Site Visit to Fermilab National Accelerator Laboratory (FNAL) by the Committee on the Status of Women in Physics and the Committee on Minorities in Physics of the American Physical Society

Introduction and Background.

The Committee on the Status of Women in Physics (CSWP) and the Committee on Minorities (COM) of the American Physical Society (APS) jointly organized and conducted a site visit to Fermilab National Accelerator Laboratory (FNAL) at the request of the Laboratory Director, Piermaria Oddone. The purpose of the visit was to assess the Laboratory's climate for women and minorities in physics and closely related fields, and to provide advice to the Laboratory's leadership on how to improve inclusiveness. The visit was recommended in 2007 by the FNAL Committee on Hiring and Retention of Scientific Staff. The visit was held on May 20-21, 2008. Due to the serious funding cuts experienced by FNAL this fiscal year, furloughs were in place and layoffs were expected to be announced shortly—a situation likely to negatively affect the climate in any organization.

The review team consisted of six individuals, three representing the CSWP and three representing COM, with expertise in particle physics, related fields, and physics user facilities. The team members came from major universities, minority-serving universities, and national laboratories. The visiting team included four women and two men; five Caucasians and one African American. Prior to the visit the team reviewed demographic data about the physicist population of FNAL, the results of a very recent climate survey, and selected human resource policies available on the FNAL web site.

During the visit, the team met with groups consisting of women scientists, associate scientists, engineers, post-doctoral fellows; minority scientists, associate scientists, engineers, and post-doctoral fellows; women graduate students and graduate students in general; collaboration spokespersons, laboratory management, division managers, fellowship selection committee chairpersons, and others. Individuals, with the possible exception of the collaboration spokespersons, division managers, and laboratory management, self-selected to attend the sessions. In addition, scheduled times on the agenda were reserved for the team to meet one-on-one with individuals who requested such interactions. Lunch on the second day was open to anyone. Altogether we met with 47 self-selected members of the FNAL community. Reflecting the Laboratory's population, very few of the people who met with us were US-born, non-Asian minorities. More than half were women, primarily white or Asian. Among women physicists and postdocs, the majority we met with were foreign born. The email addresses of some team members were provided so that those who were on furlough at the time of the visit could send in their comments. After our visit we received 3 emails from people who could not attend in person and 6 follow up emails (1 was retracted) from self-selected attendees. We also received two emails from non self selected attendees we had requested.

The review team would like to thank Director, Pier Oddone, and Deputy Director, Young Kee Kim, for their commitment to increasing the inclusiveness of FNAL's culture and climate and for inviting the site visit. We are grateful to Dianne Engram for her marvelous logistical and administrative support, as well as for her responsiveness in providing information in real time requested by the team[1]. Finally, we want to thank all the people who took time to meet with us and share their insights, ideas, concerns, and issues.

Status and Demographics

FNAL is the flagship American laboratory for high energy physics research. The FNAL staff members and users we met with were passionate about and completely committed to this mission and convinced that FNAL was where they wanted to work. Among the 367 physicists, associate scientists, and research associates on the FNAL staff on 12/31/2007 are 43 females (12%) and 70 minorities (19%), of whom only 15 (4%) are non-Asian. One of the minorities is Black, with the remainder being mostly foreign born Hispanics. The percentages in all categories, except Blacks, have risen slightly over the past 10 years. Nonetheless, FNAL certainly lags comparable institutions and higher education in its demographics today. We would like to stress that this slow growth demonstrates the need to do new things to achieve the goal of having a significant number of researchers who are minorities (and to increase the representation of women).

[1] Among the documents provided to the team during the visit were *Report from the FNAL Committee on Hiring and Retention of Scientific Staff*, version 1.82, February 2007; organization chart for Diversity Council, exit survey data from 2006-2008; and EEO utilization tables from 1998 through 2007.

In addition to the Laboratory staff, the site is populated by large numbers of faculty, postdocs, and graduate students from university research groups throughout the country and world. They spend days to months to years at FNAL working on the experiments, taking shifts, analyzing data, and interacting with others in the user community. The climate of FNAL, therefore, is experienced personally by an overwhelming majority of the US high-energy physics community, and by a significant fraction of the international community of this highly globalized field. **To the extent the climate at FNAL is inclusive, welcoming, nurturing, and supportive of women and minorities, the entire high-energy physics enterprise in the US and world will benefit.**

FNAL defines minority as including Asians and foreign-born non-Caucasians. In the U.S. science and engineering community, Asians are not under-represented; they are also not underrepresented among the physicist workforce at FNAL. With respect to underrepresented minorities, such as Blacks, Hispanics, American Indians and Alaska/Hawaii Natives, FNAL has very few. Most are Hispanic of foreign origin. While FNAL physics must be globally inclusive, US-born underrepresented minorities (25% of the national population and growing rapidly) are extremely scarce. It is important to track US-born minorities separately, since they often face very different issues and challenges than immigrants do.

While we learned of many good things during our visit that positively affected the climate at FNAL, we also heard directly (or via private communications after the visit) of several situations that had been poorly resolved. While during a time that people are being laid off and furloughed the loss of people who "voluntarily" leave the field may seem less of a concern, we believe that it is important to note that the skills of the people leaving, in some cases, may have been more valuable than those of some people who are staying.

Our most important recommendation is directed towards the fact that many of the people who work at FNAL are not employed by the laboratory. Currently, it is unclear who has responsibility for ensuring that outside users act to enhance the climate and diversity of the laboratory community. We do not wish to diminish the role and authority of the collaborations and of the outside university user groups. However, we would like to urge that to avoid problems falling between the cracks, **the laboratory management should establish and ultimately enforce a code of expected behavior for all participants in its mission – whether users or employees.**

Culture

For many years FNAL has operated the world's highest energy particle accelerator to expand the frontiers of knowledge about fundamental particles and forces. The leadership position at the energy frontier is in the process of transitioning to CERN. However, this does not mean that leadership in the field has to transition. Over the years, the mission to learn about the constituents of matter and their interactions has required and stimulated numerous major advances—even revolutions—in technology, computing, and software, among others. The Laboratory's physicists, engineers, technicians, and support staff work with faculty, postdocs, and students from many universities around the world to design, plan, assemble, commission, and operate complex, innovative, one-of-a-kind accelerators and detector systems, and analyze the resulting data. The Laboratory's track record in innovation, discovery, resourcefulness, and problem-solving is among the best in the world. **For tackling and overcoming tremendous scientific and technical challenges, high energy physics in general and FNAL in particular are unbeatable. By simply applying this can-do ethos to the challenge of diversifying the Laboratory's physics staff and user community and creating an inclusive and welcoming climate for all, FNAL could achieve amazing results in this sphere, as well, if it is treated as a priority.**

The Laboratory's culture and climate result from values and behaviors within and among the FNAL staff and the user-based collaborations working on site. One underlying premise is that only the best and brightest can contribute to this quest, with physicists being the leaders and others providing support. A marked hierarchy of prestige and importance, exemplified by what is described as elitism and arrogance, is thoroughly engrained in the FNAL culture, with research physicists at the peak. Among physicists the hierarchy is based partly on career stage and partly on role/position. The panel heard too many times about situations in which the selection of a woman or minority was attributed to the gender/race/ethnicity of the individual not to her or his qualifications. Any organization where women and minorities are viewed as unqualified and therefore present only as a result of "preference," has a hostile environment. **FNAL can systematically counter the current attitudes and create an inclusive culture by understanding, broadly disseminating, and implementing what is known about the issues faced by members of under-represented groups and best practices for inclusion.**

Moreover, many supervisory, management, and leadership positions traditionally have been held by physicists, who understand and are incredibly committed to the FNAL mission. FNAL supervisors, department heads, division directors, and collaboration co-spokespersons wield a lot of power. They are encouraged and allowed to pursue their organization's goal with considerable freedom and flexibility, and little to no management training or accountability for anything except technical results. This situation has created a significant range of climates in different workgroups: some are perceived as being welcoming, supportive, and wonderful. Others are perceived as being demanding, difficult on a personal level, and even abusive. **The Laboratory and its people would benefit from upgrading the difficult work group environments to an acceptable level where respect, civility, and appreciation of differences are the norm.**

Collaborations

The large experimental collaborations superimpose a second layer of reporting structure in addition to the FNAL administration. Many of the members of the collaborations - as well as some of the leadership - are not FNAL employees, but rather guests or users. However, in the case of graduate students and postdocs, some of these users are in full-time residence at FNAL. This situation can make it unclear who is the day-to-day "supervisor" of the grad student or postdoc, and lack of clarity about which lab policies extend to these resident users sometimes adds to the complexity of solving problems. For example, do they have access to the FNAL child care center? Some of the implications for mentoring and supporting these junior scientists are addressed in the section on mentoring

The culture of these collaborations cannot be divorced from the culture of FNAL or *vice versa*. Both must take responsibility for themselves and the other, as well as for the field as a whole. Many scientists "grow up" within one of the collaborations. An undergraduate student at university X may become a graduate student at university Y and then a postdoc at FNAL, all as part of the same collaboration. (This can happen "just by changing desks.") Both the Collaboration leadership and FNAL leadership must take responsibility for being proactive about changing the culture. Moreover, it is FNAL's responsibility to take proactive steps to ensure that collaborations are acting consistently in ways that will promote the inclusive, scientifically empowering, and intellectually productive culture that the Laboratory desires. In addition to the junior scientists associated with the Collaborations, FNAL hosts a number of graduate students, postdocs, and guest researchers, who work on various technical projects at its scientific facilities. These individuals work in moderately stable groups with well defined technical goals.

In interviews with graduate students and postdocs, several raised concerns about where to turn for guidance and redress of issues, especially non-technical matters such as interpersonal conduct (including abusive situations). For example, a graduate student at X University is a student of a faculty member there. However, at FNAL, she/he may be under the immediate supervision of a postdoc from Y University, working in a group led by a convener from yet a third University. If the postdoc verbally abuses the graduate student, where should the "victim" report the situation? The student's professor is not on-site, she/he has no ties to the management chains of either the postdoc or the leader of the collaboration, and the student is unaware of whom to contact at FNAL or even if there is an avenue for remediation. There is not presently an ombudsman for the laboratory.

One approach to solving such a problem is to adopt the "base commander" model. In this model, for example, a unit outside the base commander's chain of command comes to the base for training. The unit conducts its training under the auspices of its chain of command and relies on the logistical support of the base commander. The unit adheres to the policies and procedures established by the base commander for conduct while they are at the base. If FNAL were to adopt such an approach, all researchers would be required to adhere to the Lab's Code of Ethics and Conduct. Expectations regarding conduct would be included in Orientation, and a FNAL employee would be assigned as a point of contact and resource for non-technical matters.

Communication and Transparency

Few, if any, of the individuals who met with us felt thoroughly familiar with FNAL policies, practices, or decisions that affect the workplace climate in general or themselves specifically. Most recognized that managers had considerable flexibility in their work groups, creating very large variability in climate across and within divisions and departments. No one was aware of a complete source of accurate policy information. Several people had figured out how to obtain what they needed, however, by contacting and working with the individuals or managers with purview over each issue. Others did not know whom to

contact, when they had a problem or question. For staff and users new to the Laboratory, it is typically hard to find out everything one needs to know to be fully effective. While flexibility can be very empowering and enabling of success, ignorance and confusion is the opposite, and flexibility wielded by supervisors and managers arbitrarily or with bias can lead to a problematic climate for women and minorities. Oftem women and minorities have less access to the informal social networks than majority men do. Transparency means that policies and decision processes are well understood by everyone, and people know how decisions that affect them are made. This also includes providing feedback so researchers are informed about areas they need to improve. Transparency eliminates counterproductive secrecy and reduces surprises. Transparency and flexibility can be mutually compatible, provided those operating flexibly are open and clear about their goals and decisions.

Moreover, during the current budget difficulties, greater communication and transparency could go a long way toward ameliorating some of the anxiety many are experiencing. **Transparency will benefit everyone, not just women and minorities, now and in dealing with future issues.**

Work Life Balance

The employees of FNAL were generally very positive about the opportunities for work life balance. Particularly noted were the child care center, the mother's room, the ability to tap into a pool of donated vacation leave, the ability to return to work part time, and the flexibility in their daily schedules. While these were all reported as positive attributes of FNAL, access to many of the arrangements were dependent on individual "deals" and were not as much a result of well documented and clearly implemented policies. Additionally we were told that fathers could not take advantage of the donated vacation leave pool. There also seem to be non-uniform practices about shift work on experiments – that is, if pregnant or nursing women do or do not have to do shifts, and if not who is responsible for covering those shifts.

The junior women (postdocs) seemed very uncertain about how having a child would affect their career. Several expressed some frustration with the monthly women's lunches as a source of information and guidance on these types of issues.

Mentoring

The goal of mentoring is to maximize an individual's professional progress and growth as well as to provide support to enhance the working environment. Mentors serve as role models, advisors, sponsors, counselors, and friends. There are multiple models of mentoring. For example, the tripartite method uses the supervisor, a close colleague experiencing similar issues, and an outside peer to provide perspective. This approach requires individuals to serve multiple roles as both mentor and mentee.

Within FNAL, there was a universal request for mentoring at all levels (with the possible exception of senior management). Superficially, mentoring already should exist at the laboratory. Both CDF and D-ZERO have programs, and many universities also try to provide mentoring to students and postdocs. Postdocs and students either did not know the programs exist or did not find them to meet their needs. This situation provides an **opportunity** for the laboratory to put in place substantial mentoring, while addressing the **challenge** of doing so without infringing on the territory of experiments and universities.

Essentially every person we met with wanted mentoring, although some did not want a rigid, formal reporting system. Some employees reported that their current supervisor did provide some mentoring and were pleased by that. However nobody was aware of whether it was part of the job duties. Interestingly, only two individuals, who met with us, reported doing any mentoring. Mid-seniority employees did not report doing any mentoring. Multiple interviewees felt that their supervisor could not spare time for mentoring (not even, as one individual stated "one hour a month"), and they did not feel entitled to request feedback.

As a result, many of the postdocs we talked to appeared stressed and mentioned issues, such as feeling isolated. They also were alarmingly ignorant of the reality of their chances of obtaining a faculty position and of what they needed to do to improve their chances. They didn't know if they were or were not "meeting expectations". The committee was concerned about the length of time some people were spending in these positions. In turn, the graduate students felt reluctant to "bother" the post-docs and in many cases seemed to be receiving little if any direct supervision or help with day to day issues such as finding health care and housing.

An issue related to the need for long term mentoring is how people are initially introduced to the lab. In discussing the experiences of employees at FNAL, several voiced concerns about not knowing: (a) where to go to get information or to resolve an issue, (b) where lab or collaboration policies could be found, and (c) how to get assistance with basics such as housing. The problem may be compounded by our sense that, at least for those who spoke with us, very few people seemed inclined to perform more than a cursory search to find what they wanted. This problem seemed to be independent of gender or ethnicity. The lab should recognize this and be assertive about ensuring people attend an initial orientation.

Recommendations

Transparency

- Increase openness and transparency so that policies, procedures, recruiting, hiring, and decision-making are available, clear, and understood.
- Review policies/procedures to determine if they are likely to have disparate impact on different employee/user populations, and modify as appropriate.
- Ensure that all workgroups are managed in a transparent manner that is consistent with the Laboratory's values and welcoming/supportive of everyone, including women and minorities. Transparency training may be valuable for supervisors and managers.
- Require all collaborations to have documented and demonstrably equitable policies for awarding of conference talks.
- Require all collaborations to have documented policies about requirements for being a member in good standing of the collaboration and when and how exceptions to policies on shifts/service work should be made with respect to work-life issues.
- Monitor and openly publicize progress or lack thereof in hiring, retention, promotion of women and minority physicists by each major organizational unit and collaboration.

Training – Managerial

- Provide supervisory and management training or otherwise ensure that individuals with supervisory responsibilities know how to supervise and manage diverse teams effectively, creating a respectful workplace and maximizing the performance of each member while obtaining results that exceed the sum of the parts. Hold supervisors and managers accountable for providing a welcoming, supportive, and respectful workplace environment. Resources are available from numerous FRA member institutions, for example WISELI at the University of Wisconsin (see http://wisccharge.wisc.edu/wiseli/items.asp for some useful publications).
- Offer workshops open to all, modeled after Argonne's series "Survival Skills for Successful Women and Minority Scientists and Engineers."
- Issue a clear statement regarding everyone’s role in the mentoring process. The laboratory should provide training and guidance (especially for supervisors) on the goals, methods and purpose of mentoring. Recognize that not all supervisors are currently prepared to be mentors. The laboratory should put in place comprehensive mentoring plans, recognizing that the career advancement and opportunities for engineers and scientific staff have differences from physics staff and users. Such plans should be developed with input and buy-in from lab employees.

Orientation

- The orientation program, including hand-outs, needs to be reviewed to see if it really informs people sufficiently about the Lab and the community, including informing people whom to contact if a question or issue not covered in orientation arises.
- One method for learning the upgrades needed in the orientation would be to poll employees and guest researchers coming to FNAL in the past 6-12 months.
- All new employees and guest researchers should be required to attend orientation and supervisors must fully and explicitly support participation in orientation.
- The HR Department should follow up with new employees and guest researchers after they have been at the Lab 60-90 days to see if they need more information or have questions.
- Make clear what services and information FNAL provides and what it expects the individual or individuals home institution to deal with.

Training/Mentoring – Students and Postdocs

- Encourage graduate students and post-docs to explore non-traditional career options, such as appointments at non-R1 institutions. Limit postdoc terms to a reasonable number of years.
- Have staff/stidenst/postdocs nominate shining examples of good supervisors that can act as role models or resources for others.
- Provide monthly seminars for graduate students and post-docs, about how FNAL works, career options, and/or professional development skills.
- Encourage initiatives among the grad students and post docs to take leadership roles beyond their collaboration or work group; e.g. to seek funding for travel; organize a grad-student/postdoc conference; contribute to selecting and planning the seminars described above; etc.
- Require Collaborations to put in place a comprehensive mentoring plan, designed for students, postdocs, young faculty, and more senior faculty. It should be part of the Collaboration organization and recognized as essential. FNAL should require that all full-time resident junior scientists have a local supervisor, as well as their faculty supervisor at their home institution. These two would jointly be responsible for mentoring the junior scientist.
- All Collaborations should have established policies that ensure performance review of graduate students and postdocs. (In cases where this is required and performed by the home institution, documentation of the review may be all that is necessary.)

Culture

- Seek intentionally to create a culture that values everyone highly, and is considerably less hierarchical than at present. This effort will take time, however, it has extraordinary potential to influence the culture of particle physics globally, thereby attracting more diverse participants.
- Although the Collaborations are quasi-sovereign entities, FNAL should establish expectations regarding respectful behavior (as well as safety and security), and hold all collaborations accountable for the behavior of their members. There should be zero tolerance for collaborators who disrespect or abuse others, especially students.
    - Establish an Ombudsperson or other mechanism for solving problems experienced by individuals.
    - Review, revise as appropriate, and disseminate FNAL Code of Ethics and Conduct, assuming “base commander” approach is adopted.
- The role of the Graduate Student Organization should be reviewed.
- The role of the women's lunch should be reviewed.
- The childcare center hours and capacity should be reviewed as should the policies on drop in care etc to see if they optimally address current need.
- Care should be taken in not scheduling regular meetings and other activities outside normal business hours. Any exceptions should only be made after careful consideration of the impact on work-life balance.
- All collaborations should include discussions of diversity, work-life balance issues as part of the fabric of the collaboration.
- All collaborations should consider what is the appropriate length of time for a junior scientist to remain in a postdoc position.
- Experiments should create a clear avenue for remediation in cases of personal conflict. A single, point of contact should be identified, and should receive and address concerns with an atmosphere that is supportive and encouraging for those experiencing difficulty.
- Collaborations should inform the junior scientists of the diversity of career choices, including faculty positions at colleges that do not (yet) have a high energy physics group.(Collaborations should proactively work with some of the junior scientists to help them to maintain a meaningful connection to the collaboration after they have taken a faculty position at such schools. This could be a particularly useful avenue to tap into the African American physicists that are produced by HBCUs and HSIs.)

Daily Life, and Enhancing Visibility and Rewards

- Every effort should be made to continue to offer part-time and flex-time work arrangements whenever such requests can be accommodated within the operational needs of the organization

- Nominate deserving staff and users for appropriate awards. Laboratory leadership should ensure that deserving female and minority physicists are nominated for APS Fellowship, for example.
- Combine the search and fellowship committees for physicists, to create a large and diverse applicant pool from which diverse, highly qualified selections can be made.
- Explore joint appointments or other mechanisms to build FNAL user groups and partnerships with minority serving institutions of higher education (Jefferson Lab model).
- Ensure speakers at reviews and conferences are diverse, always including some women and minorities.
- Ensure committees, teams, managers are diverse, with participation by women and minorities.
- Increase diversity of the FRA Board above the "critical mass" level of ~30%. It currently has 3 women and fewer (if any) US-born underrepresented minorities among 24 members.

Conclusions

We commend FNAL's leadership for taking the initiative to invite the site visit, and to place concern about culture and inclusiveness sufficiently high in its priorities, that the visit proceeded, despite the financial problems (subsequently somewhat ameliorated by the Supplemental Appropriations Bill). We thank the many individuals, who took time from their work to meet with us or email in the interest of contributing to our understanding and a bright future for the field.

As we noted previously, high-energy physics in general and FNAL in particular are renowned for tackling and overcoming seemingly insurmountable scientific and technical challenges. The collective brilliance, creativity, and passion for discovery seen in the field's Nobel-decorated founders and leaders are evident in the current and coming generation of FNAL managers, staff, and users. By simply applying the can-do ethos essential to scientific progress to the challenge of diversifying the Laboratory's physics staff and user community, FNAL can create an inclusive and welcoming climate for all—achieving amazing results in this sphere, as well. So much is great about FNAL. We hope the feedback and suggestions in this report are useful to the Laboratory and its user community as they strive to become fully inclusive of women and minorities—tapping into the ideas they can bring to the quest.

Appendices

1) Site Visit team
2) Site visit agenda
3) Demographics

Appendix 1 – Site Visit Team Members

CSWP Team Leader
Patricia Rankin
Physics Dept
University of Colorado
Boulder, CO 80309-0390
Phone: 303-492-1520
Email: Patricia.Rankin@colorado.edu

Katherine C Harkay
ASD/401
Argonne Natl Lab
9700 S Cass Ave
Argonne, IL 60439
Tel: (630) 252-9758
Fax: (630) 252-4732
Email: harkay@aps.anl.gov

Sherry J Yennello
Cyclotron Institute
Texas A&M University
College Station, TX 77843-3366
*Tel***:** (979) 845-1411
Fax: (979) 845-1899
Email: yennello@comp.tamu.edu

COM Team Leader
James Ml Turner
NIST
Gaithersburg, MD
Tel: (202) 586-6641
Fax: (202) 586-8272
*Email***:** jsturner25@hotmail.com

Beverly Karplus Hartline
Dean, College of Mathematics, Natural Sciences and Technology
Delaware State University
Dover, DE 19904-4665
Tel: (302) 857-6500
Email: Beverly.hartline@earthlink.net

Pete E C Markowitz
Dept of Phys, CP208
Florida International University
Miami, FL 33199
Tel: (305) 348-1710
Fax: (305) 348-6700
Email: markowit@fiu.edu

Appendix 2 FNAL Schedule

Day 1

7:30am	Meet in hotel lobby for travel to FNAL	
8:00a-9:00a	Breakfast/Executive Meeting	FNAL [small dining room-WH 1W]
9:00am-9:45am	Meet with lab leadership	Pier Oddone, the Senior Management Team, Head of WDRS, and EO Manager
9:45am-10:00am	Break	
10:00am-10:40am	Meet with women physicists	
10:40am-11:20am	Meet with Minority Physicists	
11:20am-12:00pm	Meet with women associate scientists	
12:00pm-12:40pm	Lunch Break	Meeting with Experiment Spokespersons.
12”40pm-1:20pm	Meet with Minority associate scientists	
1:20pm-2:00pm	Individual Meetings	This is a set aside for meetings with the committee and individuals , a chance for people to talk in private with committee.
2:00pm-2:30pm	Meeting with Women Postdocs	
2:30pm-3:00pm	Meeting with Minority Postdocs	
3:00pm-3:15pm	Break	
3:15pm-4:00pm	Meeting with Postdocs	This meeting is open to all Postdocs
4:00pm-4:30pm	Meeting with Women Engineers and Computing Professionals	
4:30pm-5:00pm	Meeting with Minority Engineers and Computing Professionals	
5:00pm-5:30pm	Team Meeting for next-day planning (list of questions for lab management?)	
6:30pm-8:00pm	Dinner (after return to hotel)	

Day 2

7:30am	Meet in hotel lobby and travel to FNAL	
8:00am-9:00am	Executive Breakfast	
9:00a-9:40am	Individual meetings	Another chance for people to come forward for private conversations with the team
9:40am-10:00am	Break	
10:00-10:40am	Meeting with women grad students	
10:40am-11:20am	Meeting with minority grad students	
11:20a-12:00pm	Meeting with grad students	This includes all grad students who would like to talk to the team.
12:00pm-1:00pm	Lunch Break	Opportunity for any other Scientist, Engineer or Computer Professional to speak to the team over lunch
1:00pm-1:45pm	Meeting with Chairs of Fellowship Committees and Postdoc Committee	
1:45pm-2:15pm	Meeting with Division Heads	
2:15pm-2:20pm	Break	
2:30pm-3:30pm	Team Meeting pre-debrief	
3:30pm-4:30pm	Closeout with Director and others as needed	

Appendix 3 -FNAL Demographics in the Scientific Job Groups as of 12/31/07

Physicists:

- Total – 257: Males - 230, Females – 27
- Minority Males: 1 Black, 26 Asian, 4 Hispanic
- Minority Females: 5 Asian, 2 Hispanic

Associate Scientists:

- Total – 21: Males – 16, Females – 5
- Minority Males: 1 Asian, 1 Hispanic
- Minority Females: 1 Asian, 1 Hispanic

Research Associates:

- Total – 89: Males – 78, Females – 11
- Minority Males: 15 Asian, 6 Hispanic
- Minority Females: 7 Asian

The divisions with the largest members of Physicists, Associate Scientists and Research Associates are Accelerator (59), Computing (43), and PPD (111).

AD:

Physicists:

- Total – 59: Males-52, Females – 7
- Minority Males: 1 Black, 9 Asian
- Minority Females: 1 Asian

Associate Scientists

- Total – 6: Males – 4, Females – 2
- Minority Males: 0
- Minority Females: 1 Asian, 1 Hispanic

Research Associates:

- Total – 5: Males – 5, Females – 0
- Minority Males: 0
- Minority Females: 0

Computing:

Physicists:

- Total – 43: Males – 38, Females – 5
- Minority Males: 4 Asian, 1 Hispanic
- Minority Females: 1 Asian

Research Associates:

- Total 1: Males – 1, Females – 0
- 0 Minorities

PPD:

Physicists:

- Total – 110 Males – 97, Females – 13
- Minority Males: 10 Asian, 3 Hispanic
- Minority Females: 3 Asian, 1 Hispanic

Associate Scientists:

- Total -10: Males 8, Females 2
- Minority Males: 1 Hispanic
- Minority Females: 1 Hispanic

Research Associates:

- Total- 54: Males 45, Females 9
- Minority Males: 10 Asian, 5 Hispanic
- Minority Females: 7 Asian

The Centers:

Fermi Center for Particle Astrophysics

- 1 White Male Physicist
- 6 White Male Research Associates; One Male Asian RA

Compact Muon Solenoid Center:

- 1 White Male Physicist
- 1 White Male Associate Scientist
- 9 White Male Research Associates; 1 Male Asian RA; 1 Male Hispanic RA

Accelerator Physics Center:

Physicists:

- Total – 20: Males -18, Females - 2
- Minority Males: 1 Asian
- Minority Females: 0

Associate Scientists:

- Total – 2: Males- 2, Females - 0
- Minority Males: 1 Asian

Research Associates:

- Total – 7: Males – 6, Females – 1
- Minority Males: 2 Asian

Minority Females: 0