

Astronomers without borders

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Abstract. “Astronomers Without Borders” is a new global organisational dedicated to furthering understanding and goodwill across national and cultural boundaries using the universal appeal of astronomy and space science. A growing network of affiliate organisations brings together clubs, magazines and other organizations involved in astronomy and space science. Forums, galleries, video conferences and other interactive technologies are used to connect participants around the world. Sharing of resources and direct connections through travel programs are also planned. One project, “The World at Night” (TWAN), has become an Special Project of IYA2009. TWAN creates wide-angle images of the night sky in important natural and historic settings around the world, dramatically demonstrating the universal nature and appeal of the night sky. “Astronomers Without Borders” is also a leader of the 100 Hours of Astronomy IYA2009 Global Cornerstone Project.

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We all have the same reaction to a view of the night sky when we are away from city lights. Something basic draws our gaze upward. It is the same wherever or whoever we are. This universal fascination with the stars connects us all in a way no other science can.

Astronomers Without Borders (AWB, <http://www.astronomerswithoutborders.org>) draws on this shared interest to connect astronomy enthusiasts worldwide. It’s an approach I’ve seen work first-hand through travel to distant countries and via email with contacts in many more. When I give presentations about astronomy in other countries to amateur astronomy groups I get more questions about the people and their culture than the ways they practice astronomy. In isolated countries a connection with fellow astronomers in developed countries can have a dramatic effect as well, sometimes resulting in government and other support.

Those in developed countries are always eager to share the tools of their passion with those in need. A plea for surplus instruments for the Amateur Astronomers Association of Kurdistan in northern Iraq –a group I visited in 2006 while working on an article for a magazine– produced 150 pounds of equipment for me to take along. Several additional surplus telescopes were offered, which inspired AWB’s *Sharing Telescopes and Resources* (STAR) program, one of several projects managed, assisted or planned by AWB. Telescope donors are plentiful but the need will always be greater. When funds become available for shipping, or a shipping company agrees to sponsor the program, the project will be launched in earnest. In the meantime, AWB has expedited direct connections between donors and recipients. STAR is also developing telescope kits that can be donated by Western astronomy clubs and sent around the world more cheaply, with plans for finishing the telescope using readily available local materials for the largest or heaviest non-technical parts.

Such contributions abroad can reap great returns. Amateur astronomy clubs in most of the developing world emphasize education over private observing, sharing their enthusiasm and knowledge with others. Einstein's Mind Lesotho conducts myriad programs in schools in their poor South African nation and has support for ambitious plans that would be the envy of any Western country. For AAAK in Iraqi Kurdistan, the donations not only initiated school and public observing programs but the government has recognised their activities and provided a meeting place and other resources, which in turn has built their reputation and their ability to do even more. A connection with the West can sometimes bring recognition and opportunities in an upward spiral begun by a simple and (from a Western perspective) seemingly insignificant contact.

But there is more to be gained from distant contact the Internet now makes possible. The idea of bringing people together through a common interest in astronomy –and sharing telescopes as a result– has given rise to new ideas that have become the larger vision for *Astronomers Without Borders*. The Internet offers the potential for a global “club” of enthusiasts, and the AWB web site provides the necessary meeting place and tools. A growing array of projects (“club” activities) provides opportunities for participation. The AWB web site (the “club” meeting place) offers forums and special programs.

The foundation of *Astronomers Without Borders* is the network of member organisations of all types (“Affiliates”). A searchable database of Affiliates worldwide allows interested groups to find and contact others based on activities, interests or geography. This compares to one of the most important functions of any club –the socialising that takes place in meeting places and coffee shops across the country before and after club meetings. This open sharing can now be extended to groups with shared interests worldwide. The response so far has been tremendous.

Affiliates include organisations in astronomy, space science and international scientific exchange –astronomy clubs, magazines, advocacy groups and others. Affiliates serve as the gateways for their individual members interested in taking part, while AWB serves as the hub. It is these already-active groups that have demonstrated an interest in carrying out activities in their areas, have gathered enthusiasts to cooperate on programs and have the resources to participate in global projects.

The project with the highest profile to date is one that demonstrates the connection between Earth and sky in spectacular fashion. The *World at Night* (TWAN), which has been designated a *Special Project* of the International Year of Astronomy 2009, brings a team of world-renowned landscape astrophotographers together for the first time to create a unique collection of stunning wide-angle images of stars and celestial events above the world's greatest natural, cultural and historic sites. A survey of significant sites is underway, with priority given to UNESCO's 851 World Heritage Sites. About 100 will eventually be chosen but many other sites that are personal favorites of team members are also included. TWAN was conceived by Babak Tafreshi, a well-known landscape astrophotographer and science journalist in Iran, who inaugurated the project under the AWB umbrella. The photographers Tafreshi has invited to join the effort are widely published in print and online media, focusing primarily on this astrophotography specialty. All continents are represented but many important sites remain remote, distant or closed to the public and individual photographers. TWAN will assist photographers in extending their reach to these sites and support travel to prime many candidate sites. Exhibitions of these images have been held in more than 30 countries so far along with workshops for amateur astrophotographers. Contests based on TWAN-style photography have been held and AWB's forum will feature TWAN photographers helping others around the world who want to learn this specialty.

Translating enthusiasm for AWB's concept into reality will be given a boost in 2009 from Galileo Galilei. The International Year of Astronomy 2009 (IYA2009) will celebrate the 400th anniversary of Galileo's pointing a telescope to the sky for the first time. Led by the International Astronomical Union and UNESCO, the year-long initiative will convey the importance of astronomy and its impact on our daily lives to the public worldwide. IYA2009 has a broad array of projects and activities planned, and AWB has been designated as an Organisational Node, making it a partner in this unprecedented effort. AWB works through its network of Affiliates to extend IYA2009's educational programs to new locations. AWB has a lead rôle in the *100 Hours of Astronomy* Cornerstone Project of IYA2009 (100HA) and will continue several of that project's offerings through 2009 and beyond.

The Internet is utilised in other innovative programs that are now being planned and tested. A network of schools using remotely-operated telescopes, bringing together students from around the world, is an extension of a program of remote observing offered during 100HA. Gathered in their classrooms during daytime school hours, students will connect with telescopes in darkness in other parts of the world. Observations and experiences will be shared in a worldwide community of schools with common objectives. There are many remotely operated telescopes available and some networks already created so this program would focus on the educational component, overlaying and managing an educational program that serves the AWB mission of connecting people across borders.

Even more direct contact will be fostered by a program of astro-tourism international tours with a focus on countries with dark skies and fellow astronomy enthusiasts to interact with. This program is similar to many other types of guided travel already popular including travel to solar eclipse paths, wildlife tours and other eco- and adventure travel. In this case the dark sky is the primary attraction, and a new sky when traveling far north or south. The element of visiting and sharing with other astronomy enthusiasts who host the travelers is new. Some countries have existing astronomy camps far from city lights in areas that are already popular travel destinations. While the expense and rigors of international travel will always limit participation in this program, the relationships and understanding that result are invaluable, and a cadre of advocates sharing across borders will be one lasting result.

The *24-hour Global Star Party* organised by AWB, *Sidewalk Astronomers* and *International Sidewalk Astronomy Night* for 100HA is an unprecedented worldwide effort at public outreach. AWB continues this program with interaction between astronomy clubs to reinforce the sense of a global star party rather than many separate events. Connected by live chat, image uploads and live streaming video, observers can take part from any location where an Internet connection exists. As new technologies become available and spread, programs like this will become more accessible despite the persistence of political and other borders.

Astronomers Without Borders is not the only astronomy or science program with an international reach. What differentiates *Astronomers Without Borders* is the focus on sharing –connection, interaction and collaboration. The goal is not necessarily to directly educate people about astronomy or recruit them to the field, as so many other good organisations already do. AWB programs instead focus on bringing members of the AWB worldwide community together to share resources. In the end, this sharing of resources improves education and outreach in all regions, and even turns some local visions into global realities. It also brings together previously isolated world citizens –in both East and West, developed countries and developing– to learn about each other through the sharing of a common interest. This awakening of understanding creates sympathy, and the new relationships personalise people and places that were previously anonymous.

As much as the shared science, materials and techniques, these interactions also bring new knowledge of people from beyond our own borders and the many things we have in common beyond astronomy.

For city dwellers, a first night under the stars at a dark site can be an awakening to the wonders of the Universe that lie above us every day. The wonders of distant lands have also remained unseen and unnoticed by all but the most avid travelers. In both cases, the lack of awareness is unnecessary. Modern technology has separated many people from the night sky of our ancestors. But technology has also given us the tools to discover lands and peoples our ancestors never knew. Our primal connection with the night sky, together with modern technology, can now bring us together, meeting beneath the stars we all share.