

## Chapter 3: Procedures for SPIN-UP Site Visits

The Task Force planned to carry out about 20 site visits to thriving physics departments during the 2001–2002 academic year. In order to facilitate a quick startup, two members of NTFUP, Ruth Howes and Ken Krane, agreed to act as project directors in exchange for release time and support for graduate and undergraduate assistants. Working closely with Bob Hilborn, the project directors hired Charles Payne of Ball State University as the external formative evaluator for the project. The team was constituted and ready to begin work in August 2001.

### Site Selection

The initial step was to have the entire Task Force identify characteristics of “thriving” physics departments to be used in selecting the departments for site visits. These characteristics are

- A large number of majors (compared to the national average)
- Satisfaction of other departments within the university
- Engagement of students in the life of the department
- Undergraduate research participation
- Lively outreach efforts, recruitment programs and so on.

No single department met every criterion, but many matched several of them. In addition, the SPIN-UP leadership considered the need for diversity in type and size of institution as well as geographic distribution. Finally, letters were sent to about 100 physicists whom members of the Task Force identified as likely members of site visit teams informing them about SPIN-UP and asking if they would be willing to participate in a site visit.

The project directors developed a letter to be sent to department chairs explaining the purpose of the site visit and a letter to the site visit team, a questionnaire for the department to complete before the visit, and a protocol for the site visit. Departments were asked to pick up local expenses for the site visit and to sign a contract demonstrating their willingness to host the team. Appendix V contains the relevant letters and documents.

Site visit teams consisted of three academic physicists, who were chosen by the project directors. In so far as possible, the teams were balanced in terms of gender, ethnicity, and expertise in physics or physics education. Ideally, each team had an expert in some aspect of physics education and a faculty member active in research. In addition, each team had one member from an institution similar to the one being visited to provide perspective on administrative matters, budget, and local conditions. A member of the Task Force led each team. Generally, the team leader was identified first, and the remainder of the team was selected to balance that person’s strengths. Whenever possible, teams were selected to minimize travel. This became particularly important in the immediate aftermath of Sept. 11, 2001, when air travel was difficult. The department chair and all members of the team were provided with contact information for everybody concerned.

## Site Visit Information and Schedule

The site visit team and the project directors received the questionnaire report from the department at least a week before the visit. In some cases, the project directors or the leader of the site visit team contacted the department chair with additional questions. In nearly all cases, the site visit team members communicated by email or phone to discuss the upcoming visit. Each team was reminded that the site visit was not an accreditation visit, but a study of what the department was doing right.

Although individual site visit schedules varied, site visit teams usually arrived at the department in the late afternoon. The team had a dinner meeting with the department chair and/or other faculty members, particularly the director of undergraduate programs in large departments. Informal discussion at dinner allowed the department to set a tone for the visit, to discuss the schedule and to explain what the local faculty members considered important about the undergraduate program. The site visit team had the opportunity to explain SPIN-UP once again.

The next day was devoted to discussions with faculty, administrators, and students. In so far as possible, formal presentations were held to a minimum because most demographic material was already covered in the written report submitted by the department. In all cases, the team met with physics department faculty members and with physics students. Usually the team met with at least one college or university administrator. The department selected the administrator most closely associated with the undergraduate program. Frequently, the department used the site visit to publicize its undergraduate program on its own campus. We also offered any department that wanted one a colloquium by one of the team members. Large departments generally did not take advantage of this. However, it was popular among small departments, which frequently could tap funds to support the visit if it involved a public presentation. In many cases, the team met with students enrolled in service courses or with pre-service teachers. Particularly in smaller institutions, the team interviewed faculty members from other disciplines. Breakfast and lunch were generally working meals. The visit closed with a brief executive session of the site visit team followed by an exit interview with the chair, the director of the undergraduate program, or the entire physics faculty.

Following the visit, the site visit team prepared a written report for the department. Generally, the chair of the team wrote the first draft of the report, which was then re-crafted and approved by all members of the team. The report was sent to the department for correction of errors of fact and then submitted to the department chair and the Task Force. All reports are confidential. The department chair, however, could share the report at his or her discretion. The reports were generally thoughtful critiques of what made the department's undergraduate program successful. Many of them contained suggestions and comments. They followed no set format.

After receiving the written report, the project directors extracted material from the report and the department's response to the questionnaire to prepare a "case study": a formal presentation of what the department is doing and how they managed to do it, as well as steps taken to bring about change. The case study was approved for publication by the chair, who provided pictures to illustrate the online version. Twenty-one case studies appear on the AAPT website and will be included in the hard-copy version of this report. In the spirit of the site visits, the case studies highlight only the positive aspects of the department's undergraduate programs.

All members of the site visit team and the department chair were asked to fill out an open-ended evaluation of the site visit. The departments universally perceived the visit as a positive experience. Many of them stated that the most useful aspect was the time the department spent thinking about its own undergraduate program. Site visitors generally enjoyed seeing what was

happening in another department and felt that the visit had been a useful experience for them. The size of the teams was considered appropriate, but in some cases, the visits seemed too short. This was particularly true in large departments. In general, the major critique of the scheduling was not having enough time to talk with students. Site visitors also emphasized the difference between SPIN-UP site visits and the usual accreditation visits.

That SPIN-UP could complete 21 site visits within one academic year represents a remarkable commitment to undergraduate education by a large segment of the physics community: the 21 site visit departments and over 70 faculty members who made up the site visit teams. SPIN-UP funds covered travel expenses for the site visit team members. The host departments paid all local housing and meal costs. Including accommodation expenses provided by the host departments, the volunteer time of the site visit teams and the time spent preparing the reports, we estimate that actual and in-kind contributions for the SPIN-UP project from the physics community are more than \$130,000 beyond the funding received from the ExxonMobil Foundation.

### List of Site Visits

1. Angelo State University, San Angelo, TX, *Feb. 7–8, 2002*
2. University of Arizona, Tucson, AZ, *Jan. 28–29, 2002*
3. Bethel College, St. Paul, MN, *May 2–3, 2002*
4. Brigham Young University, Provo, UT, *Nov. 15–16, 2001*
5. Bryn Mawr College, Bryn Mawr, PA, *April 15–16, 2002*
6. Cal Poly State University, San Luis Obispo, CA, *March 7–8, 2002*
7. Carleton College, Northfield, MN, *May 12–13, 2002*
8. Colorado School of Mines, Golden, CO, *Oct. 5–6, 2000*
9. SUNY Geneseo, Geneseo, NY, *April 25–26, 2002*
10. Grove City College, Grove City, PA, *Oct. 25–26, 2001*
11. Harvard University, Cambridge, MA, *Dec. 9–10, 2001*
12. University of Illinois, Urbana-Champaign, IL, *Nov. 12–13, 2001*
13. University of Wisconsin–La Crosse, WI, *March 6–7, 2002*
14. Lawrence University, Appleton, WI, *April 17–18, 2002*
15. North Carolina State University, Raleigh, NC, *Oct. 9–10, 2000*
16. North Park University, Chicago, IL, *Nov. 29–30, 2001*
17. Oregon State University, Corvallis, OR, *May 19–20, 2002*
18. Reed College, Portland, OR, *Feb. 20–21, 2002*
19. Rutgers University, Piscataway, NJ, *Dec. 3–4, 2001*
20. University of Virginia, Charlottesville, VA, *Feb. 28–March 1, 2002*
21. Whitman College, Walla Walla, WA, *April 25–26, 2002*