

Internal NOAO memorandum**From: George Jacoby****To: NOAO Scientific Staff****Subject: NOAO Office of Science: Program Scope And Implementation Plan**

Introduction

NOAO Director Dave Silva has requested that NOAO form a centralized Office of Science (OS). The motivations for creating the OS include:

1. Reduce the number of independent people involved in managing science activities (scope of activity described below), thereby improving efficiency
2. Reduce the number of direct reports to the NOAO Director
3. Provide a more consistent approach to common activities in the North and South
4. Enhance the visibility of science at NOAO, internally at NOAO and AURA, and externally to community scientists.

The Office of Science is intended to be an umbrella for (mostly) existing activities. Consequently, the proposed changes are largely structural in terms of reporting, rather than in terms of day-to-day activities. There are, however, a few new roles that the OS is expected to fulfill if resources are available.

If successful, the OS will achieve the following goals to enhance the work environment of the scientific staff:

1. On behalf of the NOAO and community scientists, be a representative to the NOAO Director for enhancing scientific productivity.
2. Provide support for research activities by NOAO scientists, including funding, NOAO telescope time, and mentoring (especially for post-docs and early career scientists).
3. Establish stronger ties to community scientists.
4. Improve the visibility of the scientific accomplishments at NOAO, by NOAO scientists and community scientists using NOAO facilities.
5. Facilitate timely resolution and improve transparency of the promotion, tenure, and hiring processes.

There exist several models in the community for an OS, such as the NRAO Office of Science and Academic Affairs, and the ESO Directorate of Science (see Appendices A and B), that offer encouraging evidence that these goals can be achieved.

The responsibilities of the proposed OS can be grouped into 5 categories: Telescope Access, Promotion and Tenure, Research Development, Community Development, and Education and Public Outreach (E/PO). A graphic representation of these 5 branches and their potential roles is included in this report. The next 5 sections briefly describe these roles, but the ultimate implementation and structure is still open to discussion and revision.

Summary of Activities by Category

1. Telescope Access

Telescope Access is currently managed by Letizia Stanghellini. Letizia will be taking a sabbatical in calendar 2009. Dave De Young and Todd Boroson have agreed to serve in her absence for the Spring and Fall 2009 cycles, respectively.

NOAO provides access to its own KPNO and CTIO facilities, and via the TSIP program, another few telescopes (e.g., Keck, Magellan, MMT, Subaru). NOAO also serves as the conduit for the US Gemini time allocation. To serve this role, NOAO organizes the proposal solicitation and review process for all of these facilities, with panel meetings held at the Tucson headquarters twice a year. The activities for this responsibility are well documented by Letizia; a short summary follows:

1. call for proposals every 6 months
2. recruit panelists to fill vacated slots, and panel chairs for 7 panels
3. revise web sites to:
 - a. disseminate the available capabilities of each facility
 - b. provide templates for telescope proposals
 - c. provide tools for proposal development and collection
 - d. collect grades from panelists
4. sort and distribute proposals to panels, each with ~6 panelists
5. organize technical reviews to assess proposal feasibility
6. organize panel meetings, and provide the logistical support (travel, lodging, meals)
7. manage the meeting process to ensure that all panels complete their assignments on time
8. arrange for the merging TAC meeting and DD meetings
9. prepare ranked lists of proposals for each facility, and distribute to facility centers for scheduling, working iteratively to match proposal requirements to facility constraints
10. write and distribute letters to each proposer, along with comments from the panelists
11. provide statistics for NSF, newsletter, and directors.

The primary personnel involved in the TAC process include Mia Hartman, Dave Bell, technical reviewers, and Letizia Stanghellini, the TAC organizer. Facility directors are also involved, as are several NOAO support personnel to ensure that the TACs function efficiently.

Of the 5 groups under the proposed OS, Telescope Access is the most well-defined. We are not proposing any changes, other than having the lead person report to the OS program head instead of to the NOAO Director.

2. Promotion and Tenure

P&T is currently managed by Dave De Young.

This function might better be labeled "Career Development", as NRAO does. It should be seen as a positive resource for the scientists rather than an onerous hurdle to jump over every N years (N=1-5, depending on the type of review).

NOAO currently has 47 scientists on its staff, mostly in the North. In addition, there are 2 Goldberg Fellows and a diverse group of about 6 soft money post-docs. Every tenure track scientist is required to have a formal review every 2 years, with the 4th year review being a special preparatory review for tenure readiness. Tenured astronomers are required to undergo a post-tenure review every 5 years. The policy manual is quiet about formal reviews for scientist track astronomers, however, the scientist position must be renewed every three years, so a three-year review becomes a special event. In addition, scientists, like all NOAO personnel, are required to undergo annual reviews.

AURA policy includes a number of timing requirements that must be met, for example, in a tenure review. Therefore, a successful implementation of this branch of the OS will be responsive to those timings.

The activities to fulfill this component of the OS include [note that some numbers are TBD]:

1. Tenure reviews - (there are XXX tenure track astronomers at NOAO scheduled for review in the next N years). The P&T branch of the OS is responsible for constituting a committee to process tenure applications and submit recommendations to the NOAO Director.
2. Promotions - (e.g., assistant scientist/astronomer to associate). P&T is responsible for reviewing promotion applications and submitting recommendations to the appropriate Associate Director or Program Head. The promotion review committee may be the same as the tenure review committee.
3. Post-tenure reviews – there is a backlog here of XXX tenured astronomers who are overdue for post-tenure reviews. The post-tenure review process is to be defined by the NOAO Director.
4. Scientist-track reviews – a small number of scientists effectively are tenured, and therefore should undergo a process similar to a post-tenure review
5. Provide advice via a mentoring program for scientists wishing to advance their careers, or in preparation for promotion or reviews. While all scientists are invited to participate, this program will be especially valuable for post-docs and early-career astronomers.

To successfully advance one's career, the expectations for promotion or tenure must be understood. The P&T branch will provide a set of guidelines.

The OS must also ensure that all scientists, especially members of underrepresented groups, are treated fairly relative to their peers during all reviews and/or promotions.

The personnel involved with this component of the Office include D'Andrea Williams and Cindy Burnett (and their counterparts in the South), and Jane Price, as well as the division directors.

3. Research Development

Currently, components of this branch of the OS are managed by Dave De Young in the North and the CTIO Director (currently Chris Smith). The OS program head will assume responsibility for these activities with a deputy in the South.

The charge to the RD group includes all activities that enhance the scientific output of the NOAO research staff:

1. Provide funding for scientists (SPRF), and consider special requests for travel, equipment, or personnel
2. Provide limited "seed" funding for experiments
3. Review/approve page charges
4. Support REU program, other students, Goldberg Fellows
5. Serve as advocate for scientists to do science when overloaded with functional assignments
6. Enhance the science environment (ideas welcome!)
 - a. Encourage and support science workshops
 - b. Organize internal science workshop
 - c. Form visiting scientist program (?)
 - d. Funding for data analysts (?)
 - e. Advocate for more DD telescope time allocations to encourage NOAO scientists to use NOAO facilities
 - f. Encourage projects by intra-NOAO teams, possibly large teams, especially across hemispheres
 - g. Maintain library resources
 - h. Ensure that the needed tools are available (e.g., software, computers)
 - i. Activities related to colloquia, Friday lunch talks, coffees, etc, could fall under this branch, but that is not currently planned.

The personnel involved in these activities are the division directors and program heads to whom scientists report, Goldberg Fellows, and the librarians. The post-docs that are supported by soft money are assumed to report to their funding hosts, but should consider the OS as a resource for special funding requests, opportunities for telescope time, and an office to assist with career development. The rationale for including the Goldberg Fellows here is entirely structural, providing a reporting path that is not immediate to the NOAO Director.

4. Community Development

There has been no lead individual within NOAO for the activities that fall within this branch, a condition that helped motivate the creation of the OS. Initially, the OS program head will assume responsibility for the tasks listed here.

These activities provide high level outward-looking information to the community, from interactions with the AURA Board and the Visiting Committee, to discussions with the general US community.

1. Science highlights for the NOAO Newsletter.
2. Prepare presentations for the AURA Board, NSF, other assessment committees, possibly the decadal survey panels, such as:
 - a. user statistics
 - b. publication and citations rates, and science impact
 - c. staff growth, productivity, and demographics
3. Ensure that scientific web content is accurate and up to date
 - a. list of all scientists, their titles, and their scientific interests

- b. list of major active projects being undertaken by staff members
 - c. list opportunities for post-doc, student, and other collaborations with the staff
4. Engaging the US professional community, bi-directionally – an NOAO committee prepared several recommendations that need to be evaluated (e.g., host a school for teaching observing and data reductions skills). The group needs to be reactivated.

The personnel involved include: the Newsletter team, web/IT, AURA representatives.

5. Education and Public Outreach

There are groups in the North and South performing functions related to E/PO. This branch of the OS is currently being re-focused by the NOAO Director's office and will eventually report to the program head of the OS. Steve Pompea will lead this branch.

Implementation Plan

Beginning in January 2009, branch leaders as identified above will report to the program head for their OS functions (George Jacoby will serve as interim program head for the first year as the OS matures). The graphic at the end of this narrative identifies the lead individuals in their appropriate boxes. A "deputy" will be appointed at NOAO South, who will work closely with the OS program head to ensure uniformity of policies as much as is practicable within the societal diversities of the two locations.

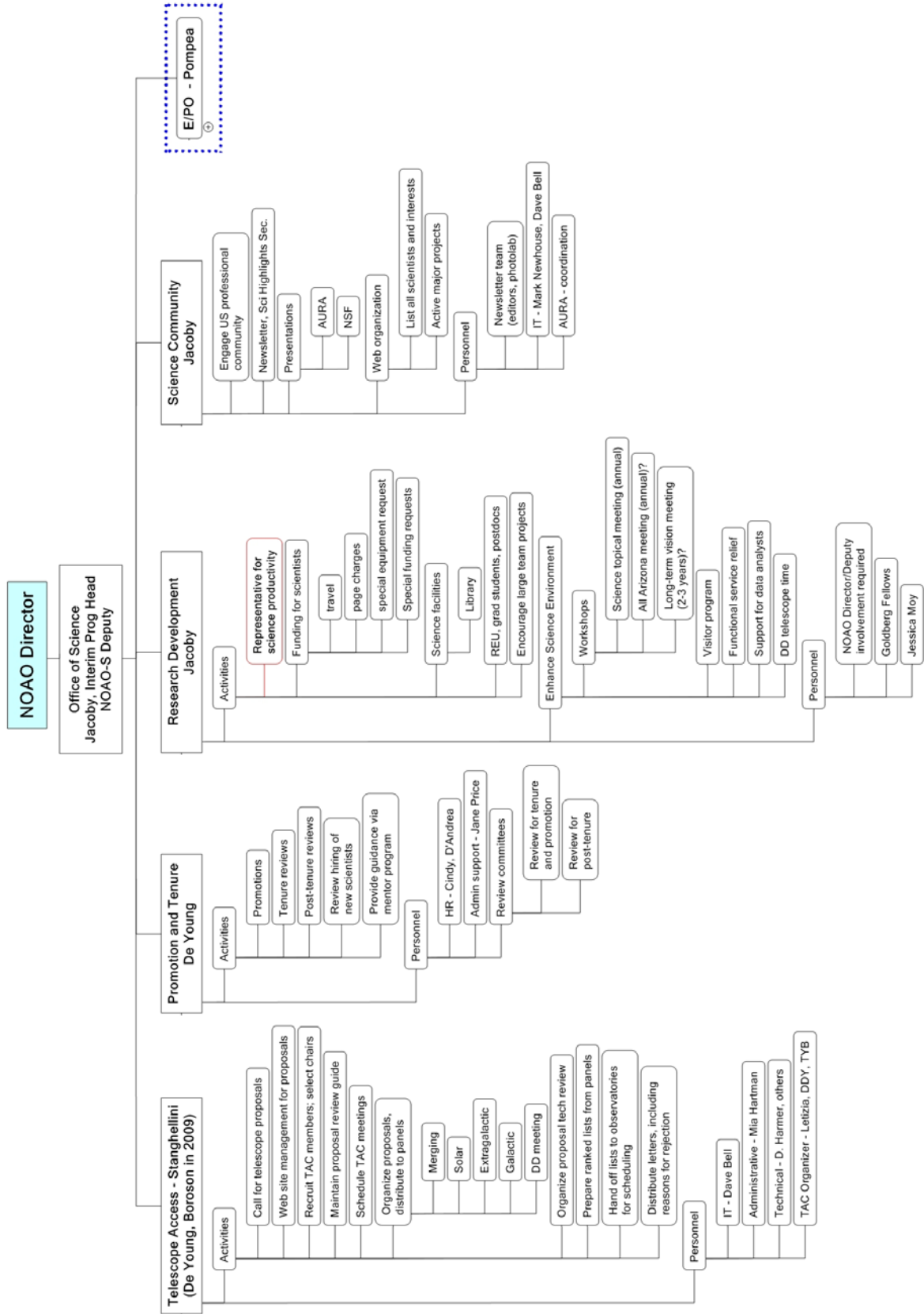
It may prove more efficient to transfer some roles from one branch to a more appropriate one as we gain experience with the structure. We prefer to minimize these changes after implementation, so scientific staff input is strongly encouraged now. After the scientific staff meeting of December 9, George will accompany Dave Silva to La Serena in late January to meet with the scientists in person for one-on-one discussions about the OS, or anything else. Meetings with scientists in the north will be scheduled throughout early 2009.

Summary Comments

The activities of the OS extend across much of NOAO and breach divisional and hemispheric boundaries. I see this as a good direction for NOAO, in order to improve communications. Both ESO and NRAO had experienced a growth of divisional boundaries over the past decade and their science offices report improvements in relations and communications after their OS implementations.

During the preparation of this document, I spoke with ESO Director Bruno Leibundgut and NRAO Assistant Director Dale Frail to understand how they are meeting the goals of their science offices. Summaries of their activities are attached.

Proposed Structure and Activities for the NOAO Office of Science



Appendix A: Summary of Activities: ESO's Directorate of Science

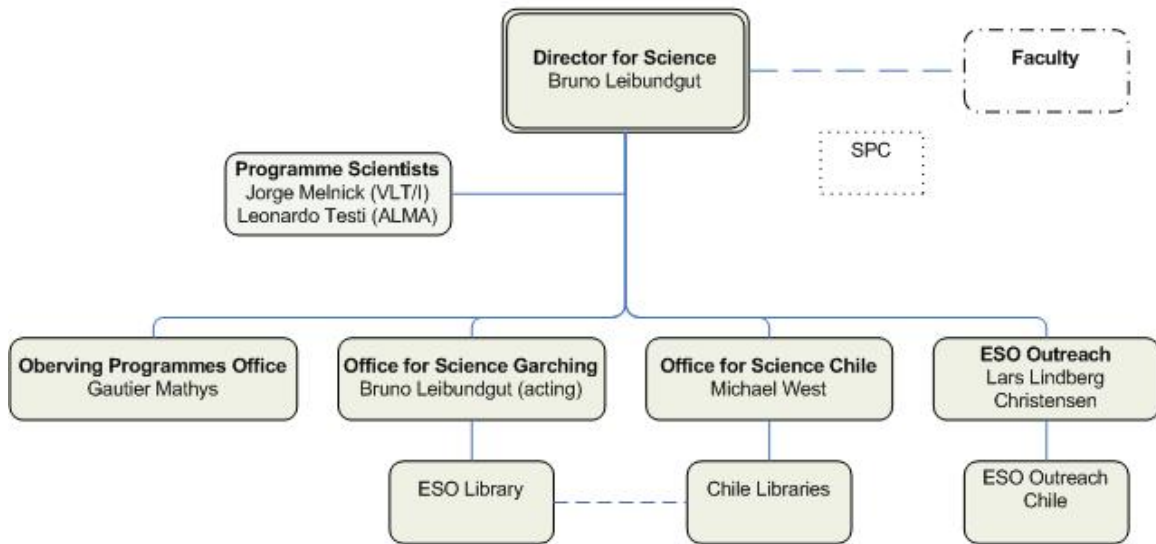
(taken from the ESO web pages and discussion with Dr. Bruno Leibundgut)

- Director – Bruno Leibundgut (astronomer)
- Responsible for science activities in both Garching and Chile
 - Deputy in Chile (Michael West)
- Science facilities include
 - Environment
 - foster interaction among scientists
 - visitor program
 - Library
 - Computing resources
 - liaisons to other organizations
- Web pages related to science
 - List of active research, by topic and scientists involved (including post-docs and students)
 - List of visiting scientists
- Responsible for science staff (130 scientists, including post-docs and students)
 - Annual reviews of scientists
 - Hiring process
- Scientific meetings, colloquia, symposia
- Funding for
 - Travel
 - Page charges
 - Discretionary fund (~\$300K)
- Support for major projects (GOODS, SOFI Deep Field, ESO Imaging Survey)
- List of potential PhD projects for which astronomers are available to mentor students
- ESO impact statistics, via the Garching and Chile libraries
 - Summaries for annual report
 - Messenger Newsletter (quarterly)
 - Electronic Newsletter (2-3 months, or whenever)
- Science Verification data released to public
- Time allocation process
- Personnel in Directorate: 20-25 (6-8 scientists) [this obviously is a much larger office than NOAO is considering, but suggests what it needed in the full-up effort]

Bruno provided the following (preliminary org chart):

ESO Directorate for Science

September 2008



Appendix B: Summary of Activities: NRAO's Office of Science and Academic Affairs

(taken from the NRAO web pages and discussions with Dale Frail)

- Assistant Director – Dale Frail (astronomer)
- Science community development
 - co-op and REU students
 - graduate students (interns, summer students, pre-doctoral)
 - post-docs (Jansky Fellow)
- Conferences and symposia
 - Annual New Mexico Symposium
 - EVLA Vision (a future facilities conference)
 - Internal Meeting (Space THz Technology)
- Visitors program (host for sabbaticals, summer students) for weeks to months (funding provided to support the visits)
- Telescope proposal support
 - Student support
 - Observing run support
 - Page charge support
 - Proposal referee's guide (a guide to TAC panelists)
- Research support
 - Library
 - Colloquia (interesting note: NRAO webcasts all colloquia to all 4 of their site so scientists can attend from their offices)
 - Archived records
 - Office of science serves as the advocate for getting science done to counter functional managers who demand excessive service loads from scientists
- Tenure and appointments
- Observatory Science Council – an internal group of scientists charged to plan for the future, interact with decadal survey, identify opportunities for investment in technology and new instrumentation.

