



THE UNIVERSE  
YOURS TO DISCOVER

INTERNATIONAL YEAR OF  
ASTRONOMY  
2009

**Report of the IYA Canada Committee to the CASCA Board of Directors, Education  
and Public Outreach Committee, and Graduate Student Committee  
May, 2007**

Summary

We report key developments since the 2006 CASCA AGM. A goal of this detailed report is to solicit *critical* feedback: if we are not on the right track, if our goals and expectations are unrealistic, what changes would you recommend? Where do EPOC & GSC members see IYA2009 fitting into the priorities of their committees and of their individual members?

IYA2009 planning in Canada commenced as a partnership between CASCA, RASC and the FAAQ; in addition to representatives from those organizations, IYA Canada Committee (IYACC) now includes representatives of the NRC, NSERC, CSA, First Nations and the media. Abundant good will and synergy are evident among the organizations and individuals involved. The proposed overarching goals:

***“To offer an engaging astronomy experience to every person in Canada, and to cultivate partnerships that sustain public interest in astronomy.”***

We hope to reconnect Canadians to the night sky in 2009 through diverse activities spanning telescopic viewing, arts and cultural events, sharing of First Nations and Inuit traditions, national contests for children through the school systems, national lectures, and more. We are striving for some programmes to have impact lasting well beyond 2009 (e.g., a dark sky preserve in every province, new music, art and/or science centre outreach collaborations, educational initiatives, etc.), and welcome ideas and volunteers at all levels. We regard implementation as stemming primarily from local activities which fit into national and international themes co-ordinated and supported by the IYACC in collaboration with the IAU.

Co-chairs and initial membership have been identified for the Programme Working Group, which is beginning to develop more detailed plans, recommendations and budget forecasts. With those in hand, we strive to form the Communications and Resources

Working Groups in Summer, 2007, for an intensification of efforts beginning no later than Fall, 2007. Volunteers with experience in developing and maintaining effective websites and in fund raising are particularly needed. Website implementation is underway led by two Victoria RASC volunteers. IYACC members are encouraged and gratified by the initial enthusiasm for IYA2009 being shown by people and organizations contacted who are not normally involved in astronomy EPO. The challenge is clear: convert the ideas and initial enthusiasm into reality for 2009 and beyond, and have fun doing so.

**1. IYA Canada Committee (IYACC) Membership** (28 May 2007): Cheryl Bartlett (Cape Breton U.), Ruth-Ann Chicoine (CSA), Dennis Crabtree (NRC-HIA, resigned March, 2007), Jeffery Crelinsten (The Impact Group), Jayanne English (U. Manitoba), Jim Hesser (NRC-HIA, Chair), Peter Jedicke (RASC & Fanshawe College), Rémi Lacasse (FAAQ), Pierre Lacombe (FAAQ & Planetarium of Montreal), Phil Langill (U. Calgary), Lindsay Marshall (Cape Breton U.), Bob McDonald (CBC), John Percy (U. Toronto), Scott Young (RASC & Manitoba Museum), Andy Woodsworth (NSERC)

Notable changes: Dennis Crabtree provided exemplary leadership since launching our efforts. Anticipating his April 2007 secondment to the Gemini Observatory, Dennis stepped down in early 2007 and Jim Hesser [whom the CASCA Board (which serves as the Canadian National Committee for the IAU) asked in November, 2006 to act as Canada's "SPoC" (single point of contact) with the IAU] assumed the duties. Fortunately, Dennis is remaining active in the IAU-level efforts as Vice President of Commission 55 on Communicating Astronomy to the Public. Louis Michon left the CSA in May and was officially replaced by Ruth Ann Chicoine.

## **2. Activities:**

a) Following Calgary, the IYACC met (telecons) several times during which we developed further a list of possible Canadian activities, as well as a structure for their implementation. Starting in 2007 we are holding monthly telecons. The partnership between the RASC, FAAQ and CASCA is functioning very well, and we are encouraged at our success in attracting excellent, enthusiastic, experienced people from other areas to work with us.

b) Dennis and Jim participated in the first meeting of the national SPoCs 3-4 March 2007 in Garching, where Dennis presented the IAU's vision for international programmes and Jim summarized our IYACC perspective as it then stood. A great deal of creative energy and buzz was evident among the participants, which, if it carries on, bodes well for IYA2009 being a remarkably positive event for world astronomy and understanding.

c) At the invitation of the AAS, Jim serves on their IYA 2009 committee to provide *inter alia* liaison between US and Canadian efforts. In addition to telecons, he attended their 1-day programme planning meeting in Honolulu on 26 May. The US Program

Committee originally identified 6 themes, each with a 6-8 member team developing ideas, target audiences and ROM budget estimates:

- Looking Through a Telescope
- Dark Skies Are a Universal Resource
- Astronomy in Arts, Entertainment & Storytelling
- Research Experience for Students, Teachers, and Citizen-Scientists
- Telescope Building & Optics Challenges
- Sharing the Universe Through New Technology

In addition, they have created working groups on, e.g. New Media and on Evaluation, both of which have produced impressive first efforts. The goal of their 26 May meeting was to develop suitable one page descriptions that will enable their Fund Raising Committee (which already exists) to begin in earnest; there was some success and they are meeting with the Fund Raising Committee to get initial feedback.

d) We are reporting to CASCA members via material in *e-Cassiopeia*, are making an oral contribution to the Education and Outreach session in Kingston, and prepared a handout for the registration packets at the 2007 CASCA and RASC GAs. All of these have a focus of identifying energetic, creative volunteers to help us take prioritized ideas to fruition, as well as increasing awareness of IYACC activities on behalf of Canadians.

e) We have submitted a contribution to the ASP's annual meeting (Sept.), which is now the major venue for astronomy informal education professionals in North America to exchange information; both Jim and John are planning on being present. In addition, we anticipate active participation in IAU Commission 55's *Communicating Astronomy with the Public* October symposium, whose focus will be on IYA2009 preparations.

f) FAAQ President Rémi Lacasse presented our plans to the FAAQ at their March annual meeting. In his new role as immediate Past President he continues as their IYACC representative and has established a team of three (himself, Laurent Drissen and Pierre Lacombe)—respectively representing the amateur, professional and science centre communities in Quebec—to help implement IYA2009 activities in Quebec. He is also serving as Canada's liaison with the IAU's working group on French language materials for IYA2009.

g) RASC President Scott Young is presenting a paper at their GA in Calgary this June accompanied by a version of the handout mentioned in (d), above. He is also leading the formation of an RASC committee to guide their participation and implementation of agreed activities. While concrete steps have yet to be taken, the IYACC is aware of the importance of offering opportunities for amateur clubs unaffiliated with the RASC or FAAQ to participate, as they have much to contribute.

h) As a result of the IAU releasing the names of national SPoCs last Winter, several individuals have contacted Jim offering to work with the IYACC on specific aspects or offering suggestions for suitable activities. Individual IYACC members have made local presentations and contacts that are resulting in good ideas and in some cases volunteered efforts of considerable value.

### 3. Outcomes:

a) John Percy led the development of a proposal to Canada Post for a series of astronomical stamps submitted last Fall; Canada Post advises us that we will receive their answer in 2008.

b) Through a contact Andy Woodsworth made, Cape Breton University has become an enthusiastic lead for developing ideas for working with Canada's First Nations and Inuit communities to share aboriginal knowledge of the heavens alongside our modern research perspectives. Both Cheryl and Andy will participate in the October 2007 meeting of the Canadian Aboriginal Science and Technology Society, which offers a grand opportunity to develop further co-operation on implementing IYA 2009 themes. The CSA has volunteered to work with this initiative, where their contacts and experiences in Nunavut and elsewhere promise to be extremely valuable. Cheryl has also agreed to represent Canada in the IAU's coordinating committee on dealing with archeo- and aboriginal astronomy.

c) CBC's Bob McDonald joined the IYACC and subsequently offered to be the English language spokesperson for IYA2009. This month John Crelinsten (The Impact Group) has agreed to join and share his communications and fund raising experience.

d) The IYACC agreed that our working groups (subcommittees) would be co-chaired by a professional and an amateur (or science centre) astronomer, as a means of striving for a respectful, effective, balanced collaboration throughout and beyond IYA2009 itself. The present organizational structure is in *Appendix 1*.

e) A rich palette of ideas for activities from the national to local levels has been developed and continues to grow (*see Appendix 2*). One of the UN's guidelines for International Years involves impacts lasting beyond the year itself, a goal which the IYACC has embraced as we review and discuss ideas. Pierre Lacombe and Phil Langill recently became co-chairs for the Programme Working Group, whose first task is to identify and recommend priorities for those programmes whose implementation will require some component of national (or international) co-ordination and/or fund raising. This is a prerequisite for the Resources Working Group that has yet to be formed (*volunteers urgently needed*) to initiate efforts to fund IYA2009 in Canada. As well, the programme recommendations will provide material critical for the web site whose initial development is underway through the generous offer of two members of the Victoria RASC Centre, Joe Carr and Matthew Watson. Pierre Lacombe has also indicated that a staff astronomer at the Montreal Planetarium could take on responsibilities for the web. The website, as well as other means of communicating, will come under the purview of a Communications Working Group which is also being formed (again, *volunteers needed*).

The IYACC believes the official launch of IYA2009 in Canada should occur only when we have something to say, which may not be for several months; advice on this will be an important task for the Communications WG.

f) The IAU requested modest, one-time (2007) financial support from CSA, NRC and NSERC to establish a transition Secretariat team to co-ordinate and communicate the international activities during 2007; they envision international fund raising covering subsequent expenses. They made similar requests to agencies and organizations in other countries. NSERC identified a programme to which the IAU might be eligible to apply, which Ian Corbett and Jim are investigating. NSERC also encourages our community to look carefully at their programmes for support of eligible components of Canadian IYA 2009 activities. In respect of NRC's role on behalf of Canadian astronomers as the adhering body for the IAU to the International Council of Scientific Unions, CSA presently awaits NRC's guidance on this one-time IAU request.

NRC President Pierre Coulombe and Physical Sciences Vice President Richard Normandin are supporting efforts to secure the modest funding requested by the IAU, the outcome of which we expect to be known over the summer. (The amount of money, of order €5K, is not as much an issue as is finding a mechanism consistent with Treasury Board guidelines for transferring the funds.)

The IAU has officially designated 2009 as the IYA, and has been pursuing official UN General Assembly (GA) recognition thereof. UNESCO has recommended that the GA do so. Designation by the UN GA is expected to enhance fund raising opportunities in many countries, particularly for the more ambitious international co-ordinated events. NRC's Office of International Relations is responding vigorously to the IAU's request for support to secure a favourable vote by the UN General Assembly on a motion expected to be brought by Italy in October, 2007 to have the GA officially designate 2009 as the IYA.

Canada is among a handful of influential nations (including Australia and the U.S.) on record as being concerned with proliferation of UN-approved International Years. Jim has met in Ottawa with Melanie Cullins, the head of NRC's International Relations Office, and David Stevenson, Senior Advisor, Europe, to whom he has provided background information in support of their efforts on the UN file. NRC Senior Management's efforts on these issues are welcome indicators of the importance they place on IYA2009 in Canada. [It is worth recording that NRC, including HIA, have been generous in supporting the efforts of Dennis and Jim, including their considerable time and their travels to the international meetings noted in the preceding section.]

### **Issues:**

1. Reaching Youth: From the outset, IYACC members have identified young people as an important target audience for IYA2009. Success requires getting input from thoughtful young people or persons well connected to youth so that our planning and implementation is relevant and appealing to that demographic group. Volunteers or

specific suggestions for how to address this opportunity are sought. To that end, this report is also being shared with CASCA's Graduate Student Committee, whose input is earnestly solicited. Effective liaison with school systems across Canada is another dimension of this opportunity.

## 2. Support of Canadian national efforts

There has been a marked increase in IYACC activities in the past few months, with further acceleration anticipated. In 2006 the IYACC identified the need for a level of effort estimated to be between 0.75-1.0 FTE to lead IYACC co-ordination of programme development, fund raising, communications and implementation. It is unrealistic to expect that IYA2009 activities can be successfully led over the next 2.5 years by a volunteer contributing a few hours per week. Jayanne, Jim, John and Peter Martin, with CASCA Board support, have been working on two approaches, neither of which has yet met with success.

The first model explored was that of a single person (e.g., a retired astronomer) who, finding the goals worthwhile and the challenge appealing, would become the SPoC to lead Canadian co-ordination activities and represent them to the IAU. If in addition to covering expenses (travel, conference fees, etc.), payment for services was important, the individual could include raising funds for his or her salary in the broader fund raising efforts. Jayanne led development of a job description, and with CASCA Board concurrence invited expressions of interest in late 2006. Two individuals indicated initial interest, but it went no further, presumably due to the absence of up-front salary money.

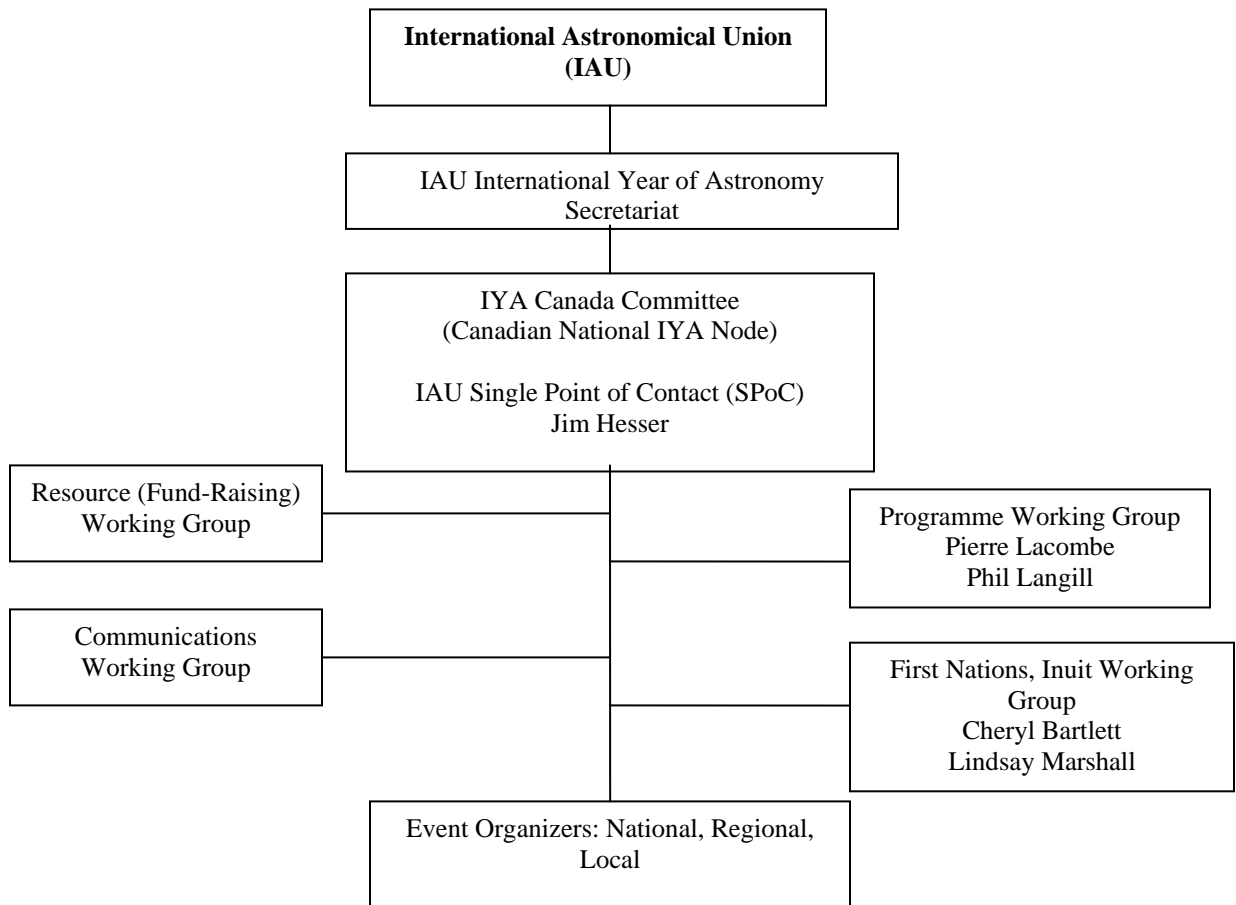
An alternate model in which a community volunteer fulfills the SPoC/Chair role with the support of an "executive officer or assistant" capable of handling the details of day-to-day operations, communications, etc. is being explored. At their March 2007 telecon the CASCA Board indicated willingness to support from WESTAR funds a 1-2 day/week support position for a period of 18 months, subject to details being brought for approval to the Board. Within that context, two individuals known to Board members have been contacted by Jayanne. To date, neither an individual nor a specific proposal for presentation to CASCA Board have been realized.

While Jim has indicated to CASCA Board his willingness to continue as SPoC/Chair under the second model, he has also indicated: a) willingness to cede the SPoC/Chair roles to anyone the Board approves, and b) that with the press of his other duties he cannot increase (indeed, he needs to reduce) the time spent on IYACC. Identifying a person or persons for either model is becoming quite critical.

Respectfully submitted,

Jim Hesser  
Canadian SPoC and IYACC Chair  
28 May 2007

**Appendix 1: IYACCA Organizational Structure (May, 2007)**



## Appendix 2: IYA2009 Activities Under Discussion

Ideas for international activities, are followed by ideas the IYACC is considering for implementation in Canada.

### International:

The tables below are extracted from the IYA2009 IAU website (<http://www.astronomy2009.org/content/view/251/63/>) whereon the exciting ideas from the March, 2007 meeting of the National SPoCs are listed, some with volunteers for international co-ordination.

Opening Events/ Ceremony	Organization of the opening events for the IYA	Jan 2009
Big-Bang opening at 00h Jan	Hijack the Fireworks	Jan 1st 2009
Closing Ceremony/ Events		Jan 2010

Light Pollution	Awareness on the problems created by light pollution	
Itinerant Art Exhibition	Itinerant art exhibition with distribution of outreach materials. Astronomical images exhibited in different venues all around the world.	
Sidewalk Astronomy	Give as many people as possible the chance to look through a telescope	
Activities for small telescopes	To prepare activities to use the small telescopes	
IYA 2009 Info Packets	Publish observing guides, education materials, resources	
TV/Planetarium Shows	There are at least 2 IYA2009 TV programs under development. A coalition of planetariums has joined to develop planetarium shows and incorporate materials from the TV program.	
GLOBE at Night	To draw attention to the light pollution without having to get into politically charged issues of safety and security.	
Jupiter Opposition	Jupiter and its Galilean satellites come to opposition, Neptune and Jupiter will be visually close to each other	14-15 Aug. 2009
Astronomy X Prize	Prize to a researcher? Amateur? Teacher?	
Track Galileo's	On January 10 1610 Galileo pointed his telescope at	10 Jan,

Observations	the sky and made interesting discoveries.	2010
Voyage Scale Model Solar System	Installation of solar system models.	
International Astronomy Day	A day when people can observe bright astronomical objects in the sky	Late Sep/ Oct 2009?
IAU - children delegates	Send children to the GA or to the National Meetings	
Time Capsule	Make a time capsule to be opened in 400 years	
Re-enact the history of the universe	Use people to re-enact the history of the universe	
The Immersive Classroom	To inspire youngsters by bringing hemispheric views of the universe and the Earth (etc. etc.) into the classrooms. Equipment: a PC, a hemispheric projector, Uniview s/w, Digital Universe database, hemispheric unfoldable screen. For use in Geography, physics, biology, chemistry etc.  Traveling exhibit? A unit in every classroom?	
Universe Awareness	UNAWWE is an international initiative for economically disadvantaged young children aged four to ten. UNAWWE will expose children in developing countries and in underprivileged communities in Europe to the inspirational aspects of astronomy.	
How Many Stars	Observation reports for the determination of present night sky visibility conditions	
Kepler Activities	Activities related to Kepler and his discoveries, as 2009 marks the 400th anniversary of the publication of "Astronomia Nova".	
Cereal Box Spectroscopes	To teach spectroscopy by the use of cheap spectroscopes made of cereal boxes and a CD	
Does Venus go around the Sun?	By using small telescopes, always under the same magnification of around 60X, follow the phases and apparent sizes of Venus from January to July, 2009. Each time, estimate the angular separation between Venus and the Sun. Then make a sketch showing the positions of Venus with respect to the Sun and the Earth every two weeks. Compare your results with Galileo's. Was Copernicus right?	From Jan to Jul 2009
Calculate the speed of light by observing the	To reproduce the observations by Olaus Roemer who, using a small telescope, could calculate the	From mid Mar

moons of Jupiter	speed of light by timing the motions of the moons of Jupiter discovered by Galileo nearly 70 years earlier.	2009 to mid Jan 2010
Origin and Evolution of Life in the Universe: a link between IYA2009 and Darwin2009	IYA2009 and Darwin2009 will celebrate two of the greatest achievements of humankind to unravel the secrets of Nature. Following this, it is suggested to organise events joining astronomy and biology together with topics like extra solar planets and the origin and evolution of life in the Universe. There are also interesting links to philosophy and religion that could result in engaging activities such as: exhibitions, lectures, debates, cafe-scientifiques, articles, TV programmes, etc.	2009
Astronomy as a Cultural Heritage	Presentations and traveling exhibition	2009

Skypecasts	Reach students all over the world through skype conferences on astronomical themes	
Observatories Webcasts	Watch the daily routine of observatories all around the globe, around the clock	
Image Repository	Collection of images online with people's comments, "Image of the Hour", advanced technology, RSS feeds?	
VAMP	The Virtual Astronomy Multimedia Project is proposal for a framework for a Virtual Astronomy Multimedia Project of outreach products (pretty pictures, videos and other digital material).	
News Portal		

SOFIA Demonstration Science	Fly a teacher, a student and a journalist on a science demonstration flight	
Hubble Servicing Mission	It is scheduled for Sep 2008, but it could slip into 2009 depending on the circumstances.	
Herschel/ Planck first light	Launch is scheduled for 2008 but could slip into 2009 and science will be covered in 2009.	
Send Galileo to the Moon	Send to the Moon a tiny fragment of an object owned of used by Galileo	
40th anniversary of the Apollo landing		

## Canada:

Many of the ideas that appear on the IAU list above were independently suggested and transmitted by the IYACC through Dennis to the IAU Executive team. Among the ideas under discussion within the IYACC are the following:

- *Galileo Did It*: >1,000,000 Canadians to look through a telescope – monitor & count participation; an activity focussed on Canada’s extensive network of amateur astronomers
- Hands-on experiences for youth
- Children’s art contest through the school system in early 2008 for 2009 calendar
- Educational poster featuring Canadian astronomy – complement NRC’s *Canadian Skies* poster
- Co-ordinated new programming for science centres and planetaria, large and small
- Web or video casts from Canada’s major offshore observatories and/or in conjunction with CSA space exploration activities
- National lecture series (IYPhysics 2005 series in Canada was successful; we could easily provide more Canadian content for IYA2009) – seek CIAR, CITA, Perimeter Institute support and co-operation?
- Special programming associated with 2009 GAs of CASCA, FAAQ, RASC
- Promoting appreciation for First Nations & Inuit traditions of heavens
- Symphony and art events with astronomical themes
  - Sponsor new works (seek Canada Council support)?
  - Obtain support/participation of outstanding Canadian popular artists?
- Canadian astronomy DVD
- Coin by Canadian mint
- Series of astronomy-themed stamps (proposal submitted)
- Legacy of Dark Sky Sites in every province (e.g. with co-operation of national, provincial parks and/or First Nations)
- Develop a focus for inhabitants of inner cities (especially youth) through Side Walk Astronomy and other programmes for those who may be unable to travel to dark sky sites

As noted in the body of the report, the IYACC vision focuses a great deal on identifying activities that can spring from, or flourish as a result of, local initiatives aligned with, and leveraging from, the broader national and international contexts. We need to monitor continuously developments on the international stage, as well to include ways to encourage, support and promote within Canada ideas that emerge as others become aware of IYA2009. Metrics for effective evaluation will be central to success.