CASCA EPO Committee 2014 MTR White Paper

Introduction

Astronomy has enduring public appeal and, in recent years, that appeal has only seemed to grow. Most astronomers, as publicly funded intellectuals, understand the responsibility, necessity and value of sharing the results of our work with the broadest possible audience. Perhaps more than in any other scientific discipline, research astronomers consider public outreach to be both a pleasure and part of their normal working life. That has been as true in the last five years as it has been at any time in recent memory. Still, there are ongoing systematic challenges for astronomy education and public outreach (EPO). Despite years of recommendations for sustained funding for EPO, this has not materialized. EPO goals set in LRP 2010 and even LRP 2000 remain unmet. In this report, we hope to highlight some of the issues facing astronomy EPO in Canada and suggest a route forward as we think toward LRP 2020.

EPO Successes Since LRP 2010

There have been some significant EPO successes across Canada since LRP 2010. A few highlights include:

- **Incorporation of EPO into the core mandates of research organizations**

  Several new Canadian astronomy research institutions have been founded (or greatly expanded their operations) since the time that LRP 2010 was being compiled. Many of them--perhaps all--include EPO as part of their mandate. These include the Centre for Planetary Science and Space Exploration at Western University[1], the Dunlap Institute at the University of Toronto[2], and the Centre for Planetary Sciences at the University of Toronto[3]. This is a very positive sign, indicative of increasing awareness of the need for researchers to engage in EPO activities.

- **The 2012 Transit of Venus**

  Many organizations across the country collaborated to capitalize on the broad public appeal of this last-chance-to-see event. The Dunlap Institute at the University of Toronto lead an initiative to distribute 43,000 pairs of safety glasses for viewing the transit (see Figure 1). Although Dunlap funded the project, it was a truly national initiative: most of the glasses were distributed by the Royal Astronomical Society of

[1] http://cpsx.uwo.ca/outreach
[2] http://dunlap.utoronto.ca/public-outreach/
[3] http://cps.utoronto.ca/outreach.html

Canada, the Fédération des astronomes amateurs du Québec, and many universities. Viewing events were held across the country, with guests numbering in the thousands at some events (6,000 at the University of Toronto alone), and with the event spawning longer-term initiatives (e.g., McMaster's Sidewalk Astronomy).

- **Discover the Universe/À la découverte de l'Univers**

  This program is a legacy of IYA2009 and is offered by CASCA, the Royal Astronomical Society of Canada and the Fédération des astronomes amateurs du Québec. *Discover the Universe* (DU) offers free online astronomy workshops and webinars to teachers and educators all across the country, in both languages. Starting in 2011 with a single workshop in French only, the program now offers many bilingual activities throughout the year and has reached nearly 900 educators, with excellent feedback and comments. From 2012 to 2014, CASCA contributed $5000 per year and has recently agreed to contribute $20k for the next three years (2015-2017). This is a good start as DU will try to expand in order to reach more educators and offer more activities and resources. DU employs one part-time coordinator/educator.

- **New Institutional Outreach Facilities**

  Several new astronomy EPO facilities have come online since LRP 2010 or are slated to come online soon. In 2010, the University of Toronto opened a new planetarium[4] and began offering shows to the public; in 2014, a whole new online portal for astronomy outreach was unveiled (see Figure 2). In 2011, McMaster University opened its 3D Theatre[5] to the public, complementing its long-running and very popular McCallion Planetarium[6]. All three facilities further the CASCA call to involve graduate students in EPO activities, in that they are staffed primarily by graduate students. Simon Fraser University recently announced the $4.4 million Trottier Observatory and Courtyard[7], which are dedicated to public outreach. Construction is well underway and the new observatory should open in 2015.

EPO Challenges

- **Funding for EPO activities**

  Since LRP 2000, CASCA has included calls for a fixed portion of funding for new research projects to be allocated to EPO. The 38th recommendation of LRP 2010 was "The LRPP reiterates the value of investing a 1.5% fraction of government funding of new large-scale projects into outreach." This echoed the same recommendation in

[4] http://universe.utoronto.ca/planetarium-shows/
[5] http://origins.mcmaster.ca/outreach/3d-theatre
[6] http://www.physics.mcmaster.ca/planetarium/
[7] http://www.sfu.ca/science/news-events/news/2014/sfu-launches-trottier-observatory.html

LRP 2000. For fifteen years, these calls for enhanced EPO funding seem to have gone almost totally unheeded. If the model has never worked, perhaps it's time to consider a new model.

- **The Closure of the Centre of the Universe at HIA/NRC in Victoria**

  This centre--one of the few dedicated astronomy outreach centres in the country and (we believe) the only one operated by NRC--closed its doors permanently in August 2013 due to "financial constraints and operational priorities." There was significant national media attention to the closure. The closure of the CU represents a big retreat from LRP 2000, which recommended "Furthermore, the NRC and the CSA should create modern visitor centres that would further aid in the education and enjoyment of the public and the media." Public support for reinstating education and outreach activities at the CU continues to be tremendous. An online petition started by community member Don Moffatt has garnered over 2000 signatures and led to a private meeting between him and NRC President McDougall in August. Efforts from the astronomy community in Victoria, most notably members of the Royal Astronomical Society of Canada led to volunteer-driven activities throughout the summer of 2014. However, the future of the CU remains highly uncertain.

- **Social Media**

  CASCA operates a Twitter account (https://twitter.com/astrocanada) which is nominally operated by a different volunteer astronomer each week. That person is supposed to tweet 4-5 times per day to keep the volume of Tweets high--crucial for maintaining an audience on Twitter. The account currently has 578 followers, which is fewer than some individual institutions (e.g. CPSX at Western, with 620 followers, or the Dunlap Institute with 655 followers). Most of the posted content consists of re-tweeted material, often from non-Canadian sources. This all-volunteer approach--which is highly labour-intensive, produces variable output, and relies heavily on recycled content--does not match the high ideals that CASCA and Canadian astronomers have for our EPO projects. If social media is a priority for CASCA, it should not rely on a volunteer approach. There should be professional communications staff maintaining the feed, supplying interesting original content, and growing the audience.

- **CASCA's online presence, astronomycanada.ca, and cascaeducation.ca**

  LRP 2010 recommended "The LRPP recommends that the "AstronomyCanada.ca" website be co-developed with a brand awareness campaign led by the professional community." This has not happened. The site astronomycanada.ca is a parked domain. Moreover, CASCA's existing EPO site, cascaeducation.ca, has languished. For many years, CASCA retained the services of a part-time employee to maintain a

comprehensive guide to astronomy teaching resources. The site is not being actively maintained--it still lists the IYA2009 as “rapidly approaching”. It contains many broken links and outdated materials. As with our social media presence, if we aspire to a web EPO presence that can rival our peers in other countries, we really should not leave the task to occasional part-time staff. The EPO committee recommends a thorough Board-level review of CASCA’s online EPO strategy, starting with cascaeducation.ca.

Recommendations

Perhaps the biggest challenge facing CASCA EPO activities is the lack of a coordinated national strategy. While astronomy EPO is on a fairly healthy footing locally, it does not enjoy the same level of national coordination that research does. This is not to say that CASCA can or indeed *should* attempt to coordinate outreach activities across the country. However, insofar as CASCA offers national programs--the Westar lectureship, Discover the Universe, cascaeducation.ca, social media feeds, and so on--these should be offered as part of a coherent, well-funded strategy which is backed by the appropriate resources. CASCA’s decision to fund Discover the Universe at the level of $20k per year is a good step in this direction. However, there is still a lot of work to do.

The EPO committee recommends that the CASCA Board discuss this matter internally, focusing on three questions:

1. What are CASCA’s national EPO goals?
2. What strategy is required to achieve those goals?
3. Where will the resources (financial and human) be obtained to achieve those goals?

The EPO committee further recommends that the Board engage the national astronomy community in a broader discussion of the level of funding and organizational support available to support national EPO priorities. This discussion could take place at a CASCA meeting, preferably not scheduled in parallel with a research session.

Figure 1 -- Six thousand people gathered at Varsity Stadium at the University of Toronto to watch the transit of Venus on June 6, 2012. Tens of thousands more people attended similar events across the country.

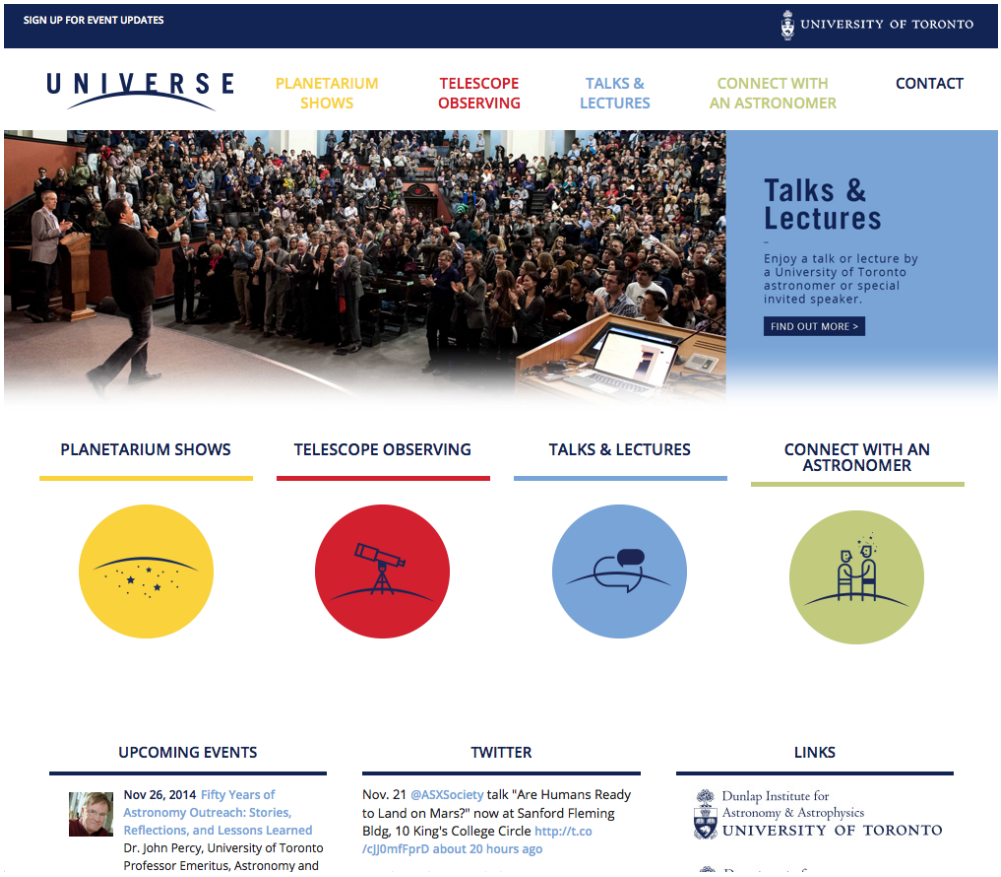

Figure 2 -- universe.utoronto.ca: a new outreach portal for astronomy at the University of Toronto.

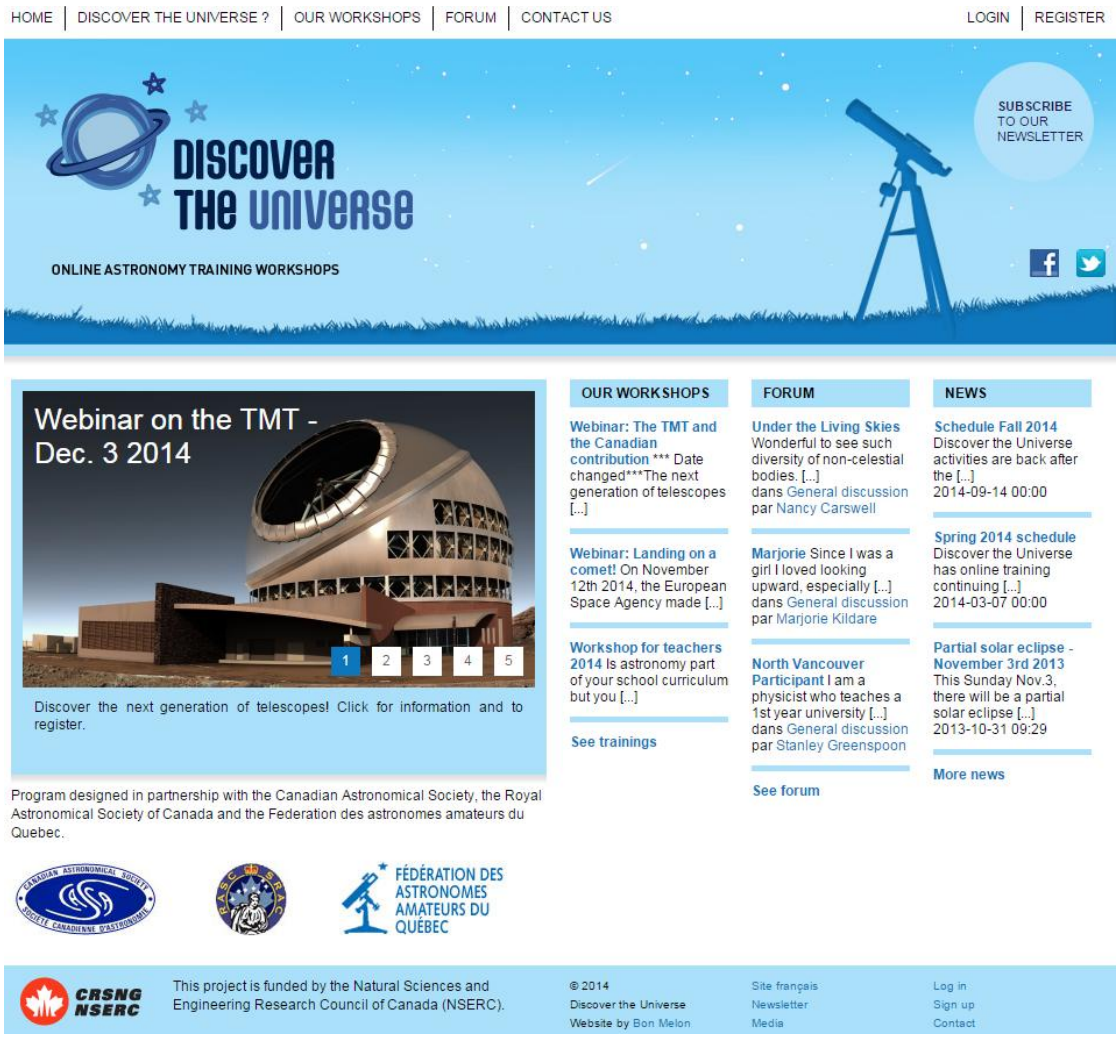

FIgure 3 -- www.discovertheuniverse.ca: Discover the Universe website.