# CASSIOPEIA

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Do not forget to update your
own e-mail address

## DUES ANNOUNCEMENT

| | *If paid before October 1st,* | *after October 1st* |
|---|---|---|
| *Regular:* | *$45* | *$55* |
| *Students & Retirees:* | *$20* | *$25* |

**MEETINGS**
**CONFERENCES**
**WORKSHOPS**

**RENCONTRES**
**CONFÉRENCES**
**ATELIERS**

**ADASS '96 (ADASS VI)**
22 - 25 September 1996, Charlottesville, VA
*adass96@nrao.edu*
**http://www.cv.nrao.edu/adass/**

**12th "Kingston Meeting" - Computational Astrophysics**
17 - 19 October 1996, Halifax, NS
*dclarke@ap.stmarys.ca*
(David Clarke)
**http://apwww.stmarys.ca/kingston/**

**Wise Observatory 25th Anniversary Symposium**
30 December 1996 - 1 January 1997
Tel-Aviv University
Tel-Aviv, Israel
*dani@wise.tau.ac.il*
Dan Maoz
**http://www.tau.ac.il/~stupp/time_series**

**189th Meeting of AAS**
12 - 16 January 1997
Toronto, ON.
*seaquist@astro.utoronto.ca*
(Ernie Seaquist)

**CASCA '97**
May/June 1997
U of Alberta,
Edmonton, AB

********☼☼☼☼☼☼☼☼☼********

## NEW CASCA HOMEPAGE

Members are reminded that the *all new* CASCA homepage is up and running. Try it at:
**http://www.astro.umontreal.ca/~casca/**
The old CASCA homepage at ras.ucalgary.ca will shortly be going "*off the air*".

CASSIOPEIA remains at: **http://bear.ras.ucalgary.ca/CASCA/s96/index.html**

**********

## 1st Announcement

# The Wise Observatory 25th Anniversary Symposium:

# ASTRONOMICAL TIME SERIES

## Tel-Aviv University, Tel-Aviv, Israel
## December 30, 1996 - January 1, 1997

**********

Dear Colleague,
This is the first announcement of a symposium to be held on the subject of Astronomical Time Series, on the occasion of the 25th anniversary of the Wise Observatory. The 3-day symposium will take place at the Tel-Aviv University campus between December 30, 1996 and January 1, 1997. The purpose of the meeting is to bring together workers from different astronomical fields in which the successful analysis of time series is central to addressing major scientific questions. This interdisciplinary format will allow a fruitful discussion and comparison of observational strategies and methods of analysis.

### The main topics to be covered:

* General Mathematical Techniques
* Binary and Variable Stars - Brown Dwarfs, Stellar Black Holes, Cataclysmic Variables, Pulsating White Dwarfs
* Pulsars: Pdot, Planets, Millisecond Pulsars
* Gravitational Lensing - Microlensing, Lensed-Quasar Time Delays
* Active Galactic Nuclei - Reverberation Mapping, Multiwavelength Variability

### Invited speakers tentatively include:-

Arlin Crotts, Eric Feigelson, Andy Gould, Keith Horne,Tsevi Mazeh, Ed Nather, Hagai Netzer, Brad Peterson, Bill Press,Jeff Scargle, Alex Wolszczan

### Papers and Proceedings:

The meeting will consist of invited reviews, and oral and poster contributions. Proceedings of the meeting will be published.

### Location, Weather, Time:

Tel-Aviv is an active and lively city on the Mediterranean coast, and is Israel's commercial centre, rich in culture and night life. Tel-Aviv is centrally located, with convenient access to other parts of the country (e.g. 50 minutes by bus to Jerusalem, 2 hours to Tiberias on the Sea of Galilee, 4.5 hours (bus) or 1 hour (flight) to Eilat, on the Red Sea). Tel-Aviv University is the country's largest university, located on a beautifully landscaped campus in a quiet residential neighbourhood. Weather in Dec-Jan is springlike by European/American standards: occasional rainstorms, but mostly mild and sunny, with daytime temperatures between 10-20° C (50-70° F). Mediterranean water temperature is 17-18° C (63-65° F). Participants may wish to take the opportunity to visit some of the region's many attractions. For example: Jerusalem, Bethlehem, and the Sea of Galilee at Christmas; the Red Sea, coral reefs, and desert tours in Eilat and the Sinai; the Dead Sea and the Judean Desert; the neighbouring countries of Jordan and Egypt.

### Logistics:

Participants will be able to choose lodging from among several hotels along the Tel-Aviv beach, with favourable rates based on group booking. Nightly rates are about 50 - 100 US$.

Transportation between hotels and Tel-Aviv University will be provided by the organizers. Advance booking of tours and trips will be possible.

A World Wide Web site with updated information on the meeting can be accessed at:
**http://www.tau.ac.il/~stupp/time_series**.

### Scientific Organizing Committee:

John Bahcall, Eric Feigelson, Elia Leibowitz (chair), Tsevi Mazeh, Ed Nather, Brad Peterson, Bill Press, Joe Taylor, Michiel van der Klis.

### Local Organizing Committee:

Dan Maoz (co-chair), Tsevi Mazeh, Hagai Netzer, Dina Prialnik, Oded Regev, Amiel Sternberg (co-chair).

Dan Maoz, Co-Chair, LOC
(*dani@wise.tau.ac.il*)

*******☼☼☼☼☼☼☼☼*******

## An ADASS '96 Update

The abstract/demo submission and early registration deadlines for ADASS '96, to be held in Charlottesville September 22-25, has passed. Demo requests are due by 9 August. Registrations for the Conference will continue to be accepted until 12 September, but at a higher registration fee. Walk up registration will also be accepted, but at a still higher rate.

Registration for the Conference is still being accepted electronically using the adass96reg.txt form in the */pub/adass96/* directory on *ftp.cv.nrao.edu*. A paper copy of the registration form is also available in the Preliminary Program which was mailed to the Conference Mailing List in June or as the PostScript file adass96reg.ps in the same FTP directory mentioned above.

All materials, including the complete Preliminary Program, are available over the WWW through the URL: *http://www.cv.nrao.edu/adass/*

### Important Dates to Remember:

| Date | Item |
|---|---|
| 9 August | Deadline for BOF Session Proposals |
| | Deadline for Demo Requests |
| 21 August | Deadline for Hotel Reservations |
| 12 September | Deadline for Late Registration |
| 22-25 Sept. | ADASS '96 -- Charlottesville, Virginia |

For further information about ADASS '96 please send email to:- *adass96@nrao.edu* or see our home page at:- **http://www.cv.nrao.edu/adass/**.

For electronic proceedings of ADASS '95, or as the US likes to refer to these things, ADASS V see:-
**http://iraf.noao.edu/ADASS/adass.html**

We look forward to seeing you at ADASS '96 (ADASS VI)!

July 1996

# JOB REGISTER

## CANADIAN INSTITUTE FOR THEORETICAL ASTROPHYSICS/ INSTITUT CANADIEN D'ASTROPHYSIQUE THEORIQUE

### POSTDOCTORAL FELLOWSHIPS

CITA is a national centre for theoretical astrophysics located at the University of Toronto. The Institute expects to offer several postdoctoral fellowships with a starting date of 1 September, 1997. The appointments will be of two to three years duration. Funds will be available for travel and other research expenses. Fellows are expected to carry out original research in theoretical astrophysics under the general supervision of the faculty at CITA, whose interests include: cosmology, high energy astrophysics, interstellar matter, nuclear and relativistic astrophysics, solar physics, star and planet formation, particle astrophysics, and galactic and solar system dynamics.

**In each instance applicants should send:**

- **a curriculum vitae**
- **statement of research interests**
- **and arrange for three letters of recommendation to be sent to the Director of CITA**

### RESEARCH ASSOCIATE POSITIONS

CITA is a national centre for theoretical astrophysics located at the University of Toronto. The Institute may offer one or more research associate positions with a starting date of 1 September, 1997; applicants should have an excellent research record in astrophysics and postdoctoral experience. The appointments will be of three to five years duration. Funds will be available for travel and other research expenses. The primary duty is to carry out original research in theoretical astrophysics, but research associates are also expected to work with postdoctoral fellows and to assist with administration of the Institute.

All applicants for research associate positions are also considered automatically for postdoctoral fellowships.

*In accordance with Canadian immigration regulations, this advertisement is directed to Canadian citizens and permanent residents. In accordance with its Employment Equity Policy the University of Toronto encourages applications from qualified women and men, members of visible minorities, aboriginal peoples and persons with disabilities.*

All applications and letters should be sent to:

Professor J. Richard Bond, Director
Canadian Institute for Theoretical Astrophysics
University of Toronto, 60 St. George Street
Toronto, Ontario, CANADA, M5S 3H8

**DEADLINE FOR APPLICATIONS AND ALL LETTERS OF RECOMMENDATION IS 1, DECEMBER 1996.**

**Please do not send applications by FAX or electronic mail.**

# CTAC 1996 REPORT

For semester 96I (chairman David Hanes), CTAC received 57 proposals totalling 194.5 nights giving an oversubscription rate of 3. As usual the competition for dark time was tough, 127 nights requested for an availability of 34 (oversubscription 3.7). Because of the, then, newly implemented rules for instrument changeovers (for example an instrument had to be on the telescope for at least 8 nights, no instrument change during the weekends, limited number of top end changes (5), etc) some very good proposals were rejected by CFHT while lower ranked ones were not. For example the 11th ranked did not get time while the 32nd did. Such frustrating events happen every semester but was more extreme this time around. Scheduling for 96II went much more smoothly and this situation was completely avoided.

For semester 96II, the CTAC members were:- Doug Welch (McMaster U.), John Rice (Brandon U.), Tony Moffat (U. de Montreal), John Hutchings (HIA Victoria), Gilles Joncas (Chairperson, U. Laval), and Nick Kaiser (CITA-Toronto).

For semester 96II, CTAC received 69 proposals totalling 233.3 nights (oversubscription 3.43). The oversubscription for dark nights was 4.0. The big event this semester was the availability of the U.H. 8K camera and the adaptive optics bonette. Canadians presented 14 proposals for a total of 55 nights to use the 8k camera and 6 proposals for a total of 22 nights to use the AOB.

At the "administrative" level, some changes have been implemented and topics are at the discussion stage. First of all the CTAC chair is now helped in his task by a HIA technical secretary, Jacques Vallée. Jacques' work was very much appreciated and will decrease the chairman's workload...in the future! This semester Jacques and I wrote down the tasks and rules that a CTAC member must follow. In 96II, an e-mail reminder to referees seems to have produced a higher response rate of referees, now at 76% (58% in 96I). Semester 96II saw the advent of electronic submission of observing proposals on a voluntary basis. Aside from a few glitches, the experiment was a success since 43 proposals were received in that fashion. Some new rules may appear next semester to prevent those glitches.

CTAC is currently juggling with the idea of contacting the principal investigator when gross problems are detected at reading stage (such as a large conflict between a referee's report and a proposal, or between two referee's reports on the same proposal) to avoid a 6-month to 1-year delay before the PI can correct a referee's error. This possibility is available to CTAG members for the JCMT, where past experiences showed that roughly 1 out of 6 proposals was affected.

For 97I, CTAC is also juggling with the idea of adding to the grades program a correction for the z-effect. The z-effect produces in the combined distribution of grades a degeneracy of the central zone (the classification scheme is small with 1.0=high and 4.0=low, and individual CTAC members come up with different, narrow or large, gaussian distributions in the grades awarded to proposals). CTAC is aiming to be as fair as possible in the selection of the big winners.

Finally I would like to inform all CFHT users that CTAC members do not feel obliged to read material sent to them by applicants after the deadline for submission of observing proposals.

Gilles Joncas
*joncas@phy.ulaval.ca*

# ASTRONOMY AND NATIONAL HISTORIC SITES

You have all seen Canadian government historical plaques or visited historic sites -- usually a fort! -- but you have not seen many or any dealing with science. The Historic Sites and Monuments Board of Canada, who answer to the Heritage Minister, decide on what to commemorate and how. There are three kinds of commemoration. First, "National Historic Sites" may be simply a plaque or an entire complex with an interpretive programme. Another category is "Persons of National Historic Significance," normally commemorated by plaque. A third, called "Designations of National Historic Significance," may recall events or other experiences.

Science and engineering have only recently been identified as priority areas. Of some 786 National Historic Sites, only four deal with science: the Sulphur Mountain Cosmic Ray Station in Banff, the First Geodetic Survey site at Kingsmere, the Churchill Rocket Range in Manitoba and the Forestry Farm Park and Zoo in Saskatoon. Out of 529 persons of significance, 35 are scientists. And, of 295 "designations of historic significance," nine deal with science, mostly surveying or meteorology, which had some link with astronomy.

Here is a list of specifically astronomical designations:

1. Historic Sites: Brydone Jack Observatory in Fredericton, NB
2. People: Edouard-Gaston Deville, Sir Sanford Fleming, William F. King, Otto J. Klotz, Simon Newcomb and J.S. Plaskett
3. Events: none

This is a pretty thin record for a science practiced in this country for more than 450 years! Historic sites do not have to be 150 years old; increasingly, the Board is designating 20th-century sites and people. There are some obvious candidates for sites (the DDO, the DAO and the old Dominion Observatory for starters). And, certainly some people might have plaques to commemorate them. How is it done?

The public, governments or corporate bodies may make suggestions to the Board at any time. Typically, a body like CASCA would get into contact with the historical staff at Parks Canada, who would assist in producing a solid application. If the staff decides to proceed, a fully-documented research paper ("board paper") is prepared by an historian. This goes before the Board itself. Should they agree, the Minister then approves it and the commemoration is made.

The Canadian Science and Technology Historical Association is planning to work with scientific societies and institutions to assist them in applying for such designations. It is important that Canadian astronomy receive more recognition in this way, and CASCA is the obvious body to propose commemoration of sites or people or events. Your Heritage Committee will work with CSTHA (and the RASC) if you are interested in pursuing this. Any formal proposals would have to come from the CASCA Board, with our assistance.

Please let us know whether we should pursue this further, and what sites, people or events in Canadian astronomy ought to be commemorated. You can contact me or any member of the Heritage Committee (Alan Batten, Don Fernie, *fernie@astro.utoronto.ca*, or Gene Milone, *milone@acs.ucalgary.ca*).

Richard Jarrell, Chair, Heritage Committee
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North York, Ont M3J 1P3
(416) 736-5213/FAX 736-5103
*rjarrell@yorku.ca*

# Report of the Education Committee of the Canadian Astronomical Society 1996 June

## 1. Membership:

Jack Penfold, Chair Mount Royal College
*jpenfold@mtroyal.ab.ca*
Pierre Bastien Université de Montréal
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Richard Bochonko University of Manitoba
*bochonk@ccu.umanitoba.ca*
Paul Delaney York University
*fs300176@sol.yorku.ca*
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Jaymie Matthews University of British Columbia *matthews@geop.ubc.ca*
Russell Robb University of Victoria
*robb@uvphys.phys.uvic.ca*

## 2. Journals Program (Paul Delaney, Coordinator)

No shipments have been made during the year from either Toronto or Victoria, except for some small personal ones of current journals to Algeria and Nigeria, made by A. H. Batten. Negotiations over a larger shipment to Morocco have temporarily stalled. I (A. H. B.) am aware of a shipment to Romania being prepared by A. Wehlau, but this was independent of the CASCA programme.

The material available in Toronto has now been organized and catalogued, and P. Delaney has made contacts with the group in Trieste working with the Third World Academy of Sciences to direct publications where they are most needed. We hope this will make for more efficient handling of the material available.

## 3. Job Registry (Doug Forbes, Coordinator)

No update at this stage.

## 4. CASSIOPEIA (Jack Penfold, Editor)

CASSIOPEIA continues to expand and as a consequence does take up a lot of time. I have managed to keep costs under control over the current year (separate summary submitted to BoD) in spite of the Newsletter averaging about 20 pages per Issue.

I would like to urge all graduate students to submit abstracts of their theses as an added means of publicizing their work within the local community.

I would also encourage submission of Annual Reports from University Departments and Observatories with anecdotal incidents included in an attempt to lighten up some of the material.

Constructive criticisms and suggestions for improvement are always welcome.

## 5. General.

Other activities have been mainly at the local level.

Although I did not attend the Astronomy Education Symposium of the ASP last summer, Andrew Fraknoi has been in contact with me. He sent a summary of his report on the current state of astronomy education in the US. In light of the concern expressed by Andrew about the state of science literacy in the US, it might be instructive to conduct a similar survey within Canada and to publish the results in CASSIOPEIA. The report could include a list of educational resources available via the WWW.

The **CASCA** homepage has now moved from the University of Calgary and is maintained through the Society's office at Queen's University. The new address of the homepage is: *http://www.astro.umontreal.ca/~casca/*

Jack Penfold
Chair.

# CLEA Astronomical Software for Undergraduates

The success of an elementary university astronomy course depends on a number of things, including the quality of the assignments. I think it is important to provide a balance between experimental and theoretical exercises for first- and second-year science students.

The elementary astronomy courses at York University do not have an associated laboratory period, so instructors must rely on homework assignments to convey the experimental nature of our discipline. (Nearly every undergraduate astronomy course at York University has an observing requirement in the form of a term project, using either our 30 or 60 cm telescope.)

In the past, we made extensive use of the well known "Sky and Telescope" labs. Unfortunately, while these labs are fundamentally sound and useful in principle, their "low tech" nature make it increasingly difficult to motivate students of the MTV generation.

The astronomy group at York University has sampled a great deal of astronomical software over the past few years with the intention of introducing such material into the undergraduate curriculum. Most of the software with which we are familiar is either inappropriate, too narrow in scope, too "buggy," or simply unimpressive. Thus, it was a pleasant surprise to come across the "CLEA Software" in early 1995.

The CLEA Software was produced by Project CLEA; a joint effort between the National Science Foundation in the USA and the Department of Physics at Gettysburg College. You can find all the relevant details at the following world-wide web address (URL):
*http://www.gettysburg.edu/project/physics/clea/CLEAhome.html*

The CLEA software package consists of several experimental computer modules (labs), three of which have been adopted as assignments in our first- and second-year astronomy courses. These modules are: "Revolution of the Moons of Jupiter" (effectively, Kepler's Laws), "Classification of Stellar Spectra," and "Hubble Red-Shift Distance Relation." It is my intention to integrate two other labs in the near future: "Photoelectric Photometry," and "Large-Scale Structure of the Universe."

One of the first things one notices about the CLEA software is that it is "astronomer-friendly." It provides the student with a realistic representation of the observing procedure, and of recording, collecting and measuring data---all from the comfort of a computer terminal. The software is robust, easy to use, comes with considerable documentation support, and, best of all, is free for those with ftp access and who can print out the manual(s).

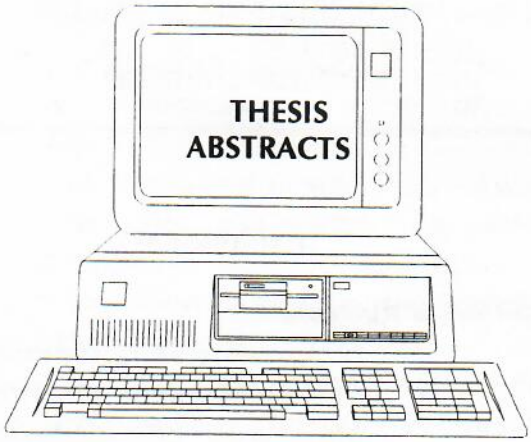
It is my impression that the accompanying student lab manual was designed for non-science students. I have therefore modified the individual labs to suit my particular biases, directing them at a slightly higher level and including supplementary questions.

The CLEA software runs best on at least a 386 IBM compatible computer with 4 MBytes of RAM running Microsoft Windows 3.0 or 3.1. (A number of modules run on "color-capable Macintosh computers" and some run on black and white Macs. See the CLEA web page for details.) I have had no trouble running the CLEA modules under Windows 95.

We have found that the software runs well on our Faculty's "Jupiter PC Lab" which consists of 18 IBM PCs (486 or higher) served by an IBM PS/2 Model 77 (80486/66MHz) computer with 16Mb of RAM and a 380Mb hard drive running Novell Netware v3.12. One must make sure that CLEA is installed in a partition with user write privilege because of the way the program was designed. (In any event, a number of modules require the user to save data to disk which can be removed periodically by the system manager.)

In summary, I highly recommend the CLEA software to instructors searching for useful elementary astronomical software which can be easily integrated into the undergraduate classroom.

Michael De Robertis
*mmdr@sol.yorku.ca*




Please send copies of Thesis Abstracts via email, or snailmail, to the editor:
*jpenfold@mtroyal.ab.ca*
Summaries of thesis work currently in progress will also be accepted for publication.

xxxxxxxx00000000xxxxxxxx

## CANADIAN ASTRONOMY PUBLICATIONS
**March to June, 1996**

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

The Summer Solstice list of Canadian Astronomy Publications seems to have disappeared into a black hole of e-mail origin. The list will hopefully return to real space-time before the Autumnal Equinox.

# THE E-PAGES / LA PAGES-É

For inclusion on this page or the CASCA homepage
please send email to the Editor.
*jpenfold@mtroyal.ab.ca*

## Institutional

| | |
|---|---|
| Astronomy Book & Software Reviews | *http://www.astro.utoronto.ca/reviews1.html* |
| **CASCA** home page | *http://www.astro.umontreal.ca/~casca/* |
| CFHT home page | *http://www.cfht.hawaii.edu* |
| CITA | *http://www.cita.utoronto.ca/cita.html* |
| DAO | *http://www.dao.nrc.ca/DAO/homepage.html* |
| DRAO | *http://www.drao.nrc.ca* |
| Electronic **CASSIOPEIA** | *http://bear.ras.ucalgary.ca/CASCA/cass-index.html* |
| Gemini Project home page | *http://www.gemini.edu* |
| HIA | *http://www.dao.nrc.ca/* |
| JCMT - Ottawa Group | *http://www.hia.nrc.ca/jcmt/jcmt-homepage.html* |
| - Hawaii Group | *http://www.jach.hawaii.edu/jcmt/home.html* |
| JSSA | *http://www.astro.utoronto.ca/~rucinski/jssa.html* |
| McMaster University | *http://www.physics.mcmaster.ca/* |
| NSERC gopher | *gopher gopher.nserc.ca* |
| Rothney Astrophysical Obs. | *http://www.ucalgary.ca/~milone/rao.html* |
| Université Laval (Bilingual) | *http://astrosun.phy.ulaval.ca/astro/* |
| Université de Montréal (Bilingual) | *http://ftp.astro.umontreal.ca/* |
| Univ. of Toronto | |
| Astronomy Dept./DDO | *http://www.astro.utoronto.ca/home.html* |
| UTSO | *http://www.astro.utoronto.ca/~utso* |
| Univ. of Victoria | *http://astrowww.phys.uvic.ca/* |
| Univ. of Waterloo Astron | *http://astro.uwaterloo.ca/* |
| Univ. of Western Ontario | |
| Dept. of Physics & Astronomy | *http://phobos.astro.uwo.ca/* |
| York U, Physics & Astronomy | *http://www.astro.yorku.ca/home.html* |

# THE E-PAGES / LA PAGES-É

## Personal

| | |
|---|---|
| Chris Aikman | *http://www.dao.nrc.ca/DAO/STAFF/aikman.html* |
| Phillip D. Bennett | *http://casa/Colorado.EDU/casa/personnel/faculty/pbennett/* |
| Doug Forbes | *http://www.swgc.mun.ca/~dforbes* |
| Judith Irwin | *http://astro.queensu.ca/~irwin/index.html* |
| Sun Kwok | *http://iras2.iras.ucalgary.ca/~kwok/kwok.html* |
| Denis Leahy | *http://www.iras.ucalgary.ca/~leahy/leahy.html* |
| Gene Milone | *http://www.ucalgary.ca/~milone* |
| Jean-marc Perelmuter | *http://www.astro.umontreal.ca/people/jperel/* |
| Slavek Rucinski | *http://www.astro.utoronto.ca/~rucinski/rucinski.html* |
| Jacques Vallée | *http://www.hia.nrc.ca/DAO/STAFF/VALLEE.html* |
| Michael West | *http://apwww.stmarys.ca/~west/west.html* |

## Educational Resources

| | |
|---|---|
| *http://scienceweb.dao.nrc.ca* | A global link to science stories in Canada |
| *http://www.skypub.com* | A guide to current astronomical software; includes brief program descriptions. Nine page hard copy ($2US) from John Mosley, 7303 Enfield Ave., Reseda, CA 91335. |

## CASCA BOARD OF DIRECTORS



## CASCA COMMITTEE CHAIRS



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**DEADLINES FOR THE AUTUMNAL EQUINOX ISSUE:**
**E-MAIL: SEP 30 OTHER: SEP 20**

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