique théorique, c'est de servir d'institut national; pour remplir ce but l'institut est accueilli par une université "hôte", sans pour autant en faire partie. Afin de préserver son caractère national et de mieux marquer la distinction entre l'ICAT et l'université qui le reçoit, l'ICAT s'est constitué en une société portant le nom d'Institut canadien d'astrophysique théorique—Canadian Institute for Theoretical Astrophysics.

La structure de l'ICAT inc. s'appuie fortement sur ses membres. En particulier, ceux-ci élisent quatre des sept membres du Conseil de l'ICAT inc; ces quatre membres élus du Conseil doivent aussi être membres de l'ICAT inc. Aucun règlement de l'ICAT inc. ne peut être modifié sans l'approbation des membres. De plus, nous utilisons notre liste de membres pour expédier notre bulletin d'information et pour annoncer les programmes, bourses postdoctorales, etc. qu'offre l'ICAT. Nous souhaitons que les membres de l'ICAT représentent en gros l'ensemble des astrophysiciens théoriciens au Canada tout comme la SCA représente l'ensemble des astronomes.

Pour devenir membre, il faut remplir les conditions suivantes: (1) détenir un doctorat, décerné par une université reconnue, dans le domaine de l'astronomie ou de l'astrophysique, ou avoir acquis une expérience équivalente au moyen de travaux de recherche qui relèvent largement de l'astrophysique théorique; (2) être employé à titre professionnel d'une université ou d'un laboratoire de recherche et être admissible aux subventions pour dépenses courantes du CRSNG, ou occuper un poste

équivalent dans un laboratoire de recherche du gouvernement canadien, ou être citoyen canadien occupant une position équivalente à l'étranger; (3) être membre en règle de la SCA.

Il n'y a pas de cotisation. Cependant, nous faisons appel à ceux d'entre les membres de l'ICAT, inc. et à d'autres qui veulent promouvoir l'astrophysique théorique au Canada et nous les encourageons fortement à nous faire un don. Précisons que Revenu Canada a reconnu l'ICAT inc. comme organisme de charité, si bien que tous les dons sont déductibles d'impôt.

On devient membre pour cinq ans. La liste des membres actuels, aussi bien que la date à laquelle leur engagement se termine, se trouve ci-dessous.

Les nouveaux membres sont élus à l'Assemblée générale annuelle de la SCA en juin. Si vous désirez adhérer à l'ICAT, veuillez envoyer votre curriculum vitae accompagné d'une lettre affirmant que vous remplissez les conditions (1), (2) et (3) ci-dessus, au Dr. Scott Tremaine, CITA, McLennan Labs, University of Toronto, 60 St. George St., Toronto, Ont. M5S 1A7.

Si vous désirez démissionner comme membre, veuillez m'en aviser par écrit.

Nous souhaitons que tous les membres de la SCA qui sont admissibles et qui s'intéressent à l'astrophysique théorique se joignent à l'ICAT, pour que la contribution de nos membres reste aussi diversifiée et représentative que possible.

Scott Tremaine, directeur
le 12 mars 1992

MEMBERSHIP OF CITA, INC.

Dates given by each name are year of expiry of membership.

M. Alexander (Otago) 1996
J. Auman (UBC) 1996
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M. Clement (Toronto) 1996
M. Clutton-Brock (Manitoba) 1996
A. Coley (Dalhousie) 1996
F. Cooperstock (Victoria) 1994
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M. Duncan (Queen's) 1996
C. Dyer (Toronto) 1996
G. Fahlman (UBC) 1995
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T. Gaetz (Western Ontario) 1995
E. Glass (Windsor) 1996
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W. Israel (Alberta) 1996
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R. McLenaghan (Waterloo) 1996
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S. Sreenivasan (Calgary) 1993
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LOCAL CONTACT PERSONS FOR CASCA

In the interests of heightening the awareness of our professional Society, and improving rapid communication of astronomy-related issues around the country, the Board of CASCA has set up a list of local contact people at the various universities and observatories across Canada where astronomical research and graduate training is being carried out. Everyone on the list below has agreed to act as a local representative for CASCA, with the aim of

- Informing new people in their area about the Society and its activities,
- Transferring information about CASCA and related news, for issues that are more urgent than could nor-

mally be dealt with through the Society Newsletter. We would like to extend sincere thanks to all these local contact people, whose willingness to take on this job will strengthen our Society. Our longitude coverage as represented by this list is impressive indeed!

The Board is interested in extending this contact list to other institutions that may inadvertently have been missed in this first round. To anyone who would like to volunteer as a representative for their own institution or local area, or who has additional suggestions, please contact Bill Harris at McMaster University, or any member of the CASCA Board.

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CASCA PRESS OFFICER

At its most recent meeting the CASCA Board decided that the Society should try to play a more active role in communicating with the public. In this connection I should like to ask if any member would be willing to offer his/her services to us as "press officer" of the Society. The duties of the press officer would include maintaining liaison with the media, preparation of press releases and screening of abstracts of papers to be presented at our Annual General Meetings for subjects that might be of interest to Radio, Television or the Press.

SIDNEY VAN DEN BERGH, President

CASCA JOB REGISTRY

CASCA members are advised that the address of the CASCA Job Registry has changed; the new address is: CASCA Job Registry, c/o Douglas Forbes, Dept. of Physics, Grenfell College, Corner Brook, Newfoundland, A2H 6P9, or e-mail: dforbes@kean.ucs.mun.ca.. Anyone who would like to have their name included on the mailing list should contact the Registry. Notices are primarily for positions in Canadian institutions and do not in general duplicate advertisements in the registries of the AAS or AIP. Given the paucity of jobs, however, the Registry will

distribute just about any advertisements it receives.

Members are asked to please inform the Job Registry of any positions in astronomy or related fields they know to be available. When possible, please advise at least 8 weeks in advance of the application deadline. As an inducement to advertising in the Registry, prospective employers will be offered, with each advertisement placed, a free offshore cod fishing licence.

D. FORBES, CASCA Job Registry

POSITION AVAILABLE - ST. MARY'S UNIVERSITY

Applications are invited for a tenure-track appointment at the Assistant Professor level commencing 1 September 1992 in the area of theoretical astrophysics. A Ph.D. and strong commitment to undergraduate teaching is required. The successful candidate will be expected to establish an active research program complementing the observational interests of present members of the Physics and Astronomy departments. These interests include, but are not limited to: variable stars, the interstellar medium, molecular outflows, star clusters, galactic structure, and early-type galaxies. Facilities include a university VAX cluster, Sun workstations, various Macintosh micros, a partially automated iris astrophotometer, a microdensitome-

ter, copies of the PSS and ESO sky surveys, a 0.4-meter instructional reflecting telescope equipped for photometry, spectroscopy and direct imaging, and good library holdings. Applicants should forward a CV, transcripts, and the names and addresses of at least three references by April 30, 1992 to: Dr. Cameron Reed, Chairperson, Department of Physics, Saint Mary's University, Halifax, Nova Scotia, B3H 3C3, Canada. In accordance with Canadian immigration requirements, this advertisement is directed in the first instance to Canadian citizens and permanent residents of Canada. Saint Mary's University is an equal opportunity employer.

NOTICE TO MEMBERS

Dr. A.J. Wesselink, whose continuing interest and activity in astronomical research was described in these pages approximately two years ago, has written a soon-to-be-published book which may be of interest to readers. "Understanding Least Squares" makes use of examples taken from Astronomy to illustrate the use of the method of least squares in analyzing numerical data. (A list of contents and a few sample pages were provided by Dr. Wesselink's son Jan.)

DOUG HUBE

LETTER FROM THE CASCA SECRETARY

Dear Members,

Due to a typographic error Pak Shing Li's last name Li was left off the Directory and is listed as Pak Shing. Please also change the address shown for Li and Bradley James Wallace to: Department of Physics and Astronomy, University of Calgary, 2500 University Drive N. W., Calgary, AB, T2N 1N4.

N.W. BROTEN, Secretary

SUMMARY OF THE 1991 DRAO USERS' COMMITTEE REPORT

On Oct. 25, 1991, the D.R.A.O. Users' Committee met at D.R.A.O. and oral briefs were presented by the observatory staff. The oral presentations were supplemented by sixteen written briefs, and one written submission from the University of Calgary. Further discussions were held on Oct. 26 with the Acting Section Head, Dr. R.S. Roger. The members of the committee were D. Routledge (U. of Alberta, chairman), J. Bally (A.T. and T. Bell Labs), C. Carignan (U. de Montreal), M. Fich (U. of Waterloo), and R. Perley (N.R.A.O.). The terms of reference of the committee specified that the following five areas of observatory operations were to be critically examined: (i) the state of the observatory, (ii) support given to users, (iii) telescope scheduling policies, (iv) priorities assigned to development projects, and (v) the direction of future technical efforts related to D.R.A.O. observing facilities. A brief summary of the report submitted by the committee to the Director of the Herzberg Institute of Astrophysics follows.

SUMMARY:

The observatory staff are heavily engaged in the Synthesis Telescope expansion project. This project will produce simultaneous observation of 21 interferometer baselines instead of four, with increased bandwidth at 1.4 GHz without "chromatic aberration", and will ultimately allow polarization synthesis imaging and increased dynamic range through self-calibration. The observatory staff are working extremely hard and are achieving success on many fronts, but are hampered by personnel shortages in digital electronics and computing, and by lack of space. The scientific research done at DRAO is of very high calibre, and the demand for Synthesis Telescope observations is already high.

The continuing personnel shortage in digital electronics has caused a delay in completion of the Synthesis Telescope expansion. All three previous Users' Committees have drawn attention to the digital electronics personnel shortage. The committee recommends that a digital technologist be hired as soon as possible.

In 1991 a permanent position was obtained for a "telescope operator" (programmer) and the observatory also engaged a scientist temporarily to concentrate on testing and improvement of the Synthesis Telescope. The committee recommends that a permanent position be obtained for a scientist with this responsibility.

The observatory has purchased a powerful Unix-based IBM computing system. The committee recommends that a computing system/network manager be hired immediately to manage the system and its internal and external network connections.

The DRAO staff have achieved a great amount of progress in work related to the Synthesis Telescope ex-

pansion. Much software has been ported to the new Unix system, imported from outside, or written from scratch. The progress in data editing software is particularly encouraging, but a great deal of software development remains. The committee recommends that programming personnel not be seconded to the task of system/network management.

Dr. C.R. Purton may be transferred to the JCMT for three years. The committee recommends that the DRAO scientific staff not be allowed to suffer permanent reduction.

The observatory staff are working in insufficient office space and laboratory space. There is also inadequate space with computing terminals for visitors. The committee recommends that a new observatory building be given the highest possible priority, but that in the short term temporary units be added to the assemblage of trailers.

The present committee reiterates the concern expressed by the 1990 Users' Committee concerning anticipated levels of DRAO funding, and recommends that HIA management strive to increase the operating budget in particular.

The three new antennas are completed and are integrated into the Synthesis Telescope. Testing and adjustment are underway to improve their performance. Improvements in the RF systems are also being achieved. The committee perceives improvements in system sensitivity by any means as being extremely important to future users of the telescope.

Testing of all sub-systems of the expanded Synthesis Telescope is now proceeding as a team effort. The committee applauds the emphasis of the staff on continued testing after completion of the expansion project, to assure early fault detection and continuous steady improvement of telescope output.

The 26 metre telescope contributes the essential 21 cm broad-structure data for Synthesis Telescope HI imaging and is also being used alone for valuable science. The RadioAstron group is making good progress towards the VLBI correlator. The solar radio group has also made good progress and is beginning to work on projects involving the Synthesis Telescope.

The international and Canadian demand for the expanded Synthesis Telescope is already high, and the observing "queue" covers a broad range of topics. The breadth of research underway at DRAO is also reflected in the long list of publications in the past year involving DRAO staff and users.

DRAO makes an important contribution to the Canadian astronomical community through graduate student training, including engineering thesis projects. This con-

tribution is perceived by the committee as being crucial to the future health of Canadian astronomy.

A 56 Kb/s computer communication link will soon make DRAO data and software accessible from a distance. The committee recommends that Synthesis Telescope data be archived in UVFITS and FITS format for AIPS compatibility. The decision that the observatory should participate in the AIPS++ project is applauded, since this makes it possible to influence the direction of the project and to

facilitate international use of the Synthesis Telescope in the future.

The committee is very interested in a suggestion from the University of Calgary that the DRAO Galactic Plane Survey be expanded. In the opinion of the committee, the suggestion has a great deal of merit. The Radio Schmidt Telescope proposal also has great merit as a long-term project, and efforts to attract international participation must continue.

CANADIAN ASTRONOMY PUBLICATIONS December 4, 1991 to March 9, 1992

If you have a preprint or other Canadian publication, we would like to include it in this list. Please send a copy (or a photocopy of the title page) to:

Canadian Astronomy Publications List
Astronomy Library
University of Toronto
Room 1306
60 St. George Street
Toronto, Ontario
M5S 1A7

PREPRINTS OF RESEARCH PAPERS

The following is a list of preprints written by Canadian astronomers and received at the Astronomy library within the dates given above. The preprints are arranged in alphabetical order according to the surname of the first listed author. Originating institution and date of receipt at the library are given.

- Dominion Radio Astrophysical Observatory annual report. Dominion Radio Astrophysical Observatory 13-Dec-1991
- Bietenholz, M.F., Kronberg, P.P., *Activity and radio spectral index variations near the center of the Crab nebula*. David Dunlap Observatory, University of Toronto, 17-Dec-1991.
- Borra, E.F., *The case for liquid mirrors in orbiting telescopes*. Université Laval, 17-Jan-1992.
- Bothun, G.D., Rogers, C., *Surface photometry of disk galaxies at 60 and 100 microns: radial gradients in dust temperature in optically thin disks*. Dominion Radio Astrophysical Observatory, 25-Feb-1992.
- Clement, C.M., Jankulak, M., Simon, N.R., *An RR Lyrae period shift in terms of the fourier parameter phi 31*. David Dunlap Observatory, University of Toronto, 4-Mar-1992.
- Crampton, D., McClure, R.D., Fletcher, J.M., *HRCam survey for closely spaced gravitational lenses*. Dominion Astrophysical Observatory, 10-Jan-1992.
- Davidge, T.J., *The near-infrared color profile of NGC4147*. Canada-France-Hawaii Telescope, 23-Dec-1991.
- Davidge, T.J., Harris, W.E., Bridges, T.J., Hanes, D.A., *Optical and infrared imaging of stars in the metal-rich globular clusters NGC6304 and NGC6316*. Canada-France-Hawaii Telescope, 20-Dec-1991.
- Delisle, S., Hardy, E., *Near-infrared spectral gradients in ellipticals and bulges, and the nature of the Na feature near 8200A*. Obs. Mont Megantic, 19-Dec-1991.
- Eales, S.A., *A new theory for the alignment effect*. David Dunlap Observatory, University of Toronto, 23-Dec-1991.
- Evans, N.R., *The luminosity of the classical cepheid T Vul*. Institute for Space and Terrestrial Sciences, York University, 27-Jan-1992.
- Forbes, D., English, D., De Robertis, M.M., Dawson, P.C., *Membership of the WR binary system V444 Cygni in the young open cluster Berkeley 86*. Memorial University, 19-Dec-1991.
- Gregory, P.C., Lored, T.J., *A new method for the detection of a periodic signal of unknown shape and period*. University of British Columbia, 14-Feb-1992.
- Grondin, L., Demers, S., Kunkel, W.E., *Young stars between the Magellanic Clouds III. Overall properties of associations: a shallow mass function*. Obs. Mont Megantic, 19-Dec-1991.

- Harris, G.L.H., Geisler, D., Harris, H.C., Hesser, J.E., *Metal abundances from Washington photometry of globular clusters in NGC 5128*. Dominion Astrophysical Observatory, 5-Feb-1992.
- Hesser, J.E., *The halo populations*. Dominion Astrophysical Observatory, 20-Dec-1991.
- Hutchings, J.B., Neff, S.G., Gower, A.C., *The structure of the BAL QSO 1700+518*. Dominion Astrophysical Observatory, 20-Dec-1991.
- Irwin, A.W., Fletcher, J.M., Yang, S.L.S., Walker, G.A.H., *The orbit and mass of Procyon*. University of Victoria, 24-Jan-1992.
- Joncas, G., Durand, D., Roger, R.S., *The sharpless 187 gas complex: a multi-frequency study*. Dominion Radio Astrophysical Observatory, Université Laval, 13-Dec-1991.
- Kaiser, N., *Statistics of gravitational lensing 2: Weak lenses*. Canadian Institute for Theoretical Astrophysics, 14-Feb-1992.
- Kaiser, N., *Evolution of clusters of galaxies*. Canadian Institute for Theoretical Astrophysics, 23-Jan-1992.
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- Kamper, K.W., *Photographic measures of double stars from Lick Observatory plates*. David Dunlap Observatory, University of Toronto, 7-Feb-1992.
- Kronberg, P.P., Sramek, R.A., *10-year monitoring of the compact radio sources in the nuclear region of M82*. David Dunlap Observatory, University of Toronto, 2-Jan-1992.
- Landecker, T.L., Anderson, M.D., Routledge, D., Vaneldik, J.F., *Sharpless 183 - an HII region in the Perseus arm*. Dominion Radio Astrophysical Observatory, 11-Feb-1992.
- Leahy, D.A., Nousek, J., Hamilton, A., *Non-equilibrium ionization models for x-ray emission from the Lupus loop and from SN1006*. University of Calgary, 2-Jan-1992.
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- Lewis, D., et al, *Shock treatment for CX Cephei: bow shocks and other anomalies in a WR + O binary*. Obs. Mont Megantic, 11-Feb-1992.
- Likkel, L., et al, *1420 and 408 MHz observations of the planetary nebulae BD+30 3639 and AFGL 618*. Dominion Radio Astrophysical Observatory, 13-Dec-1991.
- Malaney, R.A., *The neutrino-process and ^9Be in the early galaxy*. Canadian Institute for Theoretical Astrophysics, 4-Mar-1992.
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- Marchenko, S.V., Moffat, A.F.J., et al, *Evidence for varying global asymmetries in the wind of the WN6 Wolf-Rayet star HD 19176*. Obs. Mont Megantic, 11-Feb-1992.
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- Martin, P., Roy, J.-R., *The oxygen abundance gradient in the barred spiral galaxy NGC 4303*. Université Laval, 3-Jan-1992.
- Matthews, J.M., St-Louis, N., Moffat, A.F.J., et al, *A simple variability model for EZ CMa: "Doppler imaging of a Wolf-Rayet star"*. Obs. Mont Megantic, 11-Feb-1992.
- Merrifield, M., *The rotation curve of the Milky Way to 2.5 R_0 from the thickness of the HI layer*. Canadian Institute for Theoretical Astrophysics, 17-Jan-1992.
- Michaud, G., *Diffusion, mass loss and accretion stars*. Obs. Mont Megantic, 19-Dec-1991.
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- Moffat, J.W., Tatarski, D.C., *Gravitational waves from an axi-symmetric source in the nonsymmetric gravitational theory*. Physics, University of Toronto, 4-Mar-1992.
- Percy, J.R., *Supergiant variables: recent observational results*. David Dunlap Observatory, University of Toronto, 6-Mar-1992.
- Percy, J.R., Zsoldos, E., *Photometry of yellow semiregular variables: HR 8752 (=V509 Cassiopeiae)*. David Dunlap Observatory, University of Toronto, 19-Feb-1992.
- Perry, J.J., Watson, A.M., Kronberg, P.P., *Magnetic field strengths in high redshift galaxies: is the galactic dynamo dead?*. David Dunlap Observatory, University of Toronto, 25-Feb-1992.
- Pierce, M.J., McClure, R.D., Racine, R., *High resolution imaging of Virgo cluster galaxies. I. The distance based on the brightest stars in NGC 4571*. Dominion Astrophysical Observatory, Université de Montréal, 10-Jan-1992.
- Puche, D., Westpfahl, D., Brinks, E., Roy, J.-R., *Holmberg II: a laboratory for studying the violent interstellar medium*. NRAO, Université Laval, 3-Jan-1992.
- Reuter, H.-P., P.P. Kronberg, et al, *Gaps and filaments in the synchrotron halo of M82 evidence for poloidal magnetic fields*. David Dunlap Observatory, University of Toronto, 10-Dec-1991.
- Roy, J.-R., Aube, M., McCall, M.L., Dufour, R.J., *The origin of broad emission lines in the extragalactic giant HII region NGC 2363*. Obs. Mont Megantic, 19-Dec-1991.
- Ryden, B.S., *The intrinsic shapes of elliptical galaxies*. Canadian Institute for Theoretical Astrophysics, 14-Feb-1992.
- Stetson, P.B., *Progress in CCD photometry*. Dominion Astrophysical Observatory, 10-Jan-1992.
- Stetson, P.B., *More experiments with DAOPHOT H and WF/PC images*. Dominion Astrophysical Observatory, 20-Dec-1991.
- St-Louis, N., *Ultraviolet spectroscopic variability of Wolf-Rayet stars*. Obs. Mont Megantic, 11-Feb-1992.
- Taylor, A.R., H.T. Kenny, Spencer, R.E., Tzioumis, A., *VLBI observations of the X-ray binary LSI+61 303*. University of Calgary, 4-Mar-1992.
- van den Bergh, S., Pazder, J., *The luminosity of supernovae of type IA: I. Apparent magnitudes at maximum light*. Dominion Astrophysical Observatory, 20-Dec-1991.
- van den Bergh, S., *Supernovae of type I*. Dominion Astrophysical Observatory, 20-Dec-1991.
- van den Bergh, S., *The Nazca geoglyphs - an astronomical (?) mystery*. Dominion Astrophysical Observatory, 5-Feb-1992.
- Visvanathan, N., van den Bergh, S., *Redshifts of luminous spiral galaxies in the direction of the great attractor*. Dominion Astrophysical Observatory, 5-Feb-1992.
- Wehlau, A., Nemeč, J.M., Hanlan, P., Rich, R.M., *Period change rates for 46 RR Lyrae stars in NGC 7006*. University of Western Ontario, 17-Feb-1992.
- Wesson, P.S., *A physical interpretation of Kaluza-Klein cosmology*. University of Waterloo, 4-Mar-1992.
- Zuo, L., *Intensity correlation of ionizing background at high redshifts*. Canadian Institute for Theoretical Astrophysics, 4-Mar-1992.
- Zuo, L., *Fluctuations in the ionizing background*. Canadian Institute for Theoretical Astrophysics, 4-Mar-1992.

3RD CFHT USERS' MEETING – 2ND ANNOUNCEMENT

University of Victoria, May 4–6, 1992

The third CFHT Users' Meeting will be held in Victoria May 4th through 6th, 1992. The primary focus of the meeting will be on the science that CFHT is expected to produce in the next decade, and on new instrumentation that is required to support this science. Topics of discussion will include the following.

- adaptive optics and high resolution imagery
- wide field observations (mosaics, drift scan, fiber spectroscopy, etc.)
- infrared imaging and spectroscopy
- future scheduling of the telescope (key programs, queue scheduling, service and remote observing)
- new CFHT instruments

The meeting will include invited talks and extensive discussion. In addition, we invite YOUR contributions – particularly on science from CFHT, and on existing or new CFHT instruments – in the form of poster displays to be located outside the meeting hall. Past Users' Meetings have played an important role in defining the direction in which CFHT is evolving, and we expect this meeting to be no exception. For a complete conference participation package, including registration forms and information on accommodation in and travel to Victoria, please contact: 3rd CFHT Users' Meeting, Attn: M. O'Rourke, Conference Services, University of Victoria, P.O. Box 3030, Victoria, BC, CANADA, V8W 3N6. FAX: (604)721-8774, Email: morourke@sol.uvic.ca.

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