NATIONAL HUMAN GENOME RESEARCH
INSTITUTE/NIH/DHHS

FIRST WORKSHOP

OF THE

MAP TRAINING COORDINATORS

9th – 10th of FEBRUARY 2007

WATERGATE HOTEL
WASHINGTON, D.C.

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I.   BACKGROUND

Following the Fourth Annual Meeting of the MAP grantees, the Research Training Subcommittee (Advisors) recommended that the National Human Genome Research Institute (NHGRI) hold a workshop for training coordinators. All training coordinators of MAP programs, program directors for institutional training grants (T32), and Advisors were invited to participate in the workshop. The purpose of the workshop was to:

- Identify potential best practices
- Build relationships among the coordinators to facilitate networking
- Provide a venue to discuss their roles and relationships to participants, mentors, researchers, principal investigators, and program directors; identify potential best practices; and build relationships among the coordinators to facilitate networking.

NHGRI staff identified training coordinators and advisors to lead the sessions on: Networking; Challenges for Undergraduate Activities; Challenges for Graduate Activities; and Challenges for Post Graduate Activities. These small groups met by teleconference prior to the meeting to discuss how they would manage the sessions. The workshop was structured so that training coordinators had some unstructured time during the workshop to pursue items of interest to them and their particular programs. The agenda and roster are appended to this report (XIV and XV).

II.   DIRECTOR'S PRESENTATION

Francis Collins, Director, National Human Genome Research Institute, gave the group his view of the importance of the MAP program and why it is important, particularly at this time when genetics and genomics are making/can make significant contributions to our understanding of genetic variation and ameliorating health disparities. He stated that science and medicine need to have the perspectives of diverse communities. Some examples given were:

- The history of eugenics.
- What will genetics tell us about health disparities and how we will use that information?
- What will access to personalized medicine tell us about ourselves?
- How will the complex ELSI (ethical, legal and social issues) be interpreted?

Moreover, he expressed dismay that the "face" of many scientific and professional meetings, such as the American Society of Human Genetics and Genomes and Biology meetings has changed little since the initiation of the Human Genome Project. For all these reasons, in his opinion, the success of the MAP activities will be essential in getting populations traditionally underrepresented in the sciences involved in these very complex issues.

A. MAP Goals: The Director briefly reviewed the MAP (http://www.genome.gov/10001707) goals and indicated that the five principles on which the program was designed were still relevant. These are:

1. There must be comprehensive outreach to the underrepresented communities to inform them about the excitement and opportunities in genomics and ELSI research and to involve them in the planning and implementation efforts.

2. The initiative must encompass all stages of the career ladder from student to professional, with opportunities at every stage.

3. All training activities should be anchored in or partnered with institutions that have significant genome and/or ELSI research.

4. Involving and training minority individuals must be a goal for all parts of the NHGRI programs.

5. All components of this initiative must have achievable goals, measurable outcomes and appropriate review and evaluation.

He stated that in the four years that the program has been in operation, approximately $14M had been spent. He is aware that this is a long-term process and that successes will not be evident immediately, but it is important: that the program track participants who have left the program in order to assess outcomes; that coordinators network amongst themselves so that they will know more about each others programs and will be able to provide participants information about programs that will get them to the next phase of their career; that transitions are critical and this should be a key feature of programs; and that evaluations are important in determining what is/what is not working.

B. MAP Participation in Broader NHGRI Activities: Francis also urged the participants to become more involved in:

- DNA Day—an activity out of the Office of the Director, NIH that provides opportunities for postdoctoral fellows in the intramural program and program analysts in the extramural program to visit high schools and discuss the genomics. He would like extramural programs to become part of this event. DNA Day occurs each April in commemoration of the publication of the structure of DNA. Carla Easter provided additional information about how to get involved in DNA Day.
- The NHGRI Current Topics in Genomic Research Short Course—provides opportunities for faculty and one student to come to the NHGRI for one week of courses and lab visits.
- Town Hall Meeting—the next one is scheduled to take place at the University of Michigan. Annually NHGRI selects a region of the country to hold these meetings and puts out a Request for Proposals. MAP participants were encouraged to participate in future Town Hall Meetings, either as participants or as organizers.

C. Questions posed to Francis by the participants:

- Will other NIH institutes/centers have similar programs?
  A. This would be very difficult in the current budget climate. Some institutes already have significant, formal programs for URM, but these are very different from NHGRI's programs where the PIs can pursue activities that capitalize on the strengths of their laboratories and their institutions' infrastructures for minority programs.
- How do you define genomics?
  A. Genomics is very broad and includes multiple disciplines, such as biology, mathematics, physics, and engineering and computer sciences. However, it is important that participants see the relationship between the traditional disciplines and genomics.

- How do we get more minorities to pursue PhD/MD, rather than MD degrees?
  - A. One of the advisors commented that many students want to "give back" to the community and that genomics provides a great opportunity to serve the community by getting involved in the ELSI issues.
- How can NHGRI ensure long-term commitment to this program?
  - A. Since the MAP activities are tied into the parent grant, if the parent grant is not funded, the MAP activities cannot be supported. However, NHGRI will ensure that all students supported under a MAP in such a situation will be supported to the successful conclusion of their training activity. The issue of potential legal challenges was brought up. Each institution may need to deal with such issues in different ways. However, states cannot tell the federal government how to spend its money.
- How rigid is the definition of URM?
  - A. The program was designed for groups who were historically underrepresented in the sciences.

III.   ADVISOR'S OVERVIEW

Merna Villarejo explained the history of the MAP program and the role of the Advisors. Initially, grantees were encouraged to propose activities that that they felt would meet the goals of the program. Over time, it became clear to the Advisors that given the amount of money devoted to the program, grantees should focus their activities at the undergraduate level and above. The rationale for this is that the potential pay off would be greater and more immediate since those who were at the undergraduate level and above would be more likely to succeed at graduate degrees in the sciences. In order to ensure success, she recommended the following:

- Be clear about your program's goals and measure success against those goals.
- Build on the success of others. There are programs that are successful; find out how these programs work; collaborate with successful programs on your campus or in your area.
- Provide a sense of belonging. Students should not work in isolation; there should be a critical mass. It is important to build a community and develop activities that would be inclusive for program participants.
- Program Impact. Your activities should have a major impact on the individuals you work with. Foster longevity and multiple interactions.
- Cost effectiveness. It is time to think about the quality of our programs and how this relates to cost effectiveness.

IV.   NETWORKING

Organizers: Vanessa Gamble and Lisa Peterson.

The goals of this session were to:

- get the training coordinators to know each other better;
- lay the foundation for enhancing collaborations;
- help solve problems; and
- provide a "safe place" to train coordinators to talk about issues and solutions. The anticipated outcomes of these discussions were suggestions on how to do the job of a training coordinator better.

A. What passion/assets/contributions do I bring to my program?

The responses of the training coordinators were:

- Positive gatekeeper—someone is standing at the door and needs to get to the other side--my interest is in helping them get over the threshold; when I see a door, I like to open it.
- Exposure—as a first generation college graduate, it is important to expose students to the right people because when the training coordinator was in a similar position years ago, s/he wished that s/he had the opportunity that the MAP program provides to its participants.
- Altruism—Equity/justice as part of this country's foundation; it is important to help others.
- Mentoring—empowering students so that they control their destiny; instilling responsibility; helping young people find a purpose; working with African American males in high school; being influential in someone's life—"did I make an impact?;" being a "Servant/Leader"-needing to know how to serve before one can move forward and leading people to the next level; providing access/opportunity.
- Teaching—it is important to provide students with a "bigger vision" than they have, train them in a new field of science and get them to the next step in their career.
- Instilling a sense of wonder—seeing the light bulb go off; showing results that started with curiosity and ended with results from experiments.
- Providing balance in professional/social life. Convincing students that they can be scientists and have very good social skills.
- Communications--Building community between the students and their families; bridging the gap between Native Americans and genetics/genomics/bioinformatics.
- Dispelling myths: Breaking the "old boy network;" discovering differences in individuals; and seeing that as an advantage, rather than a disadvantage.
- Role Model—as a graduate of a HBCU, convincing other graduates of HBCUs to go to research-intensive institutions for further education and encouraging research intensive institutions to consider these students for graduate/postdoctoral opportunities.

B. What strengths/innovations do I bring to my program?

- Helping students break the communications barriers between themselves and their mentors and high-level administrators.
- Helping undergraduate students get their research published, giving them confidence that they can do research.
- Making an absolute commitment to students and following their progress with time.
- Providing a venue for students to vent frustrations and solve problems.
- Having students act as trainers/mentors to others, thus helping them to be better trainees/mentees.
- Providing students with the opportunity to increase communications among themselves, such as starting a "Face Book."
- Ensuring that students belong to a community and are not isolated.

C. What resources do I need/can I provide to make my program a success?

- Use the National Institute of General Medical Sciences' minority programs as a good source for potential MAP participants (http://www.nigms.nih.gov/Minority/; see XI.G for programs)
- Have weekly seminars provide participants an opportunity to hone their presentation (written and oral) skills and keep up with the latest scientific events, especially if an expert is a resource to explain the underpinning science/technology.
- Ensure that participants are well integrated into all the laboratory activities and that they are doing meaningful research.
- Ensure that when a new technology is introduced into the lab there is a seminar on the science underpinning the technology as a way of ensuring a level playing field for experienced staff (technicians, graduate students, post docs) and MAP trainees.

D. What challenges do I face in my job?

- Finding postdoctoral fellows to apply for MAP programs.
- Finding the "right" faculty members to be mentors.
- Finding reasonable housing for summer students.
- Integrating ELSI topics in math programs.
- Replacing experienced training coordinators.
- Distinguishing between short- and long-term evaluations.
- Helping students overcome the stigma that they were appointed to programs or selected to graduate school based on merit rather than on "who they know."
- Devising a targeted way of communicating with students, other than blanketing them with mass e-mails.

V. CHALLENGES FOR UNDERGRADUATE ACTIVITIES

Organizers: Debra Murray; Nancy Kerk; Gayle Slaughter and Merna Villarejo.

A. How can I attract the best students to my program?

- Recruitment strategies are varied and include:
  (1) getting summer students involved early;
  (2) developing sustained relationships with college faculty by visiting campuses and giving seminars,
  (3) judging student presentations and inviting URM faculty to the MAP laboratory;
  (4) talking with other training coordinators who might have "feeder programs;"
  (5) working with the registrars' offices to identify potential participants;
  (6) talking to directors of STARS programs;
  (7) judging posters/talking to students who have posters or make platform presentations at professional meetings that focus on student development, such as SACNAS and ABRCMS;
  (8) providing students with a broader view of what the school offers including what the city offers in terms of arts/museums/recreational sports/churches and the institution's social activities;
  (9) distributing informative brochures about your program that are also attractive;
  (10) telling students that they can get paid to learn;
  (11) providing funds for transportation/housing;
  (12) including parents in your recruitment activities (creative ways may be needed for parents who do not live nearby, do not speak English as their first language);
  (13) making personal contacts rather than mass mailings; "trolling" for excellent student candidates at other universities; etc.
- Matching students with the right research area. Some things that work are:
  (1) allowing students to indicate their areas of interest;
  (2) recruiting and educating faculty about their responsibilities;
  (3) developing a skills roster that lists skills needed for the research experience and comparing this with the student's capabilities or potential;
  (4) using letters of recommendation as a factor in selecting students.
- Mentors should be available to talk/work with students and meet with them on a regular schedule. In addition to faculty mentors, others in the lab, such as graduate students and postdocs may also be available/interested in mentoring.
- For programs that encourage participants to return for a second year, it would be good to communicate with them during their academic year, providing continuity in the relationship, especially regarding academic growth and accomplishments necessary for eventual admission to and success at graduate school.
- Financial support is important, such as waiving the admission fee and providing travel funds.

- The role of parents should not be overlooked; a simple brochure describing how science helps society might go a long way into letting them know that a PhD is a viable career and can also be considered "service to the community." Inviting parents to attend the poster sessions that take place at the end of the summer research experiences helps them get acquainted with what a scientist does.
  [NOTE: It was suggested that the Director, NHGRI make a video targeted to parents explaining how genomics involves both basic and clinical research and how a career in genomics can be seen as "service" since this is a high priority for many URMs]
- Ask students who are in the program to assist with recruiting other students; they should also go on trips with faculty when they are recruiting participants.
- Many programs are recruiting students from the same pool/institutions; programs need to take risks, that is accepting students who are not in the "top tier" and are not being aggressively recruited by other programs, but do have the potential to succeed if given the right environment and provided with the opportunity to increase their skills and knowledge.

B. How can I match a student's skill and interest with a potential faculty mentor and her/his research areas?

- Recruiting faculty to mentor and host students requires:
  (1) giving them information about the program (for example, 100% of Yale STARs scholars have made presentations at national meetings or published papers in peer reviewed journals);
  (2) explaining how the lab benefits from having a student participate in research projects;
  (3) knowing that some labs have a "lab philosophy-observe one/do one/teach one which makes mentoring part of one's "job description" as a scientist;
  (4) sometimes assigning a graduate student/postdoc who is "slacking off" to mentor a student will reinvigorate their interest in/increase their motivation for science; etc.
- Matching the interest of students with the needs of the lab is important and using a skill roster can facilitate matching and make for a more satisfactory experience for the participant and the mentor.
- Not only the mentor, but all lab participants need to welcome the student in the lab by assisting as mentors. All lab members should also receive information about the program.
- Prospective participants need to sell themselves to potential mentors and their lab members; training coordinators may be able to provide potential participants with some tips about how to do this; the lab environment and meeting the faculty mentor can be very daunting, efforts need to be made to lower the barrier of communication.
- Trainees should send letters to mentors thanking them for the time spent in their laboratories; trainees should send a copy of the letter to the department chairperson; such letters could be used to document the mentor's service requirement for promotions.
- MAP PIs need to assist the training coordinators in getting mentors to participate in the program.
- Housing can be an issue, some recommendations/options are: house students together; partner with a local college to provide dorms; be sure that the location of the housing is safe and secure; plan and encourage outings; encourage faculty to entertain students at their homes, etc.

C. How do I get students to the next level?

Many different types of activities that can help students get to the next level, but fundamentally, they all need to have the goals of building an ongoing, year round relationship with the student which addresses academic standards and requirements for admission to graduate school. Some suggestions were:

- Graduate school application workshops help students prepare for the GRE, prepare personal statements and hone interview skills.
- GRE prep should be conducted by commercial organizations or program-based GRE prep. Look to see if there are other programs in your institution that use these organizations and ask to piggy-back on their contract.
- Once students have been accepted into graduate school, help them look for NHGRI or other NIH supported training programs, help them prepare their fellowship application (F31) to support their graduate education, or help them identify other fellowship opportunities provided by foundations and professional societies. Success here is an important indicator that the student is doing well and has the potential to contribute to her/his long-term success as a scientist.
- Academic preparedness is very important; a small study of 18 HBCUs showed that many did not offer courses that are required for matriculation to many graduate schools, thus their students are not academically prepared for graduate school. One solution is to put courses on line and/or do videoconferencing to bring in courses that are not taught by HBCU faculty. Also, MAP programs can augment academic preparation by helping students identify and develop strategies to overcome academic deficiencies.
- Academic experiences should include getting students to participate in study groups or provide an active learning experience whereby a small group of students are given a problem and they must come up with a research design; such an exercise would require them to understand the principles underlying the experimental design.
- The introduction of new technology into the lab should be an opportunity to tutor MAP participants as well as graduate students/postdocs and technicians. This levels the playing field and lowers barriers to participation.
- In assessing students' capabilities, consider their strengths as well as their weaknesses. Although it is important to help them overcome their weaknesses, whether academic or understanding the rigor of research design, their strengths may reveal other areas of research best suited for them to excel in.
- Students should be cautioned that if they participate in summer programs at research institutions this will not necessarily give them a "foot in the door." Institutions use a variety of factors in selecting students. Training coordinators need to align students' expectations with their capabilities. A good approach to this is have students apply to about ten schools: two applications to their "Pie in the Sky" institutions; three to four applications to schools in the middle group; three to four applications to schools where they have a solid chance of getting in; and one application to a "fail safe" school that they know they will get accepted.
- Partnering with non-academic institutions, such as corporations, will also give participants a different skill set.
- Students should be monitored to see how they are doing: how well did they do in a course; which graduate schools did they apply to; etc.
- Seminars are important, but should be structured that the participants will take something away; the more productive students are those who attend more seminars; since the research tends to be narrow, seminars bring a broader perspective to participants— department chairs are good at this because they have to translate research to broader audiences.

NOTE: Merna Villarego's (Advisory committee) undergraduate program at UC Davis would be a good resource for information and ideas on how to improve and evaluate undergraduate academic performance essential for admission to and success at graduate school.

D. What things should I consider in evaluating my program?

The challenge of evaluations is to clearly define goals/objectives that are definable/measurable and represent what is most important for an initiative to be successful. There are three levels of evaluations:

There are three levels of evaluations:

(1) Accountability: Are you doing what you said that you would do.
(2) Satisfaction: Survey students to determine what did/did not work. Qualitative studies will help determine what the expectations of participants and mentors were. The example given was in surveying participants in a summer program the students described the experience as one of personal growth (horizontal) whereas the mentor described the experience as one of training the next generation of scientists (vertical); the result was unmatched expectations.
(3) Outcomes: What do students eventually do? The MAP program is relatively small so it should not be difficult to track participants.

The challenge of evaluations is to clearly define goals/objectives that are definable/measurable. The evaluation of the STARS program at Yale was considered a model for evaluation. Many programs have "mushy outcomes," and the problem can be identified in the expectations. At one institution, the faculty thought that the purpose of the program was to groom students to matriculate at their university whereas the students thought the purpose of the program was to participate in a valuable research program. From the point of view of the faculty, the program was a failure based on their expectations.

VI.   CHALLENGES FOR GRADUATE ACTIVITIES

Organizers: Erica Taylor; Jeff Long; Kim Nickerson; and Gayle Slaughter

A. How can I recruit the best candidates for our institution's graduate program?

- MAP program undergraduate participants are potential students for NHGRI's institutional training grant programs.
- MAP program graduate students are potential students for other MAP postdoc slots and NHGRI's institutional training grant programs.
- Major NIH minority programs like the MORE Division at NIGMS advance undergraduate and graduate students who could be excellent candidates for MAP graduate and postgraduate positions. (See XI.G. for links to specific MORE programs for grantees at universities ranging from research intensive to HBCUs and their contact information.
- In some institutions, the admissions committee makes minimal decisions; the real decision to select students is made at the department level. In order to open up the process, faculty who are good mentors to URMs should be encouraged to participate on admission committees and volunteer to be a consultant to any graduate group selecting students for participation in their programs.
- Institutions need to be creative in developing funding packages for URMs.
- Recruiting is labor intensive; faculty needs assistance from the department as well as high level administrations in the institution.
- Institutions should maintain a good image for nurturing URMs. If URMs are not treated well, they can give the institution a bad reputation. The information can spread verbally and quickly to others considering your institution. Sometimes, it is other programs at your institutions that have bad reputations in their treatment of URMS that will inhibit individuals from participating in your program. The reverse is also true; other programs with good reputations will carry that reputation over to your program. Sometimes, it may take the intercession of the MAP PI to go to the Dean to make changes.
- MAP participants are potential students for your graduate programs.
- Many students drop out during the first year of their graduate program because they are not academically prepared; institutions must think of creative ways of helping these students bridge the academic divide. One study from students participating in a program at the UC, Irvine showed that those students who participated in the summer programs

that had an academic enhancement component were more likely to graduate and were more likely to graduate with a science degree.

- URM graduate students need to be enlisted in your recruitment efforts.
- It is important to give students a sense of what the community is like beyond the institution and should include information about ethnic/racial groups, religious groups, etc.
- Participating faculty have to be on-board with the program; they should be given an orientation to the goals of the program.
- Some faculty members think that their job is to wean out those who are not "fit" for a PhD program. Students should be protected from these faculty members. In addition, the institution's senior leadership needs to correct this behavior.
- In working with institutions to recruit their students, trust is built over time and is an earned relationship.
- The selection committee needs to develop additional ways to recognize talent/motivation and it should be institutionalized. GRE scores and grade point averages should be only two of several criteria used in the selection process.
- Institutions should refrain from systematically selecting out students who have attended HBCUs because of the perception that they will not meet the scholarly standards of the institution. One approach would be to identify a cohort of students where diversity would be one of the selection factors, resulting in a class that would exemplify diversity/ heterogeneity instead of individual students who may be more homogeneous.
- Prospective students should be encouraged to broaden the list of schools that they are interested in attending.
- Graduate schools are flooded with applications from students world-wide wanting to matriculate in top institutions. This makes it very difficult for institutions to have a process to winnow through all the applications and make good decisions on students who fall below the top few percent of applications.
- Institutions may need to learn from athletic departments how to identify talent.
- A few institutions are piloting a selection process that does not use the GRE.
- URM students should be given an opportunity to be interviewed as part of the selection process; some students may be able to "sell" themselves though such a process.

B. What can I do to ensure that URM graduate students are retained in graduate program?

- When a student is not retained, whose fault is it: student, faculty, department, university or all of the above? Intervention needs to be applied at all levels.
- Once a students gets past the first year, the probability of completing the degree increases. With the right intervention and motivation, some students can recover from a poor initial performance.
- Retention should be addressed throughout graduate school. The student should meet two to thee times per year with her/his advisor or dissertation committee; some may need to meet more often. The period between passing the qualifying exams and completing the dissertation is a critical transition period and one that needs close monitoring. Thus, it is important to have regular meeting with the student during this period.
- Some students may need counseling because of personal issues, which are often over-looked, but can affect one's performance.
- It is important to nurture the student, but sometimes it is important to bring the student back to reality and ask "why are you here?" to get them focused.
- It gives URM students a boost to have URM scholars as seminar speakers. The seminar should not be only for URM students, but an open seminar for the entire department/ division/school.
- Some students have strong ties to family and will go home for a long week-end while their non-URM counterparts are busily working in the lab. Mentors need to understand the culture of various groups; on the other hand, students need to let their mentors know when they will be gone from the lab and for how long.

NOTE: Gayle Slaugher's (MAP Advisor) minority graduate program at Baylor Medical College would be a good source of initiatives and ideas of how to increase/ensure URM retention.

    C. How can I assist my students to be successful in moving to the next career level?

- Faculty should assist students in negotiating a career path that will give them satisfaction.
- Academic accomplishment as a graduate student in the form of publications is a key to success. In general, a graduate student should have at least three publications coming out of her/his dissertation, published in as highly regarded journals as possible
- If a student decides to pursue additional training, mentors should provide information about fellowship opportunities (F32 or fellowships supported by professional societies, foundations, etc.), labs to consider/not consider, and names of individuals who are good/not good mentors.

VII. CHALLENGES FOR POST DOCTORAL ACTIVITIES

Organizers: Leonore Reiser; Louise Pape; Skip Bollenbacher; and Bronya Keats

A. What should be the goals of a post doctoral program?

Training at this level should provide the trainee the opportunity apply and refine her/his scientific training in research.

- As with undergraduate and graduate training, postgraduate training has "academic" outcomes that are essential for success. The indicators of success include publications, presentations at conferences, additional specialized training, and if possible, being the recipient of a postdoctoral fellowship, career development award, and/or transitional research grant.
- To make the fellow successful in what s/he wants to do. This could include: having verbal and written agreements between the fellow and the mentor about expectations; providing research training and experiences to meet the individual's needs; inviting scientists engaged in alternative science careers (law, public policy, teaching, lab management, etc) to discuss their work; acquainting fellows with publications that discuss jobs and how to be successful in their job hunt; making sure that the fellow understands what credentials are needed for the job they hope to pursue, such as number of publications, etc.
- Postdocs in industry should make themselves available to mentoring of students.
- Mentoring is problematic because unlike graduate students, there are no milestones to be met and usually there are not committees that are supervising the research program of each single postdoc fellow. Some of the issues related to mentoring or lack of mentoring includes, but is not limited to:
    1. Mentors aggressively working with posdoc to not only get the data for publication but also attending to the non-data related issues surrounding publications. For example, getting a paper published can be an artful combination of politics, selecting the "right" reviewers, and simply persistence. Mentors should persist and encourage postdocs to persist in responding to reviewers' comments and doing whatever is necessary to get articles published in high quality journals.
    2. Mentors ensuring the career and professional development of fellows; unfortunately it is difficult to evaluate the quality of mentoring of postdoc fellows.
- Publications are important; fellows should balance the amount of time they allocate to high risk research versus safe research that will result in publications in high quality journals.

- In the new era of interdisciplinary research and the large number of authors on publications, it will be a challenge for postdocs to verify and demonstrate their scientific and creative input into publications.
- Salaries/stipends must be competitive; in some areas, such as bio-informatics, industry pays far more than academic appointments. Additional ways of attracting fellows is by providing relocation and travel expenses. NHGRI's mentored career award (K01) and NIH's general mentored award (K25) are focused on disciplines that are high paying, such as mathematics, chemistry, physics, and computer and engineering sciences.
- For fellows who have expressed an interest in an academic career, the submission of a Pathway to Independence Award should be an essential component of the postdoctoral experience.
- The fellow must demonstrate her/his capabilities because there are more quality people than there are quality jobs.

B. How can I recruit the best post doctoral candidates for our institution's post graduate program?

Some suggested ways to overcome this challenge included suggestions for recruiting for the graduate program. Some additional suggestions were:

- identifying URM graduate students from other MAP programs;
- contacting MORE Division grantees with minority PhD programs;
- contacting the MORE Division IRACDA program grantees who received a comparatively large number of minority applicants (see XI.G.)

C. What things should I consider in evaluating my program?

- Evaluation is a challenge because things that can be done for large graduate programs do not apply.
- Given the interdisciplinary nature of science and the multiple authors on papers, it may be difficult to determine the role of the fellow in any particular publication.
- Given the disparity between the publication rates of URMs and non-URMs, it would be important to know what accounted for these differences.
- The next career position should be one of the factors that program are evaluated on.

NOTE: Skip Bollenbacher's (Advisory committee) development and evaluation of minority-focused IRACDA programs might provide information and ideas for improving the postdoc component of MAP programs.

VIII. WRAP UP SESSION

At the end of the workshop, the participants were asked to state one thing that they learned from this workshop:

A. MAP Training Coordinators:

- How to select students.
- Think of outcomes when designing programs.
- The purpose and need for evaluations.
- A greater appreciation about how to network.
- The importance of integrating high school students with other programs to facilitate their transition to undergraduate programs.
- To think of retention as the foundation for recruitment.
- The need for academic enhancements and to customize programs to take students from where they are to where they need to be.

- Relearned information about funding opportunities.
- Not to reinvent the wheel; there are many programs and resources that are currently available that would be useful for MAP program Coordinators to familiarize themselves with.
- This workshop challenged what I thought I knew.
- The need to be more proactive.
- Programs have to have clear objectives and this helps in tracking and managing programs.
- Career transitions are important; data presented about the NIGMS MORE Division IRACDA postdoctoral program which includes teaching and research was very revealing when a comparison of the URM and non-URM postdocs' publication records revealed a difference in the number of publications (URM had fewer) and the types of journals (URMs published in less high quality journals). Additional research is needed to find out how to correct this problem.

B. Advisors:

- Educating those who can directly/indirectly affect the success of your programs is very important. This includes, helping admission committees understand that there are a variety of factors, in addition to GRE scores and grades, that can be used to measure talent; that being a good mentor is taking a student from where they were when they entered your lab to where they need to be when they leave the lab and to help them make a successful transition along their chosen career path.
- Programs should have clear objectives
- Every training coordinator should be working with an evaluator.
- Training coordinators should develop an electronic operating procedures manual that is continually updated.
- The quality of the discussions and the analytical things of the group were very impressive. The discussions sounded more like a scientific discussion. The key is combining passion with analytical ability.
- The training coordinators are clearly committed and have a better understanding of each other's programs. It is important that passion be tightly linked to expected outcomes. There is a need for continuing communications.
- This meeting was important in that it got the training coordinators talking to each other.
- This workshop spurred our hope that this group is poised to move to the next level.

C. NHGRI Staff:

- The Office of the Director offers its assistance in helping you accomplish your goals.
- The Office of the Director has a lot of resources to offer, including materials if you are interested in participating in our annual DNA Day.
- We all share a concern for recruiting postdoctoral fellows into our programs; this is something that we can work together on and is of interest to the intramural program.
- This workshop has been fruitful beyond expectations. We need to ensure that communications/collaborations continue beyond this workshop.

IX.   FOLLOW-UP

- There should be more regular face-to-face workshops. To determine the regularity, we will plan another workshop within a year and then determine whether they should be every year or every two years.
- Subcommittees were set up that focused on undergraduate, graduate and postgraduate levels. During the course of writing up this summary, a request was also made to have a subcommittee for K-12. All participants were asked to send Bettie J. Graham, the subcommittee(s) they were interested in participating on. An organizer (or two) will be

identified and these groups will get together to determine agenda items and when they will teleconference. It is anticipated that one or more Advisors will also be attached to these subcommittees. The date and agenda of meetings will be made available to all participants in case the topic discussed is one of interest to them. (Appendix X)

- Training coordinators should review the logic model that was presented at the first meeting of the MAP grantees. This document can be found on NHGRI's MAP portal page: http://www.genome.gov/14514219.

- NHGRI will continue to develop/refine the MAP Web site to facilitate MAP program activities and thus help achieve the objective of increasing diversity in genomics research.

- A summary of the workshop will be placed on NHGRI's MAP portal as a first major step toward MAP coordinators sharing their knowledge, initiatives, skills, lessons learned, and students.

X.   SUBCOMMITTEE ASSIGNMENTS

Undergrad	Grad	Post Doc	K-12
Katherine Montero	Erica Taylor	Katherine Montero	Nancy Kerk
Christine Rupp	Debra Murray	Angela B	Carla Easter
Vicky Schneider	Gayle Slaughter	Lenore Riser	Christine Rupp
Cherilynn Shadding	Louise Pape	Lee Bistoi	Gayle Slaughter
Nancy Kerk	Seth Ruffin	Louise Pape	Bronya Keats
Seth Ruffin	Kim Nickerson	Debra Murray	Vicky Milo Schneider
Lee Bistoi	Lee Bistoi	Michelle Hamlet	
Debra Murray	Skip Bollenbacher	Skip Bollenbacher	
Gayle Slaughter			
Lisa Peterson			
Phoenix Eagleshadow			

XI.   REFERENCES AND RESOURCES

A. Science Education Papers:

- Hanauer et. al, 2006. *Teaching Scientific Inquiry*. Science: 314, 1880-1881.

- Jeffrey Mervis, 2006. *Doing More With Less*. Science: 314, 1374-1376.

- Tai et al. 2006. *Planning Early for Careers in Science*. Science, 312: 1143-1144.

- Michael F. Summers and Freeman A. Hrabowski III, 2006. Preparing Minority Scientists and Engineers. Science, 311:1870-1871,

- Kuncel, N.R. and Hezlett, S.A., *Standardized Tests Predict Graduate Students' Success*. 2007 Science, 315:1080-1081.

- Anne J. MacLachlan: Developing Graduate Students of Color for the Professoriate in Science, Technology, Engineering and Mathematics (STEM). Center for Studies in Higher Education, UC Berkeley. Research & Occasional Paper Series: CSHE.6.06. http://cshe.berkeley.edu.

- Jennifer A. Zimbroff: Policy Implications of Culturally Based Perceptions in College Choice in Science, Minority Scientists Network. http://sciencecareers.sciencemag.org/career_development/previous_issues/articles/2006_03_10/minority_admissions_countering_cultural_blocks/

- Anne-Barrie Hunter, Sandra L. Laursen, Elaine Seymour, Becoming a Scientist: The Role of Undergraduate Research in Students' Cognitive, Personal, and Professional Development. *Ethnography & Evaluation Research, Center to Advance Research and Teaching in the Social Sciences, University of Colorado, Campus Box 580, Boulder, CO 80309, USA.DOI 10.1002/sce.20173. Published online in Wiley InterScience (www.interscience.wiley.com).*

- Merna Villarejo and Amy E. L. Barlow, Evolution and Evaluation of a Biology Enrichment Program for Minorities. In press, Journal of Women and Minorities in Science and Engineering (2007).

B. Books on Leadership:

- James C. Hunter. The Servant: A Simple Story About the True Essence of Leadership; Publisher-Crown Business, (1998).
- James C. Hunter. The World's Most Powerful Leadership Principle: How to Become a Servant Leader; Publisher-Crown Business, (2004)
- Robert K. Greenleaf. The Servant as Leader; Publisher-Robert K. Greenleaf Center, (1970).
- Robert K. Greenleaf. Servant Leadership: A Journey into the Nature of Legitimate Power and Greatness, 25th anniversary edition (2002).

C. Other Publications:

- Nettles, M.T. & Millett, C.M. (2006). Three Magic Letters: Getting to the PhD. Johns Hopkins University Press: Baltimore, MD.

- Beyond the Beakers: SMART Advice on Applying to Graduate Programs in the Sciences and Engineering. (contact:gayles@bcm.tmc.edu).

D. Information for Postdoctoral Fellows:

- Paul Smaglik-Nature Jobs Editor Series on "life as a post-doc" and global plight of post-docs. Nature, Feb.1, 2007, 445:563. This will be a series -postdoc journal. (There is another article in Feb 7 Nature)

- AAMC Postdoc Compact: http://www.aamc.org/research/postdoccompact/

- Lab Management: HHMI Resources http://www.hhmi.org/resources/labmanagement/. Their manual - making the right moves has a lot of useful information that can be useful in developing a professional development program.

- Entering Mentoring: A Seminar to Train a New Generation of Scientists by Jo Handelsman, Christine Pfund, Sarah Miller Lauffer, Christine Maidl Pribbenow. The file can be downloaded for free at: http://www.hhmi.org/resources/labmanagement/downloads/entering_mentoring.pdf.

- "The Wisconsin Program for Scientific Teaching" (directed by Jo Handelsman, supported by HHMI): http://scientificteaching.wisc.edu/.

- Mentoring Resources for Postdoctoral fellows and Mentors: http://student.ucsf.edu/postdocs/information_for_prospective_and_current_postdocs/ mentoring_resources.html.

E. Websites:

- Percy Julian: http://www.blackinventor.com/pages/percyjulian.html.

- Facebook concept-http://www.facebook.com/group.php?gid=2211942138

- National Science Foundation IGERT website is search tool and a way to connect to other graduate programs for URM students. (http://www.igert.org/programs.asp).

- National Science Foundation statistics on women, minorities and persons with disabilities: http://www.nsf.gov/statistics/wmpd/.

- Responsible conduct of research: http://ori.dhhs.gov/education/products/.

- Rochester Institute of Technology website of internships and cooperative experiences http://www.rit.edu/~gtfsbi/.

- Baylor College of Medicine's BCM Programs that Enhance Diversity: http://www.bcm.edu/diversityprograms.

- NIGMS Minority programs: http://www.nigms.nih.gov/Minority/

- UCSC: Undergraduate MAP papers on ELSI issues: http://www.cbse.ucsc.edu/outreach/outreach_divprojects.shtml#Story2

- NSF Doctoral Record Survey: https://survey.norc.org/sdr. See sample letter below to recipients.

F.   NIH Wide Resources for MAP Grantees

PA-07-297 [grants.nih.gov]: NIH Pathway to Independence (PI) Award (K99/R00)
Expiration Date: January 3, 2010
Very Important: Please read the Questions and Answers: Resources for New Investigators!

PA-07-106 [grants1.nih.gov]: Ruth L. Kirschstein National Research Service Awards for Individual Predoctoral Fellowships to Promote Diversity in Health-Related Research (F31)
Expiration Date: April 14, 201

PA-07-107 [grants.nih.gov]: Ruth L. Kirschstein National Research Service Awards (NRSA) for Individual Postdoctoral Fellows (F32)
Expiration Date: April 9, 201

PA-07-172 [grants.nih.gov]: Ruth L. Kirschstein National Research Service Awards (NRSA) for Individual Senior Fellows (F33)
Expiration Date: December 9, 2009

PA-06-087 [grants.nih.gov]: Mentored Quantitative Research Career Development Award (K25)
Expiration Date: February 1, 2009, unless reissued.

PA-05-015 [grants.nih.gov]: Research Supplements to Promote Diversity in Health-Related Research
Expiration Date: September 30, 2007.

PA-04-126 [grants.nih.gov]: Supplements to Promote Reentry into Biomedical and Behavioral Research Careers
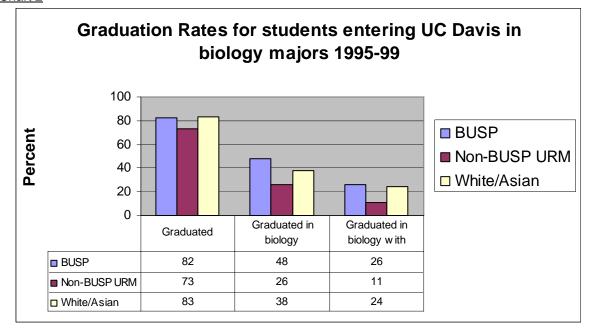*Expiration Date: July 9, 2007 unless reissued.*

G. National Institute of General Medical Sciences Resource Information for MAP Grantees

H. Analysis of University of California, Davis Graduation Rates for Participants in the Biology Undergraduate Scholars Program (BUSP)

Chart 1

Statistical Study Subjects

	BUSP	Non-BUSP URM	White/Asian
Number	294	1,193	5,409
Characteristics			
Female, %	69	67	64
High school GPA	3.73	3.66	3.80
Mean Math SAT	561	547	608
Mean Verbal SAT	527	522	555
Special Action Admissions, %	11	8	1

Chart 2

Graduation Rates for students entering UC Davis in biology majors 1995-99

	Graduated	Graduated in biology	Graduated in biology with
■ BUSP	82	48	26
■ Non-BUSP URM	73	26	11
□ White/Asian	83	38	24

Participation in educational enrichment activities at the undergraduate level can

compensate for lower high school achievement and encourage students to stay in science
These data are from a statistical study of all students who entered the University of California Davis campus with an interest in majoring in biology in the years 1995-99. Here we compare the graduation outcomes of three groups of students: participants in the Biology Undergraduate Scholars Program (BUSP), Underrepresented Minority (URM) students who did not participate in BUSP, and the white/Asian majority. BUSP is a comprehensive educational enrichment program, including supplementary instruction in basic sciences, mandatory advising and the opportunity for early research participation. BUSP participants are 85% URM.

There are significant differences in the high school preparation of the three groups. The URM students, both BUSP and non-BUSP, have substantially lower SAT scores (some 50 points in math and about 30 points in verbal) and slightly lower high school GPAs than the white/Asian students. (Chart #1)

The figure in Chart #2 first shows over-all graduation rates, in any field of study: the white/Asian group and BUSP participants have about the same graduation rate at 83% and 82% respectively, while the graduation rate for non-BUSP URMs is 73%. The next group of bars shows that BUSP students are significantly more likely to persist to graduation in biology major than either of the other groups: 48% of BUSP students graduate with a biology major compared to 38% of the white/Asian students and only 26% of the non-BUSP URMs. The final set of bars asks what fraction of students is prepared to go on to graduate or professional school in a biomedical area, i.e. have graduated with a biology major and at least a B average. The striking result is that BUSP students perform at about the same level as the white/Asian majority: 26% of BUSP and 23% of white/Asian students who started in biology majors as freshmen graduate in a biology major with a high GPA. Unfortunately, only 10% of non-participant URMs attain that level and are prepared to go on to graduate or professional training.

Merna Villarejo, Melanie Jones and Amy Barlow – UC Davis

I.   MINORITY SERVING INSTITUTION FACULTY FUNDING AND IDENTIFICATION

The long-term solution to achieving diversity in genomics resides in increasing the pool of qualified underrepresented minorities. A key way to achieve this goal is to build collaborations with faculty at minority serving institutions (MSIs) that bring genomics research and knowledge into the MSIs. In addition to MAP, the NIH has funding opportunities to support historically minority universities (HMU) faculty research and training (months to years in duration) which MAP labs can receive. These collaborations would increase minority faculty research in genomics and teaching genomics (and related disciplines) to MSI students.

   a.   Faculty Development Award (K01):
        http://www.nigms.nih.gov/Training/Mechanisms/CareerDev/MOREFacDev.htm
   MAPs can host faculty from MSIs to spend the summer or one academic term every year for 2 to 5 years in full-time research to enhance the research and training capabilities of the MSI. The award includes the opportunity for MSI faculty to take a course/academic term to update knowledge. Ideally, the relationships will lead to long-term collaborations between the MSI and host research faculty. The MSI submits the grant and direct costs (up to $50,000/year) includes salary, supplies, equipment, and travel.

   b.   MARC Faculty Senior Fellowships (F33):
        http://www.nigms.nih.gov/Training/Mechanisms/MARC/MARCFacultySenior.htm
   MAPs can host MSI faculty research (from 9 month to 2 year periods) in biomedical sciences or mathematics. Candidate must have received Ph.D. at least 7 years before application date, as well as have been at their MSI for at least 3 years. The candidate must intend to return to the MSI. Funding covers salary (not to exceed level 7 postdoctoral fellow, $51,036/year) and a training allowance ($7,000).

   c.   Research Supplements to Promote Diversity in Health-Related Research:
        http://www.nigms.nih.gov/Research/Mechanisms/PromoteDiversity.htm
   MAP PIs with NIGMS research grants can request supplemental funds to host MSI faculty research. Eligible grants include 1) research grants, e.g., R-01s, 2) program project grants, 3) center grants, and 4) cooperative agreements, all having usually two or more years of funding remaining. Requests are submitted to NIGMS program officers. For similar programs at other NIH Institutes, MAP PIs can go to http://grants.nih.gov/grants/guide/pa-files/PA-05-015.html, contact their program officers, or call Dr. Anthony A. René (301-594-3833).

   d.   Institutional Research and Academic Career Development Award (IRACDA) (K12)
        http://www.nigms.nih.gov/Training/Mechanisms/CareerDev/PartInstIRACDA.htm
   By contacting IRACDA program PIs, MAPs would be able to identify MSI faculty interested in conducting research in MAP labs, either supported by MAP funds or one of the above mechanisms. See IV. Below or URL for PI contact information.

2.   PREDOCTORAL FELLOWSHIPS AND STUDENT IDENTIFICATION

Because winning fellowships is an important aspect of research academic development (grant writing) and success (scholarly distinction) MAPs can advance the success of their minority graduate students by encouraging the submission of fellowship and related funding requests. And if successful, a fellowship would free up MAP funds for additional graduate student support or other key initiatives.

   a.   Predoctoral Fellowships for Minorities (F31):
        http://www.nigms.nih.gov/Training/Mechanisms/NRSA/IndivPredoc/default.htm
   This program provides students up to 5 years of support for Ph.D. or combined M.D./PhD. training, inclusive of 1) stipends ($20,772/year), 2) tuition/fee allowance, and 3) research allowance ($2,750/year). Minorities who were in the MORE Division MARC Honors

Undergraduate Research Training Program or Undergraduate Student Training in Academic Research Program (U* STAR) call the MORE Division (301-594-3900) to apply for funding.

b. Initiative for Maximizing Student Diversity (IMSD):
    http://www.nigms.nih.gov/Research/Mechanisms/MBRSAwards.htm#IMSD
MAPs can identify excellent minority applicants for their Predoctoral initiatives from this program, which focuses on funding "research intensive universities" to advance their minority undergraduates to baccalaureate degrees in science fields. A list of IMSD grantees to contact is located at http://www.nigms.nih.gov/Minority/MBRS/PartInstIMSD.htm. For additional information, call MORE Division program officer, Dr. Hinda Zlotnik (301-594-3900).

c. Research Supplements to Promote Diversity in Health-Related Research
    http://www.nigms.nih.gov/Research/Mechanisms/PromoteDiversity.htm
This is the same initiative described above for MSI faculty. MAP PIs with NIGMS research grants can request supplements to support minority graduate students. Eligible grants include 1) research grants, e.g., R-01s, 2) program project grants, 3) center grants, and 4) cooperative agreements having usually two or more years of funding remaining. Requests are submitted to NIGMS program officers. MAP PIs for NIGMS research grants can request supplemental funds to host MSI faculty research. For similar programs at other NIH Institutes, PIs can go to http://grants.nih.gov/grants/guide/pa-files/PA-05-015.html, contact their program officers, or call Dr. Anthony A. René (301-594-3833). (Note: This program also funds people with disabilities and those faced with certain social, economics and personal/societal challenges).

d. HHMI Search for Science Opportunities:
    http://www.hhmi.org/grants/reports/scienceopp/main
MAPs can use this web site to identify HHMI-supported and other programs across the country that have minority undergraduate summer and academic year research training programs which could provide names of students who would be candidates for MAP predoctoral programs.

3.   UNDERGRADUATE FUNDING AND IDENTIFICATION

Several large initiatives by the NIMGS and Howard Hughes Medical Institute (HHMI) focus on preparing undergraduate minority students for graduate school in the sciences. These programs could provide the MAPs 1) contacts for identifying outstanding undergraduate students for summer programs, 2) hosting students having their own financial support, and 3) establishing relationships with MSI faculty that could lead to participation in MAP MSI faculty activities.

a. MARC Undergraduate Student Training in Academic Research (U*STAR) Awards
    http://www.nigms.nih.gov/Training/Mechanisms/MARC/USTARAwards.htm
MAPs have the opportunity to identify and train, at zero to nominal cost, excellent minority students from U*STAR grantees who prepare honors science majors for graduate training in biomedical research. Trainees (juniors and seniors) must be interested in biomedical research careers, e.g., PhD, MD/PhD. Their training includes summer research experiences outside at research universities and academic year research at close by research universities. U*STAR covers: 1) financial support ($10,956/year), 2) funds, upon request, for tuition, fees, and research supplies, and 3) travel. For program information contact Dr. Adolphus Toliver at 301-594-3900 and for grantees go to http://www.nigms.nih.gov/Minority/MARC/PartInstUSTAR.htm.

b. HHMI Search for Science Opportunities:
    http://www.hhmi.org/grants/reports/scienceopp/main
MAPs can use this web site to identify HHMI-supported and other programs across the country that support minority undergraduate summer and academic year research/academic training programs which could provide names of students they have had in their programs

who might be interested in undergraduate research training in genomics or who applied to their programs but were not admitted.

4. POSTDOC RECRUITMENT AND FUNDING

   a. Initiative for Maximizing Student Diversity (IMSD):

   http://www.nigms.nih.gov/Research/Mechanisms/MBRSAwards.htm#IMSD
   MAPs can identify excellent minority applicants for their Postdoctoral initiatives from this program that focuses on funding research intensive universities to advance minority graduate students to PhDs.   A list of IMSD grantees to contact is at http://www.nigms.nih.gov/Minority/MBRS/PartInstIMSD.htm. For additional information call MORE Division program officer, Dr. Hinda Zlotnik (301-594-3900).

   b. Institutional Research and Academic Career Development Award (IRACDA) Program:

   http://www.nigms.nih.gov/Training/Mechanisms/CareerDev/PartInstIRACDA.htm
   This postdoc program has two goals: 1) explore new methods for training postdocs, and 2) collaborate with MSIs to increase the pool of minority students pursuing biomedical research careers. The grantee research intensive universities receive a large number of applications from excellent applicants (mostly just finishing their PhD), including a large number of minority applicants. Thus, MAPs can contact IRACDA grantees as a possible source of MAP postdocs either from their applicant pool or postdocs who have finished their programs and are seeking additional training in genomics. In addition, IRACDA grantees can provide MAPs access to MSI faculty interested in genomics training and postdocs and MSI faculty can help MAPs identify students to participate in MAP minority undergraduate programs.

ARIZONA
University of Arizona, Tucson
http://cis.arl.arizona.edu/PERT/index.htm
Dr. Nicholas J. Strausfeld
Center for Insect Science Arizona
1007 E. Lowell Street, Room 225
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Fax: 919-843-8661
ldykstra@unc.edu

PAST GRANTEE (recruit

University of California, Davis
San Francisco State University
Dr. Jerry Hedrick, UC, Davis
Tel: 530-752-3192
jlhedrick@ucdavis.edu

XII.   SAMPLE LETTER FROM NSF REQUESTING FORMER DOCTORAL RECIPIENTS TO COMPLETE SURVEY QUESTIONNAIRE (EXAMPLE OF FOLLOW-UP/TRACKING)

From: "6107 - SDR" <sdr@norc.uchicago.edu>
Reply-To: sdr@norc.uchicago.edu
To: XXXX
Subject: Follow-up from the National Science Foundation
Date: Fri, 22 Sep 2006 09:24:37 -0500

Dear Dr. XXX,

Today we mailed you a check for $25. We realize that your time is valuable and this is our way of thanking you for participating in the 2006 Survey of Doctorate Recipients (SDR), sponsored by the National Science Foundation and the National Institutes of Health.

The 2006 round of this survey ends soon, and we at the National Science Foundation are asking for you to help by completing the survey.

The SDR is the only definitive source of data about the educational outcomes of our nation's science and engineering doctorate workforce and your contribution to it is vital. We cannot replace you with anyone else. You were selected as part of a statistical sample of 43,000, which represents the science and engineering doctorate population in the United States, estimated at 773,000. We depend on your participation in order for the study results to be accurate and representative.

Won't you please take a few moments to complete the survey now by calling NORC at 1-800-685-1663 or by going to the SDR survey web site https://survey.norc.org/sdr .

To ensure security, please use the unique Personal Identification Number (PIN) and Password below to access the survey after you have gone to the website address.

PIN: 12345   Password: AB123X

If you have any questions regarding the survey or would prefer to complete the survey over the telephone or in the paper form, please contact NORC via the toll-free number at 1-800-685-1663 or e-mail to SDR@norc.uchicago.edu. Staff are available from 9 a.m. to 9 p.m. (CT) to assist you.

Thank you in advance for your contribution to this valuable research effort.

With much appreciation,

John Tsapogas
Project Officer
National Science Foundation
Survey of Doctorate Recipients

For answers to SDR Frequently Asked Questions:
http://www.norc.uchicago.edu/sdr/sdr_faq.asp

For practical uses of SDR data:
http://www.norc.uchicago.edu/sdr/sdr_action.asp

For assistance completing the survey:
Call toll free at 1-800-685-1663, e-mail SDR@norc.uchicago.edu or visit
www.norc.uchicago.edu/sdr

For more information about the survey:
Visit www.nsf.gov/statistics/showsrvy.cfm?srvy_CatID=3&srvy_Seri=5 or
write NSF at 4201 Wilson Blvd, Suite 965, Arlington, Virginia 22230

SDR ID: 1234567

XIII.   WHAT IS YOUR MAP IQ?

(Perfect Score: 133)

ONE POINT

- Have you read the NHGRI Minority Action Plan (http://www.genome.gov/10001707)?
- Have you read the NHGRI Guidelines for Responding to the NHGRI Action Plan (http://www.genome.gov/10003996)?
- Do you know our advisors and their areas of expertise?
- Have you read the summaries from the annual MAP workshops (http://www.genome.gov/14514219 ; bottom of page)?

TWO POINTS

- Do you know the history and goals of your institution's MAP Program?
- Do you know the goals and eligibility criteria of other MAP-like programs at your institution?
- Have you spoken with another training coordinator about their MAP program within the last month?
- Have you referred any of the graduates of your MAP program to another MAP program or a T32 program director?
- Have you ever contacted an Advisor outside of a NHGRI-scheduled workshop for advice?
- Have you updated your program on the NHGRI MAP Portal?
- Have you subscribed to the NHGRI LISTSERV?

FIVE POINTS

- Do you know the location of all the MAP programs?
- Do you know the names of all the MAP training coordinators?
- Do you know the types of programs each MAP program supports?
- Have you visited any MAP program within the last year?
- Have you made any changes in your program as a result of evaluation feed-back?
- Have you given any advice to your participants about the F31 fellowship program, minority supplement program, or pathway to independence award within the last year?
- Do you routinely ensure that every student who graduates from your program continues in another substantive research training activity as appropriate for her/his career level?
- Have any of your participants been the recipient of a minority supplement?
- Have you spoken with a graduate of your program within the past year?
- Have you contact past participants to get updated on their careers within the past year?
- Have you invited another MAP PI or T32 program director to speak to your participants within the past year?
- Do you meet regularly with the PI of the grant to discuss the program?
- Can you give the location of half of the NHGRI-supported Training Programs?

TEN POINTS
- Have your participants (present and past) published any peer review papers?
- Have any of your participants received peer-reviewed support?
- Have you given an orientation about the MAP program to faculty members in your department?
- Have any of your graduates been/is being supported on a T32 award?
- Do all of your undergraduate participants go into Ph.D. or MD/Ph.D. programs?

XIV.   FIRST ANNUAL WORKSHOP OF MAP TRAINING COORDINATORS

6:00 P.M. FEBRUARY 9 TO 4:00 P.M. FEBRUARY 10, 2007

WATERGATE HOTEL
2650 Virginia Avenue, NW
Washington, DC 20037

Purpose of the Workshop: To identify potential best practices, build relationships among the coordinators, and provide a venue to discuss their roles and relationships to participants, researchers, principal investigators, and program directors.

9 February (Friday)

6:00 PM	Meet, Greet, and Network	Participants
6:30	Welcome Introductions and Participants Summary of TC Responsibilities (2' max)	Bettie Graham
7:30	Presentation	Francis Collins
8:00	Overview	Merna Villarejo

8:15	Networking[1] Discussion	Moderators: Lisa Peterson Vanessa Gamble
9:45	Adjourn	

10 February (Saturday)

8:00 AM	Meet, Eat, Greet, and Network	Participants
9:00	Challenges[2] for Undergraduate Activities	Moderators: Debra Murray Nancy Kerk Gayle Slaughter Merna Villarejo
10:30	Challenges for Graduate Activities	Moderators Erica Taylor Jeff Long Kim Nickerson Gayle Slaughter
12:00	Lunch	
1:30 PM	Challenges for Post Graduate/Faculty Activities	Moderators: Leonore Reiser Louise Pape Skip Bollenbacher Bronya Keats
3:00	Open Discussion	Participants/Advisors
4:00	Adjourn and Safe Journey	

[1.]Interinstitution and intrainstitution.
[2] Issues to be considered under each career phase: Recruitment Strategies; Matching Students with Faculty/Research Areas; Mentoring; Academic Enhancement Activities; Transition Networks/Outcomes; Fellowship/Grant Applications; Tracking/Evaluating/Standards for overall quantitative assessments; Logistics (Housing/Extracurricular Activities);Communications/Networking with other MAP Programs; Other Issues.

XV. WORKSHOP PARTICIPANTS

National Human Genome Research Institute (NHGRI)
National Institutes of Health
Department of Health and Human Services

FIRST ANNUAL WORKSHOP OF MAP TRAINING COORDINATORS
FEBRUARY 9 – FEBRUARY 10, 2007

WATERGATE HOTEL
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