

COMMISSION 55

COMMUNICATING ASTRONOMY WITH THE PUBLIC COMMUNIQUER ASTRONOMIE AVEC LE PUBLIC

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COMMISSION 5 WORKING GROUPS

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Div. XII / Commission 55 WG	New Ways
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TRIENNIAL REPORT 2009–2012

1. Introduction

Commission 55 was approved at the IAU General Assembly in Prague following the great success of the Communicating Astronomy Working Group, which had been set up in 2003. It resides within Division XII and the mission statement of the Working Group has been incorporated into the Commission:

- To encourage and enable a much larger fraction of the astronomical community to take an active role in explaining what we do (and why) to our fellow citizens.
- To act as an international, impartial coordinating entity that furthers the recognition of outreach and public communication on all levels in astronomy.
- To encourage international collaborations on outreach and public communication.
- To endorse standards, best practices and requirements for public communication.

2. Commission Activities

Commission 55 submitted a successful proposal for a Special Session at the General Assembly in Beijing in 2012. The Session, *Communicating Astronomy with the Public for Scientists*, has the goal of providing interested astronomers with training and tips on effective communication with the public. This Special Session will be especially valuable to those astronomers from smaller institutes that do not have communication specialists on staff and who are responsible for communicating with the public in their area.

The SOC will identify key speakers knowledgeable in various areas of science communication who will share their best practices via Invited Talks. Contributed Talks will be invited from astronomers who have successfully communicated astronomy with the public so that they can share their experiences with the other participants.

Commission 55 is supporting, and working with, a small of astronomy communication professionals on establishing a professional association for astronomy communicators. The *International Organization of Professional Astronomy Communicators* would bring together the people involved in astronomy communication to support advancing the profession across both old and new media. These communication professionals form a significant aspect of the participants at the CAP meetings and the synergy of the interreaction between them and the astronomers doing astronomy communication is invaluable.

3. Activities of the Working Groups

This section reports the activities of those Working Groups that have been active. Unfortunately some of the Working Groups were dormant during this period.

3.1. CAP Conferences

The Communicating Astronomy with the Public (CAP) conference is the brand name of C55, following two highly successful meetings: ESO HQ in 2005 and Athens in 2007.

CAP2010 was held in Capetown, South Africa from March 15th through 19th and focussed on summarizing and building upon the great success of IYA2009. This was a huge success with approximate 150 participants from many countries around the world. The participants learned about many of the successful programs during IYA2009, from the global cornerstone projects guided by the IAU Secretariat to the small one person projects in many of the smaller countries not usually associated with astronomy. The participants were able to share their lessons learned and discuss ways in which to build upon the momentum of IYA2009. Capetown provided an excellent venue and the SAAO provided excellent support for the meeting.

CAP2010 was held in Beijing, China. This is the first time a CAP meeting has been held in Asia and given the recent financial turmoil and austerity of many governments, we were somewhat concerned about the meeting. While the attendance was much smaller than recent CAP meetings (80 people), the participants represented 20 countries and the program was simply excellent. There were many presentations on successful IYA2009 projects that had become established as ongoing activities in their respective countries. The Beijing Planetarium were excellent hosts and provided a wonderful venue, top-notch logistics, and a memorable experience for all participants.

3.2. VAMP

The Virtual Astronomy Multimedia Project (VAMP) working group has had an ongoing goal to develop and promote metadata standards appropriate for capturing the rich contextual information in various astronomical image assets. The last two years has seen substantial progress in both the development of the metadata standard and its implementation amongst a variety of observatories. A more detailed description is available on the Commission 55 web pages as well as on the VAMP web pages.

3.2.1. Astronomy Visualization Metadata (AVM) Standard

The Astronomy Visualization Metadata (AVM) Standard defines the metadata schema that captures the contextual information for astronomy graphics assets, including

astronomical images derived from one or more observational datasets, illustrations and artistic renderings, graphs and data plots, and photographs. The 1.1 version of the standard is an official note of the IVOA, and in the last year, small updates have advanced AVM to version 1.2 (currently in draft form at the VAMP website).

3.2.2. *Tools and Resources*

AVM has been implemented in a variety of astronomical software tools to facilitate its use by the community. Aside from plug-in panels allowing tagging in Adobe Photoshop, two sets of Python scripting libraries have been developed. The PinpointWCS application (currently Mac, but in development for Windows and Linux) allows coordinate information to be captured from astrometric FITS files and applied to JPEG/TIF image files. Microsoft's WorldWide Telescope (Windows desktop client, and multi-platform web client) will read AVM-tagged images and will display them in their proper location in the sky.

Two web resources are in beta development at NASA's Infrared Processing and Analysis Center (IPAC). AVM Toolkit (avm.ipac.caltech.edu) allows web uploads and tagging using the most current 1.2 standard. The Astropix Archive (<http://astropix.ipac.caltech.edu>), currently in an alpha development stage, is a web archive that ingests AVM-tagged image galleries (provided through RSS feeds) and allows users to search for imagery using sophisticated filtering in both a web interface and automated query form.

3.2.3. *AVM Partners and Supported Websites*

A number of key observatories are routinely tagging imagery as part of the release process and are making these images available in their public downloads. Websites that have integrated AVM tagging into the core database systems include the Spitzer Space Telescope and the European Southern Observatory. Other sites that publish AVM-tagged images currently include Hubble (through both the ESA and STScI sites), the Chandra X-Ray Observatory, Wide-field Survey Explorer (WISE), the Galaxy Evolution Explorer (GALEX). Other missions actively interested in AVM support include Thirty Meter Telescope (TMT) and Large Synoptic Survey Telescope (LSST).

3.2.4. *Current Focus and Community Outreach*

VAMP/AVM topics have been promoted consistently at conferences and workshops. Regular presentations are made at AAS, APS, and Communicating Astronomy with the Public (CAP) conferences, and is a regular topic at astronomy visualization workshops. A special AVM Workshop, "Tag, Get, Use", was held at the Spitzer Science Center in October of 2010 to wrap up changes in the 1.2 version of AVM and bring partner projects together to promote best practices in tagging. There are ongoing discussions between the AVM/VAMP working group and the Virtual Observatory (VO) to bring future AVM projects into VO compliance.

4. Closing remarks

Commission 55 is now established as an essential aspect of the international network of astronomy communicators. This network consists of both professional astronomers and communication professionals that span developed and developing nations. Commission 55's role in the future will be to foster the recognition of the role of professional astronomers as stated in the Washington Charter and to foster relationships between professional astronomers and communicators.