Director's Office

The First Hundred Days

Jeremy Mould

First impressions are often lasting ones, and since arriving in La Serena in January and Tucson in February, I've had the opportunity to meet all of the National Observatory's staff. As it happens, I also had a chance at the end of last year to take a comprehensive tour of the European Southern Observatory with their Visiting Committee. I'm struck by the similarity between the missions of NOAO and ESO, our common opportunities and problems, as well as the evident enthusiasm amongst both staffs for an aggressive approach to the future.

ESO is proud of the efficiency of the Very Large Telescope (VLT), wondering about second-generation instruments, adding a 4-meter telescope to Paranal, trying to cross the bridge to its new millimeter astronomy project, and thinking its way toward an "overwhelmingly" large telescope. NOAO is adding locomotive power to Gemini to help the US public system catch the VLT while delivering first-generation instruments like GNIRS, adding SOAR to Cerro Pachón, entering the unfamiliar data landscape of the virtual observatory, and starting its Giant Segmented Mirror Telescope project.

For both observatories, partnerships with institutions in their communities are a vital part of their overall research capability. As I emphasized recently to the AURA Member Representatives, effective partnerships like WIYN and SOAR serve as fine models for future telescopes in the US system.

Communicating What We Do & Why

Observing our colleagues, we see a variety of approaches to public interest in astronomy. Some of us have a flair for publicity; others tend to share their research with the professional community only. Whatever our instincts may be, astronomy benefits enormously from public interest, and from news media attention that often feeds this public interest. Indeed, it's hard to know whether the major return on taxpayer investment in astronomy is realized in school classrooms, in the development of new technology, or in the broadest social awareness that science can be a driver of positive change.

None of these benefits is realized, however, if we go no further than *astro-ph* with the results of our research. We need to communicate discoveries and advances of every kind to a wider audience. NOAO is better able to assist its users with that communication through our newly reorganized Public Affairs and Educational Outreach Office. Doug Isbell and his staff are ready to work with you and your university news office to get the word out about research progress made using NOAO facilities or expertise.

We have good linkages with the outreach efforts at the Space Telescope Science Institute and Gemini, and Doug participated in many successful joint efforts with STScI's Office of Public Outreach during his previous position in NASA Public Affairs. The National Science Foundation is no less eager than NASA to highlight the research that it funds or supports through NOAO. Doug is a regular attendee at each AAS meeting, and I encourage you to contact him at: *disbell@noao.edu* if you want to discuss any advance planning or news connected to NOAO.

Implementing the Decadal Survey

AURA's annual general meeting of member representatives took place in Tucson in April. The meeting featured a number of discussion groups, including a multifaceted one about the best ways to advocate the Decadal Survey. There is much to be done to translate priorities and strategies into a real plan.

continued

Implementing continued

One good way to "read NSF's mind" on ground-based optical/infrared facilities is to look at: *www.nsf.gov/pubs/2001/nsf0180/nsf0180.htm#DESC*. This document is NSF's solicitation of proposals for the future management and operations of NOAO, and it clearly states a role for the National Observatory in planning for the Large Synoptic Survey Telescope, the Giant Segmented Mirror Telescope, and an O/IR ground-based node of the National Virtual Observatory. NOAO looks forward to working with many capable partners in planning and design work, and we're facilitating broad community involvement through events like the LSST workshop, whose report is now available on-line through the NOAO home page.

FRED GILLETT: INFRARED ASTRONOMY PIONEER

International Gemini Observatory Project Scientist Dr. Fred Gillett died April 22 at the University of Washington Medical Center in Seattle at the age of 64, following a months-long battle with a rare bone marrow disorder.

Known throughout his career as an effective consensus-builder, Fred was an early advocate for optimizing the twin Gemini telescopes to focus on infrared science.

"Over the years, I relied greatly on Fred's rigor, quiet wisdom, and friendship to guide us through many difficult times on Gemini," said Gemini Director Matt Mountain. "Fred will be greatly missed by all of us. He has left a great void in our hearts and at our Observatory."

"Fred played a key role in the Gemini project from inception to completion," said Sidney Wolff of NOAO, the first director of the project. "He was the one who persuaded the astronomical community that infrared-optimized telescopes should be a top scientific priority. Then he carried out the detailed calculations that showed how to build them."

Before taking on the project scientist position in December 1994, Fred was the Associate US Gemini Project Scientist in the US Gemini Project Office in Tucson. Prior to that, he was a staff member at NOAO

and Kitt Peak National Observatory from 1973 to 1989, including a period as acting director of Kitt Peak. During the 1970s, he led the effort to develop state-of-the-art infrared detectors and instrumentation at KPNO and to optimize the performance of Kitt Peak's telescopes in the infrared.

His scientific contributions in thermal infrared research included studies of Saturn, Uranus, and Neptune; observations of the center of the Milky Way; and observations of star forming regions in the Galaxy. "He was a member of a small group who created infrared astronomy as a science," said NOAO staff member Michael Merrill.

Fred also was active in space-based astronomy. He received NASA's Exceptional Scientific Achievement Medal in 1984 for his work on the Infrared Astronomy Satellite.

He is survived by his wife Marian; his children Nancy Richardson, Michael Gillett, and Danuta Gessner, and five grandchildren. A memorial service, held in Tucson on April 28, was well-attended by NOAO staff.

A memorial scientific meeting is being planned for 11-13 April 2002, and the SOC is already at work.

Ad astra, Fred.

Science with LSST: Report Now Available

Todd Boroson

On 17-19 November 2000 a workshop titled "Science with the Large-aperture Synoptic Survey Telescope" was held in Tucson. This workshop, attended by 55 astronomers, was aimed at developing the performance and operations requirement for LSST, a wide-field-of-view facility that will repeatedly image the entire visible sky to substantial depth, opening up the time domain for studies of moving, transient, and variable objects. Potential LSST science from four types of objects/observations were considered: (1) objects in the solar system moving at non-sidereal rates, (2) transient or variable objects, (3) whole sky imaging, and (4) ultra-deep imaging. Strategies for several scientific projects in each of these areas were explored, and the resulting requirements and goals were compared to better understand how the single facility could be designed, constructed, and operated to achieve an optimum mix of this science.

The report from this workshop is now available as a pdf file on the NOAO Web site at: *www.noao.edu/gateway/lsst_workshop/report.pdf.* The report includes summaries of the presentations given at the workshop, a discussion of the outcome of the deliberations of the four groups, and a list of issues and concerns for further study. Appendices include the list of participants, agenda of the workshop, and viewgraphs of the presentations.

Notable Quotes

"Should one federal agency get sole custody of the Universe?"

-- Opening sentence of an April 26 *Washington Post* story by reporter Kathy Sawyer on the new national blue-ribbon panel charged with studying the balance of ground-based astronomy funding between NSF and NASA. Chaired by retired Lockheed Martin Corp. executive Norman R. Augustine, the committee's report is due on September 1.

"A telescope lacking good instrumentation is like a person without all their senses."

- NOAO Director Jeremy Mould, discussing the challenges of future large telescopes, during a late March telephone interview with the *Chronicle of Higher Education.*

"We are simply dumbfounded. The 12-meter telescope is very valuable to US astronomy and is likely to remain so for many years to come. We will continue our efforts to keep it going."

-- Comments from Steward Observatory Director Peter Strittmatter in an April 24 press release from the University of Arizona regarding a decision by the National Science Foundation to decline funding requested by UA and the University of Massachusetts to continue operation of the 12-meter radio telescope on Kitt Peak.

"NSF stands for 'Not Sufficient Funds.'"

-- Rep. Sherwood Boehlert (R-NY), Chairman of the House Science Committee, at an April 25 committee hearing on the FY 2002 budget requests for NASA, NSF, NOAA, and DOE's Office of Science. Boehlert pledged to work with his colleagues in Congress and the Bush Administration to increase funding levels beyond the requests for all of the agencies.

Have you seen an interesting comment in the news or heard one during a NOAO-related meeting or workshop? *Please share them with the Newsletter Editor at: editor@noao.edu.*

NOAO-Gemini New Initiatives Office

Steve Strom

The joint NOAO-Gemini New Initiatives Office (NIO) has hit the ground running with its work on the Giant Segmented Mirror Telescope, with the goal of completing its initial analysis of an engineering point design by October.

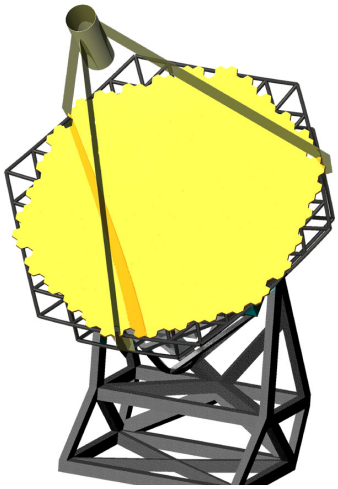
October 2001 is also the target date to publish a summary of an early look at GSMT science requirements, derived from community-based science cases, several concept-level instrument designs, and the point design.

At that point, NIO plans to work intensively with the community to fund community-based studies of instrument and alternative systems concepts, to develop a detailed science-to-requirements flow, and to initiate a partnership that will carry out a Preliminary Design for the GSMT, while continuing vigorous in-house engineering studies.

NIO activities will receive $4 million in funding across FY 2001 and 2002. Current plans call for an investment of $15 million as our share of the Preliminary Design effort. We regard this investment as critical to ensuring deep community involvement in GSMT at all stages of its development, from early design activity through the beginning of operations in the next decade.

We also intend to maintain open lines of communication with ongoing extremely large telescope projects both in the US and abroad, focusing on complementary activities that will enable all of us to achieve our collective goal of a publicly accessible GSMT more rapidly and economically.

The charter of the New Initiatives Office is to ensure broad US community access to an extremely large ground-based telescope with capabilities beyond any existing facility, as recommended in the May 2000 report of the Astronomy and Astrophysics Survey Committee. The NIO reports to the AURA Board through the AURA President, guided by a Management Board consisting of NOAO Director Jeremy Mould, Gemini Director Matt Mountain, and AURA President Bill Smith, and a community steering committee comprised of senior astronomers and engineers.



The Point Design for the GSMT. This point design serves as a strawman to help define requirements and identify key technical issues.

Project Scientist Steve Strom has overall responsibility for the scientific goals of the NIO and will be the principal contact for interactions with the community. Systems Scientist Brooke Gregory provides scientific guidance to the technical studies and will lead the effort to define performance requirements based on the scientific goals. Program Manager Larry Stepp manages the technical studies and controls the schedule and budget. Alistair Walker manages the site assessment activity.

Staff members assigned to the NIO will report to the Program Manager, but will remain members of the technical staff of either Gemini or NOAO, who will provide capital equipment, software, etc. as required.

For more on GSMT as it develops, watch the new section of the NOAO home page, "Developing The Future," at: *www.noao.edu/future/gsmt.html*.