

Revised Report of the CASCA Education and Outreach Committee, June 2004

Chair: John R. Percy, University of Toronto Alternate: Jayanne English, University of Manitoba

The committee consists of: John Percy (Toronto; 2002-2005, chair), Paul Delaney (York, 2002-2005), Jayanne English (2002-2005), Doug Forbes (Memorial, 2001-2004), Robert Lamontagne (Montreal, ex-officio), Nathalie Martimbeau (CfA, 2003-2006), Russ Robb (Victoria, 2001-2004), Takashi Sato (Kwantlen University College, 2003-2006), and Kevin Douglas, representing the Graduate Student Committee. Nancy Evans and Dave Turner are our Board representatives. Doug Forbes and Russ Robb completed their terms in June 2004. Martin Connors (Athabasca University) and Margaret Milne (Centre of the Universe/DAO/HIA/NRC) have agreed to join the committee for 2004-2007. Alyssa Moldowan (University of Manitoba) replaces Kevin Douglas as representative of the Graduate Student Committee.

The committee wishes to add at least one new member who is senior and experienced with high-level issues such as the Long-Range Plan, the Canadian Coalition for Astronomy dealing with organization and funding, and the Board has authorized them to do so.

#### Context

Public interest in astronomy in Canada remains high. Canadian Geographic's March/April 2002 issue featured a cover article on the CFHT, illustrated with dramatic images from the telescope, while Air Canada's enRoute magazine featured Gemini in their August 2001 edition. The close approach of Mars in August 2003, the arrays of naked-eye planets in the spring of 2004, the recent Mars lander and orbiter missions, and a continuous stream of exciting new astronomical discoveries have fueled this interest. Canada has contributed significantly to these discoveries; to mention only two examples: the achievements of the Sudbury Neutrino Observatory, and the results of cosmic microwave background radiation missions such as WMAP in 2003 (Canadian scientists played a key role in the analysis and interpretation of these). This increased public interest was reflected in increased attendance at Canadian planetariums (totalling close to a million visitors a year), and by a significant increase in membership in the Royal Astronomical Society of Canada, from 3410 in 1998 to almost 5000 in 2003. The number of RASC "centres" has been slowly increasing, and other astronomy clubs have been proliferating across the country. We are happy to report that the RASC was a 2003 winner of NSERC's Michael Smith Award for sustained and outstanding achievements in science promotion. Several CASCA members wrote supporting letters for the nomination. The Founding President of CASCA, the late Helen Sawyer Hogg, was inducted into the Canadian Science and Technology Hall of Fame, in May 2004. Astronomy continues to be more securely represented in the school curriculum, though pre-service and in-service training of teachers remains a challenge.

#### Funding

CASCA's grant (\$31K over three years) from NSERC PromoScience Program expired early in 2004. CASCA's grant (\$75K over three years) from the Ontario Youth Science and Technology Awareness Program (YSnT) continues.

## Education Co-ordinator

Heather Scott MSc (Astronomy), BEd (Science Education) continued as part-time (0.2 x FT) Education Co-ordinator. Her performance was formally reviewed (very positively!) in November 2003, and she was re-appointed.

## Internal Education/Outreach Initiatives

CASCA 03 included a plenary lecture on education (by Mars Bloch), and contributed oral and poster papers. There are regular articles and reports on education in every issue of E-Cass.

Together with the CASCA Graduate Student Committee (GSC), we conducted a survey of graduate education issues which was subsequently published in E-Cass and in Science's on-line NextWave magazine.

## CASCA-Westar Lectureships

This program of two-day visits by professional astronomers to smaller centres in Canada, was inaugurated last year, and has continued and grown, thanks to the support of CASCA and the Westar Corporation. John Percy made a visit to Fredericton and Moncton NB, and a visit to St. Catherine's ON. Pierre Chastenay made a visit to a First-Nations community in Lac-Saint-Jean PQ. Jayanne English made a visit to the Rolling River First Nation MB.

Now that the CWL is past the "pilot project" stage, we have solicited a larger team of potential lecturers, and will soon be publicizing the CWL nationwide.

## Canadian Astronomy Education Website

CASCA engaged Educational Media Technologies (Travis Whyte, BSc, MEd) to create a bilingual Canadian astronomy education website [www.cascaeducation.ca](http://www.cascaeducation.ca), with assistance from Heather Scott and John Percy. The site is aimed primarily at educators at the grade 6 and 9 level, and secondarily at other sectors of the astronomy education community. The site went live in September 2003. Various resource material has been and is being developed, to go on this website. This includes information about Canadian astronomy, and astronomers. Links are being made to Canadian astronomy facilities and projects. Pierre Chastenay has helped with the editing of the French-language pages, but we continue to seek more and better French-language resources.

We will plan for the transfer of the website from Educational Media Technologies, in Edmonton, to the main CASCA site in Kingston.

## Teachers' Workshops

The first annual CASCA Teachers' Workshop was held in connection with CASCA 03. A larger workshop will be held at CASCA 04. This conference is being held in partnership with Canada's physicists, biophysicists, and medical physicists. The teachers' workshop is also a joint project, and promises to be both comprehensive, and well-attended (60-80 teachers).

## Partnerships with the Canadian Astronomy Education Community

We have worked increasingly closely with Canada's planetariums and science centres, partly through the initiatives of Nathalie Martimbeau, who has solicited regular reports and articles on planetarium activities for CASCA's newsletter. The EOC also enthusiastically endorsed "The Quest for Origins", a planetarium show about Canadian astronomical research, developed by four major Canadian planetariums with support from Heritage Canada.

We work closely (but not as closely as we would like) with the RASC, for instance, by providing advice and some funding for the development of "SkyWays", a guide to astronomy teaching in the schools, and by encouraging the publication of E/PO articles in the Journal of the RASC. SkyWays was published in fall 2003.

We note that the Herzberg Institute of Astrophysics, NRC, has continued to operate and improve its visitor centres at DRAO (8500 visitors a year) and DAO, and to develop a website with many useful resources for teachers, students, and the public. See, for instance:  
[http://hia-ihp.nrc-cnrc.gc.ca/spot/skygazing\\_e.html](http://hia-ihp.nrc-cnrc.gc.ca/spot/skygazing_e.html) or  
[http://www.nrc-cnrc.gc.ca/randd/education/astronomy\\_e.html](http://www.nrc-cnrc.gc.ca/randd/education/astronomy_e.html)

Some years ago, HIA prepared in collaboration with Teach magazine a large, bilingual poster, Canadian Skies, with activities linked to science curricula across Canada that has been distributed to thousands of schools. In March 2004 Canadian Skies and its associated educational activities were made available on NRC's web site:

[http://www.nrc-cnrc.gc.ca/education/canadianskies\\_e.shtml](http://www.nrc-cnrc.gc.ca/education/canadianskies_e.shtml)

NRC's Creative Services and HIA-CU partnered with Heritage Canada's Virtual Museum Project involving 18 organizations in Australia, Canada and the U.S. to produce the bilingual website, "Cosmic Quest: Discovering Astronomy through Science and Culture". This site went public in early 2004 and may be found at:

<http://www.virtualmuseum.ca/Exhibitions/Cosmos/english/rover/>

Canada's off-shore facilities that are partially funded by NRC contributions have increased their E/PO activities, as described on their web sites.

#### Priorities for 2004-2005

1. To continue to maintain and improve the Canadian astronomy education website, and to publicize this across the country.
2. To maintain a strong education program for CASCA members through the quarterly newsletter and the annual conference.
3. To co-ordinate CASCA's education and outreach activities with those of its partners, and those of its members and their institutions. We propose to do this through a series of meetings at "nodes" across the country, bringing together members of the astronomy education community in that region. There is an existing Advisory Board for the Canadian astronomy education and outreach initiative; its members will be invited to participate in these regional meetings.
4. To seek external funding from agencies, foundations, or corporations, to replace the NSERC and YSnT grants which will expire by

the end of 2005.

5. To address the need to publicize the achievements of Canadian astronomers. In October 2003, a major conference on "Communicating Astronomy to the Public" was held in Washington. One of the outcomes of that conference was the "Washington Charter", an outline of best practices in astronomy communication, which two Canadians helped draft. The CASCA Board has endorsed this document, and we will work to produce recommendations for its implementation in Canada.