



## US IYA 2009 Momentum Grows with House Resolution, Prototype of Image Exhibition

*Douglas Isbell*

Planning for the International Year of Astronomy (IYA) 2009 (IYA2009) received a wonderful boost in recognition on 9 July 2008 when the US House of Representatives passed a resolution (H. Con. Res. 375) honoring the goals of the pending international year.

Introduced by Representative Gabrielle Giffords (D-8<sup>th</sup>, AZ), the resolution highlights the “profound implications” of astronomy for “science, philosophy, culture, and our general conception of our place in the Universe.” It also cites the “many creative programs and activities” planned for IYA 2009, which are “strongly supported by the staff, missions and observatories of the National Science Foundation and the National Aeronautics and Space Administration,” and it notes astronomy’s critical roles in education and economics.

The specific “resolved” bullets in the text state that Congress honors the goals of IYA2009 and encourages the public to participate in the celebrations. Giffords supported the bill on the House floor with an inspiring verbal statement, which followed eloquent speeches about the themes and goals of IYA 2009 by Representative Tom Feeney (R-24<sup>th</sup>, FL) and Representative Nick Lampson (D-22<sup>nd</sup>, TX).

We hope and expect the resolution will now move on to the US Senate, thanks to the continuing excellent background work on this issue



by American Astronomical Society (AAS) Policy Fellow Marcos Huerta.

Giffords’ district is located in the area in and around Tucson, Arizona, the home of numerous observatories and astronomers, along with the US point of contact for IYA 2009, the US program director for IYA 2009, and the leader of both the US and international dark-skies awareness theme for the year (all based at NOAO), so we anticipate more activity with her office and other local representatives.

To follow further progress, and see C-Span video of the House resolution floor speeches, check out the AAS Public Policy Blog by Marcos at [blog.aas.org](http://blog.aas.org).

Another US-led IYA 2009 cornerstone project, the image exhibition titled “From Earth to the Universe,” underwent a successful trial run in Liverpool, England, from June 7-29, outdoors at the Albert Dock. Read the full report by cornerstone co-leaders Kim Arcand and Megan Watzke of the Chandra Science Center at the Chandra blog, [chandra.harvard.edu/blog/node/77](http://chandra.harvard.edu/blog/node/77).

For more information on the exhibit and how to go about hosting it in your town, see [www.fromearthtotheuniverse.org](http://www.fromearthtotheuniverse.org).

## Another Successful Horse Camp on Kitt Peak; KOHN Show Debuts

More than 35 kids and a dozen adults attended the Sells Boys & Girls Club summer horse camp from June 20-22 at the picnic grounds on Kitt Peak.

The purpose of the horse camp is to help Tohono O’odham kids reconnect with their heritage, broaden their horizons, and reinforce the community values of the Tohono O’odham culture. Kitt Peak is an ideal environment for the camp, according to lead organizer Silas “Si” Johnson Jr., especially since it is so much cooler than the desert floor at this time of year.

Kitt Peak National Observatory (KPNO) supported the horse camp for the second year in a row by preparing the site, covering food costs, providing EMT support, and taking numerous photos that



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### *Horse Camp on Kitt Peak continued*

were shared with horse camp leaders. The first night of the camp included a star party with small telescopes provided by two NOAO staff members, two students from the KPNO Research Experiences for Undergraduates program, and dedicated volunteers from the Tucson Amateur Astronomy Association and NOAO's Project ASTRO program.

Some audio soundbites from several excited kids and adults at the camp were featured on the first edition of a new NOAO-produced, 30-minute monthly radio show on the main station in Sells, KOHN 91.9 FM, called "Clear Skies Over Kitt Peak." The first show also included an interview with KPNO Director Buell Jannuzi, and guidance from NOAO outreach scientist Katy Garmany on what to see in the night sky in July. 



Images: S. Kennedy and NOAO/AURA/NSF

## CADIAS Participates in Show of Integrated Arts in Argentina

*David Orellana*

The Centro de Apoyo a la Didáctica de la Astronomía (CADIAS) was invited to participate in a cultural show for the public in the city of Córdoba, Argentina, with the theme "Capital of Ocean and Stars."

The show consisted of artistic and cultural expressions, using a public space in the Paseo del Buen Pastor in the city center. This activity was organized and coordinated by the Council of Culture and Arts of Coquimbo, the Municipality of La Serena, and the Regional Government of Coquimbo, with the support of the Province of Córdoba and the Chilean Consulate in Argentina. The week-long event was inaugurated on June 19 with the participation of several important Chilean and Argentine authorities (figure 1), such as the Chilean Culture Minister, Córdoba's Secretary of Culture, and the Mayor of La Serena.

The show mounted by CADIAS was a success because of the well-coordinated sequence of activities and promotion done by the Chilean and Argentine authorities, and the great interest of teachers, school kids and general public in the astronomical activities proposed by the outreach team. The CADIAS presentation began with a description of the programs of CADIAS and the observatories of NOAO South, including SOAR and Gemini, as well as information on the University of La Serena and the Light Pollution Prevention Office (OPCC). The most popular elements of the show were the mobile planetarium sessions, and the use of a Meade LX200 telescope. The CADIAS booth included astronomy books from the



Córdoba Secretary of Cultura José García, La Serena Mayor Raúl Saldívar, Chilean Minister of Culture Paulina Urrutía, and David Orellana, director of CADIAS, at the opening day of the cultural show.

CADIAS library, and three exhibition panels with information about CTIO, CADIAS, and the International Year of Astronomy 2009, in which Chile will be an active participant.

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*CADIAS Participates in Show of Integrated Arts in Argentina continued*

During the week of the exhibition, the show was visited by more than 20,000 people, all of whom had the chance to receive information about the programs developed by NOAO and its partners around the globe, and to learn a little bit more about the Universe.

CADIAS is a community science center and Internet-connected library in Altovalso, Chile, located 14 kilometers east of La Serena. CADIAS is funded primarily by NOAO and Gemini, and receives additional support from the University of La Serena, the local city government, and the European Southern Observatory. 



Students in Córdoba prepare to enter the mobile planetarium.



CADIAS Director David Orellana speaks to some young attendees about the observatories of northern Chile  
Photos credit: D. Munizaga and NOAO/AURA/NSF

## A Research Adventure for Tucson Educators

*Eric Hooper (University of Wisconsin-Madison)*

**E**ver watch a science show on television—whether it’s about space flight, dolphins, or volcanoes— and think, “Wow, I’d like to do that!”

Now imagine non-astronomers thinking the same about our field. While the public may enjoy many illuminating astronomy talks and striking images on Web pages, opportunities to actively engage in research at any level are rare, and can be challenging to execute in a meaningful way. Hence, we all jumped at a good opportunity to involve Tucson educators in a WIYN research observing project.

Three Girl Scouts of the USA leaders and Tucson Unified School District (TUSD) teachers with strong bents for science education joined astronomers for two nights of observing on the WIYN 0.9-meter telescope. Carolyn Hollis (Girl Scouts, TUSD), Susan Hollis (Girl Scouts, TUSD), and Samantha Sims (TUSD) dove into all aspects of observing a set of quasars with the S2KB imager, working closely with me. Simultaneously, University of Wisconsin astronomer Marsha Wolf observed the same objects using Sparsepak and the Bench Spectrograph on the WIYN 3.5-meter telescope.

Everyone was kept busy helping to fill the Dewar, typing in coordinates, taking images, keeping a log, watching the weather, observing calibrators, collecting flats and biases, talking about the rationale for

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Color composite of images of the Veil Nebula taken with the WIYN 0.9-meter telescope, using Yomama software. Credit: E. Hooper

*A Research Adventure for Tucson Educators continued*

each step, and even starting to analyze the data. However, once the science targets were in the bag, we had a little time to exercise the instrument's 20-arcmin field of view on a few targets more visually compelling than point sources. These included nearby galaxies and nebulae—images which will find their way into classrooms and Girl Scout activities. Even minor glitches proved useful as group problem-solving exercises that can be turned into lessons.

Wolf and Kitt Peak Observing Associate Karen Butler greeted the educators at the WIYN 3.5-meter during their afternoon calibrations and explained the other part of the science project. "We're studying quasars and the galaxies in which they live using a spectrograph that can look at the various parts of the system simultaneously," explained Wolf. However, she pointed out that given the way she has to use the instrument, she can't calibrate the brightness of the variable quasar component. The educators and I had the job of making this calibration with the other telescope.

"To be immersed in this setting, and having time to talk about the educational issues and the kids and getting it across ... I am so charged up!" exclaimed Carolyn Hollis. We started discussing educational applications with the natural inclination of astronomers to explore data quantitatively, from altering display parameters, to measuring the sky background, and even some simple photometry of the target quasars. We used the Yale Observatory iMAge Manipulation Application (Yomama), a simple but powerful image display and analysis program written expressly for educational applications by David Goldberg (now at Drexel University).

The educators divided these activities by level for their varied students, from 3<sup>rd</sup> graders through high school. All three educators also converged on the use of our images to convey ideas about color, from the meaning of intensity values in images of different colors and how to make a true color image, to the need for false color images to represent non-visible radiation. As nascent lessons began to take shape, Susan Hollis pointed out that "we can work with these images on our own also using Gimp, clean them up, combine them."

Manipulating digital images of stunning natural objects provides a segue into art education. Samantha Sims explained that "some of the students come in with a real fear of artistic expression, but if you give them some parameters and a platform to ease them into their creative expression, sometimes it works a lot better." To complete the loop, beautiful celestial images created by students can catalyze an interest in astronomy. Many of these ideas may find expression not only in the classroom but also in a planned national Girl Scout astronomy-themed "Destinations" program for older girls.

Several elements contributed to the success of the venture. First, the project was relatively modest in scope and straightforward in execution, which afforded an opportunity to explore and discuss in a relaxed environment, while still retaining some research urgency.

It also benefited from active and enthusiastic participants, scientists interested and experienced in education and outreach, and the help and support of staff at WIYN and Kitt Peak National Observatory, as well as the NOAO Office of Public Affairs and Educational Outreach.

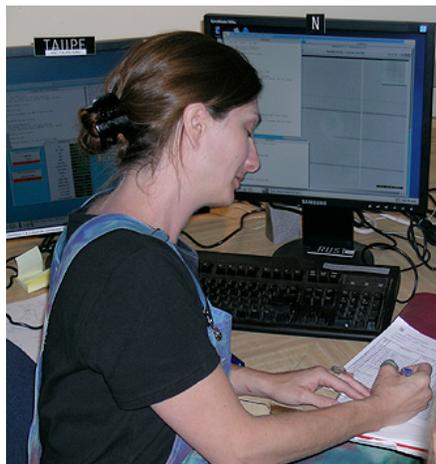
Finally, we would not have gotten off the ground without the financial and logistical support of University of Arizona astronomer Don McCarthy and his NIRCam/JWST education and outreach program for Girl Scouts, plus our University of Wisconsin-Madison collaborator and the overall principal investigator of the project, Andy Sheinis. 



Carolyn Hollis (left), in the driver's seat at the WIYN 0.9-meter, as Eric Hooper (right) looks on. Credit: S. Sims



Marsha Wolf (left) and Susan Hollis (right) filling the Dewar with liquid nitrogen. Credit: S. Sims



Tucson teacher Samantha Sims filling in the log book. Credit: E. Hooper