

PUBLIC INFORMATION & OUTREACH

DELIVERING A PUBLIC LEGACY

Peter Michaud

Gemini Observatory has come a long way from the days when the seeds of its creation were first planted by a visionary group of engineers and scientists in the mid-1980s. Today it is a world-class facility with a pre-eminent place among the world's great astronomical institutions. Such status demands a public information program to match the quality and caliber of our cutting-edge scientific research.

To meet this need, the Gemini Public Information and Outreach (PIO) effort began an expansion phase in early 1998, when the Gemini North mirror was still on its way across the Atlantic Ocean from France. My first duty as the newly hired PIO Manager was to help coordinate the video documentation of the mirror's arrival and subsequent 4-day "stroll" to the heights of Mauna Kea. Even from Oahu, some 300 miles away (where I was finishing out my previous job), I could sense the tempo of activity at Gemini was far ahead of the slow pace of the mirror's trek up Mauna Kea and I knew there were going to be lots of exciting times ahead!

The Gemini PIO effort has undergone some dramatic changes in the past six years. To summarize where the Gemini PIO Office is today we should look at some of the events that led directly to our current status.

The Second Derivative of PIO Activity goes Positive (PIO Activity Accelerates)

There are many ways to build an effective PIO effort for a major observatory, but few formulas to follow. Every facility presents its own set of challenges and opportunities, and Gemini has had more than its share of both. Fortunately, everyone from management to the

partnership recognized the importance of doing outreach and education in order to assure the long-term health of the organization.

The first step up with funding was the U.S. National Science Foundation (NSF) in 1999. It provided additional money to support the creation of such media resources as animations and images, as well as the documentation of the Gemini South mirror move from France to Chile. This funding established a model and an order of magnitude for the finances necessary to support effective PIO activities at Gemini. Ultimately the model was adopted by the entire Gemini partnership.

About the time the supplemental NSF PIO funding was nearing the end of its cycle, a management review of Gemini in 2000 recommended a "substantial increase in the PIO level of effort..." to be funded by the entire partnership as part of the ongoing Gemini operating budget. A five-year PIO expansion proposal was developed and presented to the Gemini Board in 2000 and was met with broad support. This plan provided a significant increase in the level of staffing and infrastructure available at Gemini, and resulted in the establishment of many new initiatives—ranging from local outreach and education to the continuing production of new media resources.

Today the Gemini PIO Office is in the fourth year of this expansion and has reached what some might call its operational "steady-state" phase. During the past three and a half years, staff members have been hired and many new programs initiated. We have learned a great deal about what outreach methods are effective and necessary, and ultimately what PIO initiatives work best for Gemini.

Expanding to Fill a Void

In many ways, the expansion of the Gemini PIO effort was created to fill a void that existed not due to neglect, but because it had not yet been necessary. As the Gemini telescopes on Mauna Kea and Cerro Pachón matured from construction sites to an operating observatory, the public outreach activities needed to reflect Gemini's "coming of age." Broad goals were codified in the PIO mission statement, which says (in part) that the PIO effort would "...create a public legacy of Gemini science while meeting the media relations and education needs of the Gemini partnership as well as our local, international and global communities."

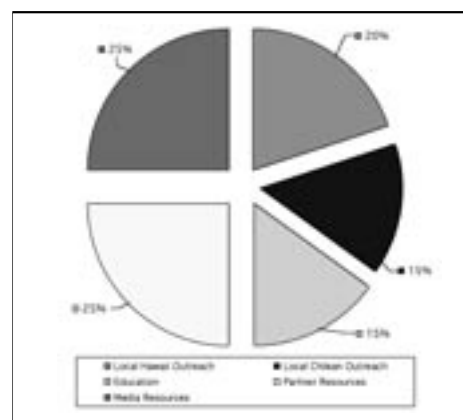


Figure 1: Approximate allocation of Gemini PIO resources.

To meet those goals, and to help develop an effective and appropriate PIO program for Gemini, four key areas of activity were identified: 1) local outreach; 2) education; 3) media relations and 4) partnership support. It was also necessary to define each of these categories as concisely and precisely as possible. Here is what emerged:

1) **Local Outreach:** sharing Gemini's science results and resources with our local communities (Chile and Hawai'i), while creating educational spin-offs;

2) **Education:** creating pedagogical knowledge, techniques and tools to more effectively share Gemini's science with all learners;

3) **Media Relations:** providing timely, accurate and relevant materials to all media, resulting in a public, long-term Gemini science legacy and;

4) **Partnership Support:** leveraging with the Gemini partnership to utilize our collective assets and provide necessary support materials.

While it is true that the distinctions between these categories may be blurry, these focal points have proved extremely useful for planning and evaluation.

In order to accomplish everything in the PIO's mandate, many milestones needed to be met. The single most important one was to define and hire the necessary qualified staff. Figure 2 shows the staffing ramp-up which is currently at our final target with the exception of the Writer/Editor position. This work is being performed (indefinitely) on a contracted

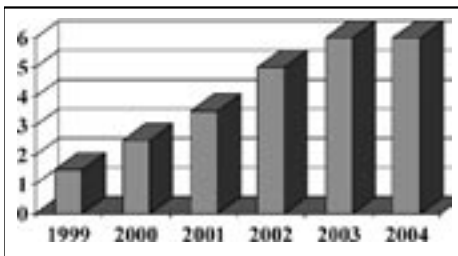


Figure 2: Ramping up of PIO staff (FTE's) over the past 6 years of growth

services basis for several reasons, including physical space limitations. The specific PIO positions currently funded and staffed include:

- PIO Manager/Press Officer
1.0 FTE
- Local Outreach/Education Specialists
2.0 FTE
- Graphic Artist/Photographer
1.0 FTE
- Writer/Editor (contracted)
1.0 FTE
- Interns/Assistants
1.0 FTE

In addition to staffing, the PIO expansion effort required a significant amount of infrastructure buildup. This included establishing appropriate office accommodations at both sites, securing key outreach equipment like several portable StarLab planetaria, and completing a graphic arts/video studio.

Concurrent with the establishment of the PIO staff and infrastructure was an extensive increase in activity in the public outreach program. This was critical to our success because it provided the foundation for our subsequent steady-state operations as well as continued growth beyond the first expansion phase.

Ramping Up PIO: Defining Outreach at Gemini

The formative years of Gemini PIO included multitudes of events and activities which are beyond the scope of this article (or the page limit of this newsletter!) To illustrate some of the key programs, milestones and initiatives which have highlighted the ramp-up period of Gemini's PIO expansion, see the montage on the opposite page.

In addition to these program highlights, other ongoing activities contribute to the overall PIO efforts, such as the editing and production of this newsletter, press release development, World-Wide-Web content, community and classroom events, and the creation of various media resources.

Ramping Up Gemini's PIO Activities

Images on the adjacent page correspond to past & current programs and initiatives described below:

- Virtual Tour* – Interactive educational CD-ROM highlights many aspects of Gemini science and technology. The kiosk version is currently installed in ten locations in Hawai'i and one in Canada.
- StarTeachers Exchange* – Initiated in 2003, this program provides an opportunity for local teachers in Gemini host communities to visit and teach in Chile and Hawai'i—another exchange is planned for 2005. (more details on pg. 8)
- Gemini South Mirror Move* – Documentation of the Gemini South mirror move from France to Chile included extensive video and still images for media and archival purposes.
- StarLab Portable Planetarium* – This Gemini "Flagship" outreach program at both Gemini North and South provides school programming and educator loan opportunity with innovative portable planetarium. (see more details on pg. 8)
- Time-lapse Documentation and Video Production* – Time-lapse photography is used to document key events like mirror coating and produce broadcast quality (including HDTV quality) video of nighttime telescope operations.
- Mauna Kea Tabloid* – With over 35,000 copies printed and distributed in a Sunday edition of the Hawai'i Tribune-Herald, this 48-page tabloid was widely acclaimed. A similar publication is being planned for Chile.
- PIO Liaison Network* – An annual meeting of Gemini partner PIO staff (one from each country) brings together to discuss issues, coordinate planning and do a little brainstorming.
- Animation Development and Production* – Custom broadcast quality animations illustrates technology like adaptive optics and astronomical phenomena such as planetary/stellar formation.
- Image Resources* – Multi-faceted initiative to produce striking images of Gemini for medial education and outreach purposes is producing large format images for a "Tools of Vision" photo show, and establishing infrastructure for the production of color astronomical images.
- Canadian Essay Contest* – Joint program (2002 & 2003) with Canadian Partner Office selected winning essays that prompted observations (imaging) by Gemini.
- Dedications/Events* – Coordination, documentation and providing public relations support for events such as both Gemini dedications and the naming of the Frederick C. Gillett Gemini North Telescope.

Ramping Up Gemini's PIO Activities



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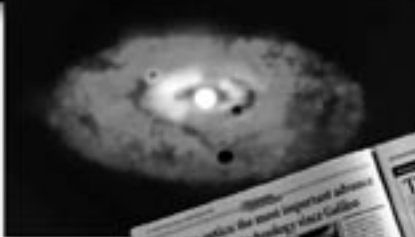
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PIO Initiatives Under Development:

- a. *Annual Science Review* – Initiated with the 2004 Gemini Science Conference in late-May 2004, an annual Gemini Science Review publication will be published which will be aimed at the informed public, educators, leaders and funding agencies. Anticipated to be ~12 pages/year, this glossy, high production value publication is expected to play a major role in establishing Gemini's public scientific legacy.
- b. *Newsletter Redesign and Expansion of Distribution* – Incorporating a new graphic design, editorial philosophy and the possibility of increasing the page-count and including all-color pages are all possibilities being explored for the Gemini Newsletter. In addition to this we continue to expand the mailing list distribution and a significant increase to the media, educators and universities is currently underway.
- c. *Gemini South Media Resources* – A new part-time position has been created at Gemini South to facilitate the documentation of activities at Gemini South and provide video to local media and to support a new initiative program on local Chilean TV focusing on astronomy.
- d & j. *Family Astro* – This NSF/Astronomical Society of the Pacific program is currently being integrated into the Gemini local outreach program in Hilo Hawai'i. The local Hawai'i Department of Education has also adopted this program (in a partnership with Gemini) for local school community engagement activities. A Spanish version is being explored for adaptation to the Gemini Chilean communities.
- e. *New Animations/Video Production* – Continuing the legacy of animation production that created the highly successful adaptive Optics animation, future animations are planned and an animation highlighting the Gemini Laser Guide Star system is currently nearing completion. In addition, HDTV video time-lapse sequences are currently under production using a technique developed by Gemini PIO staff.
- f. *Virtual Tour Translations* – With over 3 years of development and testing completed, the highly successful Gemini Virtual Tour is moving into the translation phase where it will be translated in to the primary Gemini languages (including Hawaiian) and integrated into national educational networks. Spanish translation is already well underway, see image "g".
- g. *Internships* – The expansion and formalization of internship opportunities at Gemini is being actively pursued and partnerships with local universities and institutions like the Center for Adaptive Optics are being engaged.
- h. *WWW Resources (redesign)* – The delivery of Gemini media and education resources via the WWW is being re-examined and a redesign is planned to ease navigation to all resources which could expand to include broadcast quality video and WWW adaptation of the Virtual Tour.
- i. *Partner Resources* – In addition to the continuation of the production of partner resources such as press releases, images and illustrations, new products such as conference display graphics and technology (HDTV video content, Virtual Tour kiosks etc.) are currently being assembled for use by the partnership at conferences, meetings and public spaces throughout the partnership.
- k. *PR Imaging Initiative* – While this has been under development for the past two years, we are developing plans to expand the effort, using contracted services to assure a continuous and greater level of activity in Gemini's astronomical PR imaging.
- l. *Journey Through the Universe* – Joint Gemini/Keck/NASA(Challenger Center)/Hawai'i Department of Education partnership which will involve 130 local Hawai'i teachers in training, workshops, one week of extensive community programming, and a long-term 5-year teacher commitment to the program. Only 4 new communities are selected each year.

The combination of these efforts and the programs described on pg. 4 brings us to where we are today and will take us into the future.

Looking to the Future

The five-year ramp-up of the Gemini PIO effort is currently midway through its fourth year, with one more year to go before the official end of this phase. We are in an experimental stage of testing, evaluating, and assessing programs for possible integrating into the long-term Gemini PIO program. This will continue into 2005, when we will determine which efforts should continue, undergo modification, or be dropped. Key programmatic elements and categories of effort will undergo a thorough review at the end of year five as we exit this phase of

growth and move on to the next, and all of the PIO activities (current and planned) will be subject to ongoing review.

The current expansion of the Gemini PIO effort is not designed to simply establish a "steady-state" status at the end of 2005. As in astronomy, such a model is not a viable way to operate in the rapidly changing confluence of astronomy, education and the media. Instead, we anticipate the end of our current expansion will begin a continuous evaluation of our needs and exploration of opportunities for the future.

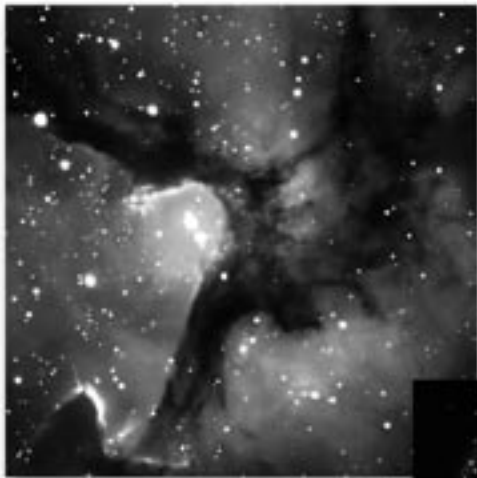
Seeking the continued extension of resources and funding options will be an ongoing part of our efforts. We anticipate that a long-term expansion of outreach capabilities at Gemini South

will be an important part of the Gemini PIO effort to better match the level of activity currently established at Gemini North. Expansion at Gemini South will undoubtedly present different needs and influences than the Gemini North effort. However, the staggered approach of developing key programs at Gemini North first will result in a smoother integration at Gemini South during the next phase of the outreach/education expansion.

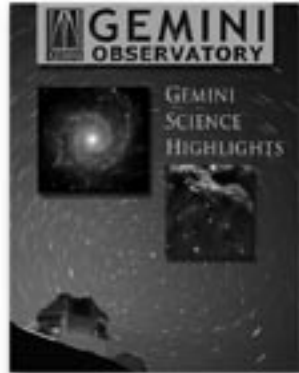
As we look toward the future for Gemini PIO, the following principles will help to steer our work:

- 1) to utilize appropriate technologies to disseminate resources effectively and globally;

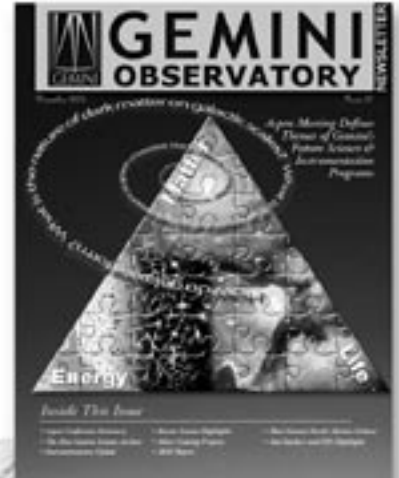
PIO Initiatives Under Development



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2) to network with a broad base of professional communities and participate in local, national and international conferences and meetings;

3) to share resources and knowledge freely;

4) to be prepared for opportunities, new partnerships and change.

In moving beyond the initial PIO expansion period, it is important to understand that our ultimate goal is to establish a legacy of Gemini's scientific impact by promoting our results within

the broad international community. This is a long-term commitment and most of the effort we've made until now has served to lay the foundation. The work of creating a global legacy is just beginning for the Gemini PIO program.

Focus on Local Outreach

StarLab and StarTeachers Programs

Two of Gemini's flagship local outreach programs are the StarLab portable planetaria and the StarTeachers exchange program. Both of these programs have been extremely successful on many levels as indicated by the highlights that follow:

StarLab – Taking Gemini's Science to our Communities and Classrooms

Utilizing the popular StarLab portable planetarium system, Gemini has successfully delivered the science and excitement of astronomy to local classrooms in our host communities. The success of this program has resulted in significant growth and outside support for this program and allowed us to increase the variety of programming offered.

As a key local outreach program that is mirrored both in Hawai'i and Chile, Gemini's StarLab program operates differently in each location due to differences in geography, educational systems and outside partnerships.

StarLab – Chile

- Partnership with CTIO RedLaser for effective leveraging and staffing
- Focus on La Serena region
- Includes well-developed teacher training/loan program
- "StarLab II" donated by US StarLab manufacturer (Learning Technologies, Inc.) for remote rural programs in communities surrounding Cerro Tololo/Pachón



StarLab Chile
2003 Attendance: 17,562

StarLab – Hawai'i

- Staffed by Gemini outreach staff/interns
- Focus on East Hawai'i (Big Island)
- Teacher training/loan program initiated in 2003 - 53 teachers trained by end of 2003
- 2003 expansion of program to include W.M. Keck Observatory and University of Hawai'i at Hilo to broaden programmatic and geographical reach



StarLab Hawai'i
2003 Attendance: 6,116

StarTeachers – Taking our Community's Teachers to New Heights!

The StarTeachers exchange program was initiated in 2003 as a pilot project to explore the pedagogical impact of videoconferencing technology on students and educators. The program's success has prompted a second exchange of teachers between Chile and Hawai'i planned for 2005. See the Gemini Newsletter #27 for more details on this program.



Highlights from the 2003 StarTeachers program:

- 6 participating teachers (3 from Hawai'i, 3 from Chile)
- Over 7,900 students visited
- 30% increase in school astronomy club attendance (Chile)
- Gabriela Mistral Medal Awarded
- Teacher workshops involving 420 Chile/Hawai'i teachers
- 1,700 lei made by students and delivered to Chile
- Over 50 lesson plans delivered to Chile
- Multiple follow-up workshops
- Successful experimental tests demonstrating the educational use of videoconferencing
- Positive community involvement



Chile's Gabriela Mistral Medal (above right) awarded on behalf of the Gemini StarTeachers from the Chilean Ministry of Education. This is the first time it has been presented outside of Chile. StarTeachers and staff prior to visiting Mauna Kea (above left).