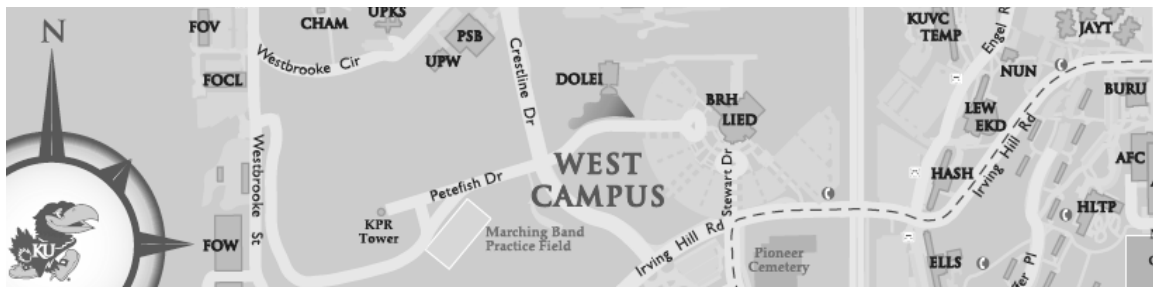

A Faculty Roadmap to Training Grants:

Proposal Preparation, Administration, & Evaluation



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Acknowledgements

This text began with a casual conversation about the difficulties faculty face when moving from the role of principal investigator (PI) of a research program to PI of a training grant program. While the transition to PI of a training grant can be filled with uncertainty, many faculty have and continue to make the necessary transition.

Training grant programs provide a range of benefits to the students and faculty involved. Training grant programs serve as fertile ground for leadership development -- for both students and faculty. Since students model behavior learned during their training, students on training grants learn collaborative leadership from their PIs. In turn, faculty mentors involved with training grants learn valuable leadership skills that will enhance their careers.

We hope that this manual, by illuminating those characteristics and strategies that mark a well-prepared PI, will allow additional faculty to enter into research leadership through creation of innovative training programs that support the next generation of science researchers.

We have been privileged to work with a selection of exceedingly fine faculty and administrators at the University of Kansas. Special thanks go to Marigold Linton, Robert Barnhill, James Orr, C. Russel Middaugh, Sara Rosen and a host of others who have allowed us to “come along for the ride” and encouraged our own journeys.

The first draft of this missive was presented at the 2010 annual conference of the Society for the Advancement of Chicanos and Native Americans in Science. Our appreciation also goes to this phenomenal professional association, which encourages those of us who value diversity and mentoring in the sciences. We are delighted to have been invited back for a second session.

– Roberta Pokphanh & John Augusto

Introduction

Faculty who serve as principal investigators for training grant programs must possess skills beyond the bench to lead the production and mentoring of the next generation of scientific researchers. This manual provides a “roadmap” to the unique skills and knowledge necessary for the creation and administration of successful training grant programs.

The training grant process is divided here into five stages: identification, preparation, proposal writing, administration, and evaluation and renewal. Advice and tips are provided for each stage.

A list of resources – from funding agencies and professional associations to books and articles on proposal preparation and training – is also provided. Additionally, sample checklists to supplement the proposal process are included in the appendix to aid the proposal writer.

This text is not intended to assist the proposal writer with polishing his/her skills as a grant writer; rather the focus is on those aspects of training grant proposals that are distinct from research grant proposals.

Why Apply for a Training Program?

Training programs are designed to support faculty principal investigators (PIs) who are invested in and committed to training the next generation of researchers. A potential training grant PI is someone who is dedicated not only to research, but to training and service to the larger community. The “why?” for many training grant faculty is just that; a commitment to giving back and mentoring students – both for the benefit of the PI’s home institution and to the discipline itself.

Consider This:

The National Institutes of Health offer opportunities to apply for pre- and post-doctoral training grants thru over 20 different agencies. In 2009, \$754 million was awarded in Ruth L. Kirschstein National Research Service Award programs. (<http://report.nih.gov/NIHDataBook>)

Step One:

Exploration & Identification

The first step in a training grant program proposal is exploration to identify the people, resources, and programs that will contribute to a successful proposal and training program. The following items should be considered.

Am I Ready?

An appropriately positioned and committed principal investigator (PI) is one of the most critical components of a successful training grant proposal. Ask yourself the following questions:

- **Am I at the right point in my career?**

The PI should be a tenured professor with a strong research and funding track record – preferably with the agency that funds the training program. A full professor with a thriving research program and a commitment to mentoring and service is an ideal candidate.

- **Do I have the appropriate experience?**

The PI should have a proven track record in obtaining research funding, training undergraduate, graduate, and/or postdoctoral fellows. Current grant support, publications, and successful trainees should evidence this experience. PIs should also seek to gain administrative experience at the department level before pursuing a training grant program.

- **Do I have a strong network?**

The PI should have a well-established network of collaborating faculty and a familiarity with administrators and research support staff at his/her institution. Additionally the PI needs to establish a familiarity with people and grant proposal and review procedures at the funding agency.

Consider This:

If you have not yet reached the point in your career where you are fully qualified to consider a training grant proposal, there are steps you can take to move in that direction. These may include:

- *earning tenure/promotion*
- *establishing a solid research program*
- *establishing a track record of training undergraduate, graduate and/or postdoctoral fellows*
- *gaining administrative experience*
- *positioning yourself with your institution and funding agencies*

Programs and Funding Sources

The next question to answer is what it is you hope to accomplish with your training program and which funding agency and mechanism is appropriate. If you are unfamiliar with the various training grant programs, this is the time to do some research. The information below should be of assistance as you explore the various options.

Selected Training Grant Programs:

Agency	Program	Trainee Level
NIH	T32	Predoctoral / Postdoctoral
NIH (NIGMS/MORE)	MARC/U-STAR	Undergraduate
NIH (NIGMS/MORE)	MBRS / RISE / IMSD	Undergraduate / Graduate
NIH (NIGMS/MORE)	Bridges / PREP / IRACDA	Undergraduate / Post-baccalaureate / Postdoctoral
NSF	IGERT	Undergraduate / Graduate
NSF	REU	Undergraduate
NSF	ADVANCE	Faculty
NSF	LSAMP	Undergraduate / Graduate
HHMI		Undergraduate

Consider the following questions:

- **What agency fits?**

The National Institutes of Health and National Science Foundation offer different programs in different areas of research for different types of trainees. The research focus of your training program needs to be relevant to the types of research the agency funds.

- **Do I want to train undergraduate, graduate, or postdoctoral fellows?**

Different programs target different groups. Additionally, some programs focus on training in the summer; others the academic year. The number of trainees allowed under the program is also a consideration; training programs can have as few as two or more than fifty participants.

- **Which programs make sense for my department and institution?**

Not all institutions qualify for all types of programs; you should consider how the training program fits in with the goals of your academic program and institution.

Collaborators

Identify who your collaborators will be. Consider the following questions:

- Will you have Co-Investigators?
- Will you have participation from other departments and programs at your own institution?
- Will you have partner institutions?
- Who will serve as research mentors for the participants?

Consider This:

Participating faculty mentors should be a balanced combination of experienced and upcoming faculty. Create a mix of new, fresh faculty researchers and established full professors. If your program includes more than one department/degree program, balance the number of faculty and trainees in each of these areas.

The Idea: Broader Impacts and Training

The next step towards a training grant program is establishing the idea for the training program. As with a research proposals, training grant proposals should combine proven “techniques” with something novel. The novel aspects may be related to the subject area and/or the training methods. The goal of a training program is to produce the next generation of researchers; how will your program be uniquely successful in this quest? What broader impact will your training program’s success have on the field?

Educate yourself on the current literature on training students in the sciences. Not sure where to start? Look through the resources section for a few suggestions; but do not limit yourself to these resources. Investigate those relevant to the specific field of research and/or target group of trainees. Training undergraduate students from urban communities in mathematics and training postdoctoral fellows in the latest pharmacological techniques may require very different strategies.

Seeking Advice

Faculty with experience in training grant programs are a fabulous resource. Talk to someone who has a successful training grant at your institution or another institution. Attend conferences like the annual meetings of the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) and the Annual Biomedical Research Conference for Minority Students (ABRCMS) and visit with training grant PIs and representatives of the granting agencies.

Consider This:

A core steering committee may assist with key decisions regarding the structure and administration of the training program. These individuals can also serve as mentors for you in different areas. Consider expertise in reviewing proposals, administrative decision making, collaborations with other institutions, and other characteristics in your selection of your steering committee.

Step Two:

Preparation

Once the training grant program mechanism has been identified and your steering committee selected, it is time to prepare to write the training grant proposal.

Read the Directions

Training grant proposals are not like research proposals. Read the directions. Pay attention to requirements and deadlines. Familiarize yourself with whether the program supports or requires partners, institutional data, national data, inclusion of research and literature on training, recruitment of underrepresented populations, or any other component required for the proposal that you will prepare.

Consider This:

Proposal announcements are rarely a scintillating read. However, knowing what you need to prepare, what information you need to gather, and who you will need to involve in the proposal are essential to success. Everything – from overall organization of the proposal to minute details like the fonts and margins – are stipulated in the proposal announcement. Read it. Study it. Follow the directions.

Know the Success Rates

Familiarize yourself with the success rates of the type of proposal you will submit. For example, the NIH RePORT website (<http://report.nih.gov/>) indicates that the success rate for T32 applications has ranged from 42-65% over the past decade. Visit with your agency contact about the success rates for the program you are interested in.

Investigate who has been funded, where, and what they are doing. Many of the program websites list participating institutions. Learning what has been funded and what is working for other programs can not only give you a head start on identifying successful strategies, but also assist in identifying what will make your proposal unique and novel.

Consider This:

Know your program director. Your agency contact can often provide insights that cannot be obtained anywhere else.

Know the Research (the research on training)

Faculty know their research field. But a training grant PI also needs to know how to train students in the field. Find the relevant literature on training. Familiarize yourself with the successful strategies. Use it where appropriate. Cite it as necessary in your proposal. Your training grant proposal must demonstrate evidence of potential for success. Just as preliminary data is evidence for your research proposal, you must also show “preliminary data” for your training program proposal.

Partners

The proposal of a partnership with one or more institutions requires that many questions be answered.

- Does the training program require or encourage institutional partnerships?
- What institutions will you partner with?
- Is there a track record of collaborations between faculty and administrators at these institutions?
- What efforts between the two partners can already be included as part of the program?
- Who needs to be involved?
- What rules and regulations may exist at your institution? At your partner institution?
- What benefit will the partnership bring to both institutions?
- How will the administration of the grant be managed among the partners?
- How involved will partners be with proposal development?
- How involved will partners be with day-to-day decision making?

Many training programs either succeed or fail based on the strength of the partnerships between institutions. Partnerships are like houseplants. Forget to feed them, water them, or give them adequate sunlight, and they will wither and die. Once in a while, a little judicious pruning and repotting doesn't hurt either.

Consider This:

Institutional partnerships should benefit all partnering institutions. When approaching a partner remember to “walk a mile in someone else’s shoes.” Share information about what the program mechanism allows and what your ideas are. But ASK your partner what will be of benefit to their institution, faculty, and students. You may be surprised.

Data – Institutional

A successful grant proposal is based on data. Training grant proposals require solid baseline data so that success can be measured. You will need to gather this data from a variety of sources. The institutional planning office at your institution (and your partnering institutions) is a critical source of data. Depending on the type of training program you are proposing, you may need to collect and summarize data on applicants, admitted students, retention rates, graduation rates, and matriculation or other types of institutional data. These offices are often quite busy with many requests, and requests as far in advance of the deadline as possible are appreciated.

You may also need to supplement the institutional records with information directly from the departments/programs participating in the proposal. Again, plan adequate time to work with departmental staff to gather this additional data as necessary.

You will also need to plan adequate time and resources to summarize the institutional data that you gather. In addition to what may be quite specific requirements about the format in which this data must be reported to the granting agency, you will want time to evaluate the data and ensure that your institution can both demonstrate a need for the activity that you are proposing *and* a possibility of success.

Data – National

You will also want to gather national data to assist with situating your institution within the larger national trends. National data may come from a variety of sources. The following table lists a few of the common sources of data.

Selected Sources of National Data

Data Source	Web Address	Types of Data Provided
National Center for Education Statistics	http://nces.ed.gov/	US educational data
NSF Survey of Earned Doctorates	http://www.nsf.gov/statistics/srvydoctorates/	Data from the annual survey of doctoral degree recipients
NSF WebCASPAR	https://webcaspar.nsf.gov/	National education database
US Census	http://www.census.gov/	Population and economic data
National Academy of Sciences	http://www.nap.edu/	Reports on training in the sciences
Council of Graduate Schools	http://www.cgsnet.org/	Reports on graduate level data.

Consider This:

Staying up-to-date on the latest national data can be difficult. Two good sources of information are The Chronicle of Higher Education and Inside Higher Education. You may wish to consider subscribing to their free email service to stay up-to-date on some of the latest data reports.

Support – Institutional Commitments

Training grant programs may strongly encourage (or require) institutional commitment. This commitment may come in a variety of forms. From provisions for specialized courses/training for participants, to additional stipends, funds for research, recruitment, or a variety of other items, you should consider both the needs of the training program and the resources available at your institution.

Start by documenting what the training grant program is already receiving in support from the institution and participating departments. These could be things like meeting and office space for the program, student recruitment support, and student workshops on poster presentations. Approach the appropriate administrators (your department chair, dean, research administrator, provost, other) with a clear plan and budget in hand. Ask for things that are within their power to grant, and within reason. Get the agreement in writing. This may mean following your meeting up with an email detailing the agreement that was reached.

Consider This:

Talk with other training grant PIs at your institution and peer institutions. What institutional commitments have they received? This should assist you in knowing what you should ask for.

Step Three:

Proposal Writing

You have explored your options and done the groundwork for your proposal. Now it is time to start writing. The following discussion provides information on some of the steps and components common to training grant proposals.

Get Organized

Good proposals are not written in a vacuum. Few research faculty can put together a training grant proposal alone. Identify your team, assign tasks, and set deadlines. Delegate, prioritize, and plan. See the sample checklists in the appendix for sample planning documents.

Recruitment Plan

Training programs require participants. How will participants be recruited for the program? The recruitment plan should begin with the current baseline data and build by elaborating on how additional appropriate candidates will be recruited and selected. Will the recruitment plan focus on partner institutions, on attending minority recruitment conferences and events, on a feeder summer research experience, or other appropriate mechanisms? Describe the recruitment strategies succinctly and clearly.

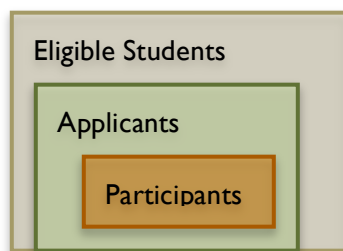
Recruitment of underrepresented populations is an important concern for many training grant funding agencies. Investigate information provided by granting agencies on best practices for the recruitment of underrepresented groups, and include these strategies in your recruitment plan. For example, the following websites are recommended by NIH:

- Community for Advanced Graduate Training: <https://cagt.nigms.nih.gov/>
- Examples of NIGMS-Funded NRSA Training Programs with Notable Records of Recruitment and Retention of Underrepresented Minority Students: <http://www.nigms.nih.gov/Training/Diversity/Examples.htm>
- Minority Programs Update: <http://www.nigms.nih.gov/Publications/MPU.htm>
- NIGMS Procedures for Implementation of the NIH Requirement for the Recruitment and Retention Plan to Enhance Diversity: <http://www.nigms.nih.gov/Training/Diversity/NIGMSProcedures.htm>

- Presentation “Promoting Diversity in Research: Championing an Inclusive Scientific Workforce”:
<http://www.nigms.nih.gov/News/Reports/PromoteDiversity06072009.htm>
- Resources for Recruiting and Retaining individuals to Achieve Diversity:
http://grants1.nih.gov/training/faq_diversity.htm#f1

Consider This:

You will also want to provide information on how participants will be selected from those that apply. Target a minimum of three times as many applicants as positions available in the training program. The graphic below demonstrates a recommended pool of eligible students.



Training Plan

How will you train the program participants? The answer to this question will vary greatly depending upon the training mechanism. The training program is the essential basis of your proposal. What is your idea and why is it novel? What will your training program provide to participants that does not exist currently? What courses, workshops, and research experiences will shape the participants experience, transforming them into successful researchers? Will students present their research at local and national meetings? What activities will solidify a successful cohort?

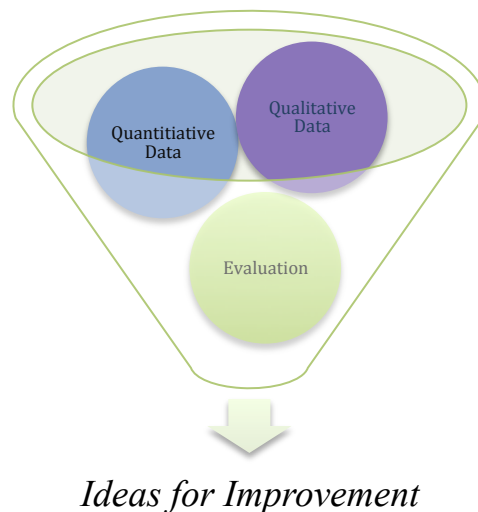
The training plan should detail the specific activities of the proposed program. These may include:

- Courses
- Professional development workshops (grant writing, publishing, presentation skills)
- Seminars
- Symposia
- Conference attendance
- Specialized training (lab techniques, statistical skills, or other training necessary)
- Training in the responsible conduct of research (this is often a separate section of the proposal)
- Program meetings and events

Evaluation Plan

How will success be measured? An effective evaluation plan will include both quantitative and qualitative measures. Provisions should be made for both internal tracking and evaluation and external evaluation. Evaluation should occur both on a short term basis (annually) and a long term basis (prior to renewal).

Evaluation plans should balance these four aspects of evaluation to measure success of the training program. Provisions to adjust the training program in response to evaluation should be built into the program.



There are multiple approaches to evaluation. Visit with other training grant PIs at your institution and other institutions for ideas. A comprehensive evaluation plan includes items such as counting and tracking participation, summarizing the data, obtaining feedback from current and former trainees, and assessing career development of trainees. External evaluation can provide insight into institutional practices and yield ideas for improvement. See the checklist in the appendix for further examples of evaluation components.

Consider This:

Research programs build on the data gathered during the research. Research training programs should also build on the data gathered during the program.

Hit "Submit"

Work with your institution's research office or center to submit your proposal in the appropriate format and by the required deadline.

Step Four:

I've been funded. Now what?

Proposal submission is often followed by a protracted period of waiting. Waiting for a score; then waiting for a funding decision. However, a positive funding decision is not the end of the process -- rather, it is just the beginning. Programs may be fully funded for the full proposal period, funded with a reduced budget or trainees, or funded for a reduced time period.

Re-Assess

One of the first steps is often to reassess your original proposal in light of a funding decision that may be below the amount initially budgeted. Re-evaluate your planned program activities, prioritize, and carefully trim if necessary. Preserve the core or essential activities, and seek additional support if necessary.

Do What You Said You Would

Set up a timeline for the duration of the grant program. Outline the items by grant year and create a calendar. Identify the responsible parties and timelines for completing the tasks related to program administration and tracking of program participation. Review this calendar with your management team (this may be your steering committee, or the PI and an administrative staff or other depending on the specific program).

One important item on this calendar is the schedule for recruiting, admitting, and training participants. Often grant funding decisions leave a very short period of time in which to recruit and accept the first cohort of trainees.

Likewise, it may be necessary to provide in a short time frame for courses, seminars, workshops, or other program activities. Identify the people and tasks that need to be completed in the short term, and be prepared to move quickly into starting the training program activities.

The following items are ones that frequently need attention shortly following award notification:

Budget

Review your proposed budget and your award decision. Revise as necessary.

Applicants

Set your application and review process. Actively solicit applications.

Steering Committee

Inform the steering committee that the grant has been funded. Remind them of the roles they agreed to play. Seek their advice and council as the program gets rolling.

Collaborators

Notify your collaborators that the program has been funded. Update them on any budgeted items and timelines for program activities.

Training: Courses, Symposia, Professional Meetings, Publications

Start the training program. Those new courses you promised? Make sure the faculty are lined up and prepared to teach them. The spring symposium? Reserve a room, find posterboards, and line up your speakers. Outline each of the steps to initiate the sequence of training and events you included in your proposal, put the deadlines on your calendar, and make it happen.

Create a Training Program Timeline

A training program timeline might take many forms. Here is one sample of a training program timeline of trainee activities.

Postbaccalaureate Training Program Activities:

Training Program Activities	
Year 1:	
Summer	Testing, evaluation, and preparation of an individual development plan
	Selection of research training mentor
Fall	Mentored research experience
	Responsible conduct of research training
	Writing in the sciences course
Spring	Mentored research experience
	Course in statistical methods
	Scientific presentations workshop
	Poster presentation at departmental symposium
Summer	Mentored research experience
	Workshop on Graduate Application Process
Year 2	
Fall	Mentored research experience
	Advanced coursework
	Presentation at national conference
	Workshop on graduate school interview process
Spring	Mentored Research Experience
	Advanced coursework
Completion of program and entry into graduate program	

Consider This:

The Three C's: Calendar, Commitments, and Counting. Use the three "C's" to guide you through grant management. 1) Maintain a Calendar. 2) Keep the Commitments made in the proposal. 3) Count the results of training program activities.

Track Information

Training program information must be recorded, maintained and updated regularly. Track participant and training program activities. Identify the tools that are easy and simple to maintain – often a few spreadsheets will suffice. Large or complex programs may require a database, but most training grant programs are able to manage with basic record-keeping tools.

Keep records of every activity from:

- Applicants
- Acceptances
- Mentors
- Courses offered and enrollment
- Symposia held and attendance
- Attendance and presentations at professional meetings
- Publications
- Training completion
- Graduation
- Matriculation
- Any other milestones of the training program

These records are essential for creation of annual progress reports and a future renewal proposal. Just as meticulous records of laboratory research are necessary, records of training activities are also essential.

Consider This:

Tracking former participants after program completion can be challenging. Try using social media; many students now regularly utilize facebook, LinkedIn, Academia.edu and other social media to stay in touch with professional contacts.

Step Five:

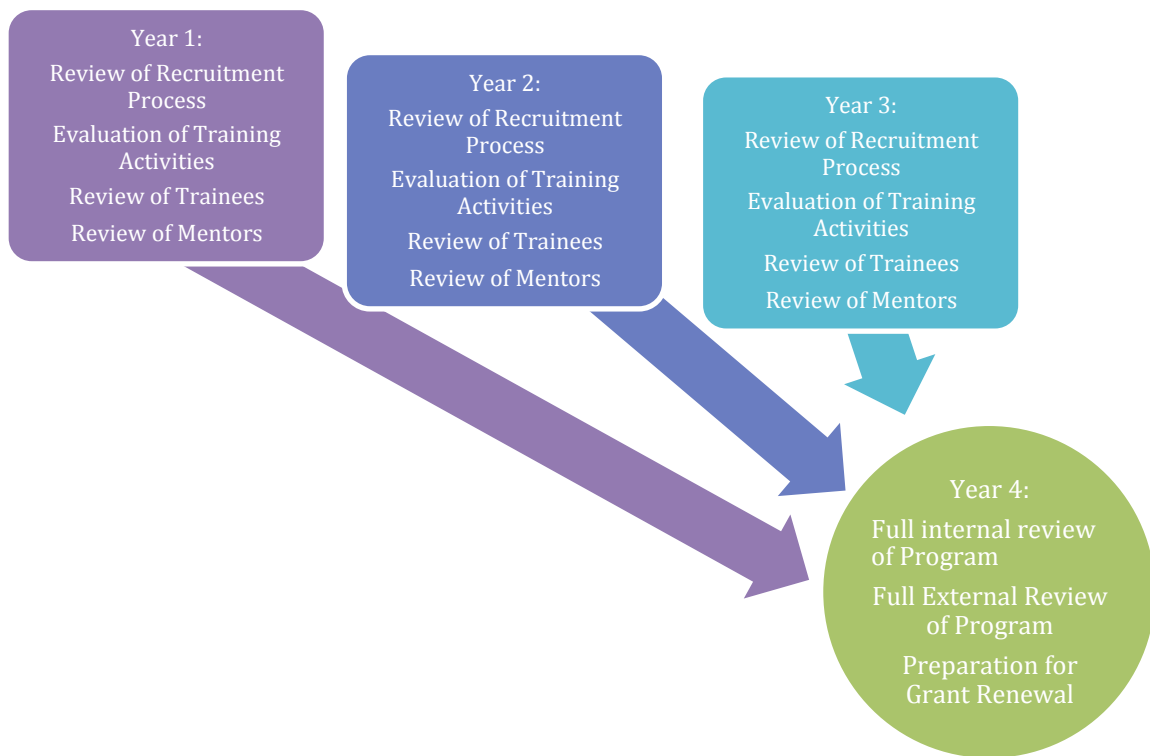
Evaluation, Progress Reports & Renewal

As your training program gets underway, make sure that evaluation becomes an ongoing and integral part of your program.

Evaluation of Program Activities and Participants

The initial training program proposal included a plan for evaluation. As the grant progresses, perform regular evaluation of the components of the program, and adjust activities as necessary. If an activity is not producing the result expected, make adjustments to the training program

An evaluation timeline might look something like the following on a four-year program, with a renewal proposal early in year four:



Respond to Weaknesses

As a training program progresses, evaluation will reveal those strategies that are meeting with success, and those areas where weaknesses exist. Make appropriate adjustments during the course of the training program, and note these responses to your ongoing evaluation in your annual progress reports.

Report on Progress

Annual progress reports are required for grant-funded training programs. Read and follow the directions for the specific funding mechanism. In general, programs are expected to report on numbers of trainees, their progress, evaluation of program successes, and any adjustments made to the training program.

Consider keeping a journal that helps you document the lifecycle of the training grant program. Similar to a research journal, the training grant journal allows you to collect and track the progress of the program, what observations you have about the training and what you could expect should you consider renewing the program.

Renewal Considerations

As your training program enters the next to final year, conduct an external evaluation and, if appropriate, begin planning for renewal. Begin again with exploration and identification. Consider carefully what has been accomplished and what can be gained with a renewal of the program.

- What strategies and activities were successful?
- Which components should be maintained?
- Which activities should be abandoned or altered?
- What new strategies will improve success rates?
- Will additional partners/collaborators be added?
- What activities will be institutionalized and shifted away from grant funding?

The renewal process follows the same sequence as the original proposal process. Hopefully, the training grant PI has learned many valuable skills over the course of the initial proposal and funding period, and is now ready to create an even more successful and exciting training program proposal.

Conclusion

Training grant programs train students in multidisciplinary approaches to research and model excellent leadership. The programs provide faculty with opportunities for collaboration and leadership development. The programs bring prestige to the home university and promote the goals of the discipline and funding agencies.

Perhaps most importantly, training grant programs provide faculty committed to the training of the next generation of researchers the ability to do so in unique ways.

We hope you find this manual helpful. We look forward to your feedback to help us make it better. Feel free to contact us:

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Additional Resources

Funding Agencies

The following is a partial list of funding agencies and training grant programs. The program descriptions are taken from the websites referenced.

The National Institutes of Health

The National Institutes of Health, Ruth L. Kirschstein National Research Service Awards

<http://grants.nih.gov/grants/guide/pa-files/PA-11-184.html>

Ruth L. Kirschstein National Research Service Award Institutional Research Training Grants (T32)

<http://grants.nih.gov/grants/guide/pa-files/PA-11-184.html>

The National Institutes of Health (NIH) will award Ruth L. Kirschstein National Research Service Award (NRSA) Institutional Research Training Grants (T32) to eligible institutions as the primary means of supporting predoctoral and postdoctoral research training to help ensure that a diverse and highly trained workforce is available to assume leadership roles related to the Nation's biomedical, behavioral and clinical research agenda. The objective of the T32 program is to prepare qualified individuals for careers that have a significant impact on the health-related research needs of the Nation. This program supports predoctoral and postdoctoral research training programs (including those with short term research training) at domestic institutions of higher education with the T32 funding mechanism.

Participating Agencies Include:

National Cancer Institute (NCI) <http://www.cancer.gov/>

National Eye Institute (NEI) <http://www.nei.nih.gov/>

National Heart, Lung, and Blood Institute (NHLBI) <http://www.nhlbi.nih.gov/>

National Human Genome Research Institute (NHGRI) <http://www.genome.gov/>

National Institute on Aging (NIA) <http://www.nia.nih.gov/>

National Institute on Alcohol Abuse and Alcoholism (NIAAA) <http://www.niaaa.nih.gov/>

National Institute of Allergy and Infectious Diseases (NIAID) <http://www.niaid.nih.gov/>

National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)
<http://www.niams.nih.gov/>

National Institute of Biomedical Imaging and Bioengineering (NIBIB)
<http://www.nibib.nih.gov/>

Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) <http://www.nichd.nih.gov/>

National Institute on Deafness and Other Communication Disorders (NIDCD)
<http://www.nidcd.nih.gov/>

National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
<http://www2.niddk.nih.gov/>

National Institute on Drug Abuse (NIDA) <http://www.nida.nih.gov/nidahome.html>

National Institute of Environmental Health Sciences (NIEHS) <http://www.niehs.nih.gov/>

National Institute of General Medical Sciences (NIGMS) <http://www.nigms.nih.gov/>

National Institute of Mental Health (NIMH) <http://www.nimh.nih.gov/>

National Institute of Neurological Disorders and Stroke (NINDS)
<http://www.ninds.nih.gov/>

National Institute of Nursing Research (NINR) <http://www.ninr.nih.gov/>

Fogarty International Center (FIC) <http://www.fic.nih.gov/>

National Center for Complementary and Alternative Medicine (NCCAM)
<http://www.nccam.nih.gov/>

National Center for Research Resources (NCRR) <http://www.ncrr.nih.gov/>

Office of Dietary Supplements (ODS) <http://ods.od.nih.gov/>

The National Institutes of Health, National Institute of General Medical Sciences, Division of Minority Opportunities in Research

<http://www.nigms.nih.gov/Research/FeaturedPrograms/Minority/>

The Division of Minority Opportunities in Research (MORE) administers research and research training programs aimed at increasing the number of minority biomedical and behavioral scientists.

Minority Access to Research Careers (MARC)

<http://www.nigms.nih.gov/Research/FeaturedPrograms/Minority/MARC/default.htm>

The Minority Access to Research Careers (MARC) Branch seeks to increase the number of highly-trained underrepresented biomedical and behavioral scientists in leadership positions to significantly impact the health-related research needs of the nation. Nationally, groups found to be underrepresented in biomedical and behavioral research include, but are not limited to, African Americans, Hispanic Americans, Native Americans, Alaska Natives and natives of the U.S. Pacific Islands. The Branch meets this objective by supporting two institutional programs, MARC U-STAR (T34) and MARC Ancillary Training Activities (T36), and Individual Predoctoral Kirschstein-NRSA Fellowships to Promote Diversity in Health-Related Research.

- MARC U-STAR (T34) <http://www.nigms.nih.gov/Training/MARC/USTARAwards.htm>
- MARC Ancillary Training Activities (T36)
<http://www.nigms.nih.gov/Training/MARC/MARCAncillaryTraining.htm>
- Individual Predoctoral Kirschstein-NRSA Fellowships to Promote Diversity in Health-Related Research <http://www.nigms.nih.gov/Training/MARC/MARCPreddoctoral.htm>

Minority Biomedical Research Support (MBRS)

<http://www.nigms.nih.gov/Research/FeaturedPrograms/Minority/MBRS/default.htm>

Minority Biomedical Research Support (MBRS) programs are aimed at increasing the number of faculty, students and investigators who are members of groups that are underrepresented in the biomedical sciences. MBRS grants are awarded to 2- or 4-year colleges, universities and health professional schools with 50 percent or more student enrollment from underrepresented minority groups to support research by faculty members, strengthen the institutions' biomedical research capabilities and provide opportunities for students to work as part of a research team. Historically, individuals who have been found to be underrepresented in biomedical or behavioral research include, but are not limited to, African Americans, Hispanic Americans, Native Americans (including Alaska Natives), and natives of the U.S. Pacific Islands.

MBRS Program Components

- Research Initiative for Scientific Enhancement (RISE) Program
<http://www.nigms.nih.gov/Research/FeaturedPrograms/Minority/MBRS/RISEDescription.htm>

RISE is a student development program for minority-serving institutions. The goal of the program is to increase the number of students from groups underrepresented in biomedical and behavioral research who complete Ph.D. degree programs in these fields. The program supports institutional grants with well integrated developmental activities that may include, but are not limited to, research experiences at on- or off-campus laboratories, specialty courses with a focus on critical thinking and development of research skills, collaborative learning experiences, research careers seminars, scientific reading comprehension and writing skills, tutoring for excellence, and travel to scientific meetings. Support is also available for evaluation activities.

- Initiative for Maximizing Student Development (IMSD) Program
<http://www.nigms.nih.gov/Research/FeaturedPrograms/Minority/MBRS/IMSDDescription.htm>

IMSD is a student development program for institutions with research-intensive environments. The goal of the program is to increase the number of students from underrepresented groups in biomedical and behavioral research who complete Ph.D. degrees in these fields. The program offers an opportunity to develop new or expand existing effective academic developmental programs, including student research internships, in order to prepare students from underrepresented groups for competitive research careers and leadership positions in the biomedical or behavioral sciences.

- Support of Competitive Research (SCORE) Program
<http://www.nigms.nih.gov/Research/FeaturedPrograms/Minority/MBRS/SCOREDescription.htm>

SCORE is a developmental program that seeks to increase the research competitiveness of investigators at minority-serving institutions with 50 percent or more enrollments of students from groups underrepresented in biomedical and behavioral research, and to increase the research capabilities of these institutions. To better achieve these objectives, the SCORE Program offers separate funding opportunities for individual investigator-initiated research awards. The mechanisms used for these funding opportunities are the

SC1 (PAR-08-026), SC2 (PAR-08-027) and SC3 (PAR-08-028) awards. Research proposed under any of the investigator-initiated SCORE award mechanisms must fall within the scope of the NIH mission.

MORE Special Initiatives (SI)

<http://www.nigms.nih.gov/Research/FeaturedPrograms/Minority/Special/default.htm>

The MORE Division has several special initiatives designed to enhance the research and research training capabilities of institutions with substantial enrollments of individuals from underrepresented groups. Support is available at the undergraduate, postbaccalaureate, graduate, postdoctorate and faculty levels, as well as for education and research infrastructure improvements.

MORE Special Initiatives Program Components

- Bridges to the Baccalaureate Program
<http://www.nigms.nih.gov/Research/Mechanisms/BridgesBaccalaureate.htm>

The Bridges to the Baccalaureate Program provides support to institutions to help students make transitions at a critical stage in their development as scientists. The program is aimed at helping students make the transition from two-year junior or community colleges to full 4-year baccalaureate programs. The program targets students from groups underrepresented in the biomedical and behavioral research enterprise of the nation and/or populations disproportionately affected by health disparities (targeted groups).

- Bridges to the Doctorate Program
<http://www.nigms.nih.gov/Research/Mechanisms/BridgesDoctoral.htm>

The Bridges to the Doctorate Program provides support to institutions to help students make a critical transition in their development as scientists. The program is aimed at helping students make the transition from master's degree programs to Ph.D. programs. The program targets students from groups underrepresented in the biomedical and behavioral research enterprise of the nation and/or populations disproportionately affected by health disparities (targeted groups).

- Postbaccalaureate Research Education Program (PREP)
<http://www.nigms.nih.gov/Research/FeaturedPrograms/Minority/Special/PREP/default.htm>

PREP awards encourage underrepresented minorities who hold a recent baccalaureate degree in a biomedically relevant science to pursue a research doctorate. PREP participants work as apprentice scientists in a preceptor's laboratory and participate in student development and education activities. This program is expected to strengthen the research skills and academic competitiveness of participants for pursuit of a graduate degree while also stimulating them to have an interest in addressing the health problems that disproportionately affect minorities and the medically underserved in the United States.

- Institutional Research and Academic Career Development Awards (IRACDA)
<http://www.nigms.nih.gov/Training/CareerDev/MOREInstRes.htm>

IRACDA combines a traditional mentored postdoctoral research experience with an opportunity to develop teaching skills through mentored assignments at a minority-serving institution. The program is expected to facilitate the progress of postdoctoral candidates toward research and teaching careers in academia. Other goals are to provide a resource to motivate the next generation of scientists at minority-serving institutions, and to promote linkages between research-intensive institutions and minority-serving institutions that can lead to further collaborations in research and teaching.

The National Science Foundation

The National Science Foundation, Integrative Graduate Education and Research Traineeship Program (IGERT)

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12759

The Integrative Graduate Education and Research Traineeship (IGERT) program has been developed to meet the challenges of educating U.S. Ph.D. scientists and engineers who will pursue careers in research and education, with the interdisciplinary backgrounds, deep knowledge in chosen disciplines, and technical, professional, and personal skills to become, in their own careers, leaders and creative agents for change. The program is intended to catalyze a cultural change in graduate education, for students, faculty, and institutions, by establishing innovative new models for graduate education and training in a fertile environment for collaborative research that transcends traditional disciplinary boundaries. It is also intended to facilitate diversity in student participation and preparation, and to contribute to a world-class, broadly inclusive, and globally engaged science and engineering workforce.

The National Science Foundation, Research Experiences for Undergraduates (REU)

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5517&from=fund

The Research Experiences for Undergraduates (REU) program supports active research participation by undergraduate students in any of the areas of research funded by the National Science Foundation. REU projects involve students in meaningful ways in ongoing research programs or in research projects specifically designed for the REU program. This solicitation features two mechanisms for support of student research: (1) *REU Sites* are based on independent proposals to initiate and conduct projects that engage a number of students in research. REU Sites may be based in a single discipline or academic department, or on interdisciplinary or multi-department research opportunities with a coherent intellectual theme. Proposals with an international dimension are welcome.

The National Science Foundation, Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers (ADVANCE)

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5383

The goal of the ADVANCE program is to develop systemic approaches to increase the representation and advancement of women in academic science, technology, engineering and mathematics (STEM) careers, thereby contributing to the development of a more diverse science and engineering workforce.

The National Science Foundation, Louis Stokes Alliances for Minority Participation

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13646&org=HRD&from=home

The Louis Stokes Alliances for Minority Participation (LSAMP) program provides funding for new, mid-level and senior-level alliances, the Bridge to the Doctorate (LSAMP-BD) Activity, and knowledge generation activities in broadening participation, e.g., research on topics in STEM education related to retention and persistence of students from populations underrepresented in STEM majors and careers. In FY2012, the program plans to support up to two pilot regional Louis Stokes Centers of Excellence in Broadening Participation which will further scholarly research in broadening participation in STEM disciplines and mentor institutions regionally that have interest in increasing STEM B. S. degrees to underrepresented minorities but are not currently participating in one of the 41 existing alliances.

Howard Hughes Medical Institute Science Education Grants for Institutions <http://www.hhmi.org/grants/institutions/>

HHMI awards grants to biomedical research institutions, universities, and colleges to support innovative science education programs at the pre-kindergarten to 12th-grade and undergraduate levels. These programs seek to encourage young people's interest in science, prepare them for science-related careers, and increase science literacy among all students, including non-science majors.

Useful Websites

Community of Science (COS) <http://www.cos.com/>

The Community of Science maintains a searchable database that is, “the world's most comprehensive funding resource, with more than 25,000 records worth over \$33 billion.”

GRANTS.GOV <http://www.grants.gov/index.jsp>

As stated on the website, “Grants.gov is your source to FIND and APPLY for federal grants.”

National Center for Education Statistics (NCES) <http://nces.ed.gov/>

The National Center for Education Statistics provides national data on education from primary to postsecondary education.

NIH Data Book <http://report.nih.gov/NIHDataBook/>

The NIH Data Book (NDB) provides basic summary statistics on extramural grants and contract awards, grant applications, the organizations that NIH supports, the trainees and fellows supported through NIH programs, and the national biomedical workforce. Tables and charts are provided in a variety of formats, including PowerPoint (PPT) slides and Portable Document Format (PDF) files.

NIH Research Training & Career Development <http://www.nigms.nih.gov/Training/>

The NIGMS Research Training & Career Development website lists training programs by career stage and award type, provides links to application and review information, and provides information on agency contacts.

NSF WebCASPARE <https://webcaspar.nsf.gov/>

The WebCASPARE database provides easy access to a large body of statistical data resources for science and engineering (S&E) at U.S. academic institutions. WebCASPARE emphasizes S&E, but its data resources also provide information on non-S&E fields and higher education in general.

U.S. Census Bureau, Fact Finder <http://factfinder.census.gov/>

The U.S. Census Bureau Fact Finder provides access to demographic data from the last available census.

Books, Articles & Websites on Grant Proposal Preparation & Administration

Gerin, William. *Writing the NIH Grant Proposal: A Step by Step Guide*. Second edition. Thousand Oaks, CA: Sage Publications, 2006.

Miner, Jeremy T. and Lynn E. Miner. *Proposal Planning & Writing*. Fourth Edition. Westport, CT: Greenwood Press, 2011.

National Institutes of Health, Center for Scientific Review. *NIH Peer Review Revealed and NIH Tips for Applicants*. NIH Grant Review Process Videos. <http://cms.csr.nih.gov/ResourcesforApplicants/InsidetheNIHGrantReviewProcessVideo.htm>

National Institute of General Medical Sciences, *Approaches to Recruitment and Retention to Enhance Diversity on Kirschstein NRSA T32 Institutional Research Training Grants*. <http://www.nigms.nih.gov/Training/Diversity/Approaches>

Books, Articles and Website on Training Students

Burroughs Wellcome Fund and Howard Hughes Medical Institute. *Making the Right Moves: a Practical Guide to Scientific Management for Postdocs and New Faculty*. Second Edition, 2006. <http://www.hhmi.org/resources/labmanagement/moves.html>

Handelsman, Jo, Christine Pfund, Sarah Miller Lauffer, and Christine Maidl Pribbenow. *Entering Mentoring*. The Wisconsin Program for Scientific Teaching, 2005. www.hhmi.org/grants/pdf/labmanagement/entering_mentoring.pdf

University of Washington, *Website on Mentoring*. Includes guidance for both students and faculty. <http://www.grad.washington.edu/mentoring/>

University of Michigan, *Mentoring Others in Excellence Website*. Includes resources for download. <http://www.more.umich.edu/>

National Academy of Sciences/National Academy of Engineering/Institute of Medicine, *Adviser, Teacher, Role Model, Friend: On Being a Mentor to Students in Science and Engineering*, 1997. http://www.nap.edu/catalog.php?record_id=5789

National Academy of Sciences, National Academy of Engineering, Institute of Medicine, *Enhancing the Postdoctoral Experience for Scientists and Engineers: A Guide for Postdoctoral Scholars, Advisers, Institutions, Funding Organizations, and Disciplinary Societies*, 2000. http://www.nap.edu/catalog.php?record_id=9831

National Academy of Sciences, National Academy of Engineering, and Institute of Medicine, *Careers in Science and Engineering: A Student Planning Guide to Grad School and Beyond*, 1996. http://www.nap.edu/catalog.php?record_id=5129

Books & Articles on Diversity in Science

Committee on Maximizing the Potential of Women in Academic Science and Engineering, National Academy of Sciences, National Academy of Engineering, and Institute of Medicine, *Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering*, 2007. http://www.nap.edu/catalog.php?record_id=11741

Committee on Maximizing the Potential of Women in Academic Science and Engineering, National Academy of Sciences, National Academy of Engineering, and Institute of Medicine, *Biological, Social, and Organizational Components of Success for Women in Academic Science and Engineering: Workshop Report*, 2006. http://www.nap.edu/catalog.php?record_id=11766

Committee on Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States, Board on Higher Education and Workforce, National Research Council, *Policy Implications of International Graduate Students and Postdoctoral Scholars in the United States*, 2005. http://www.nap.edu/catalog.php?record_id=11766

Committee on Prospering in the Global Economy of the 21st Century: An Agenda for American Science and Technology, National Academy of Sciences, National Academy of Engineering, Institute of Medicine, *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future*, 2007.

http://www.nap.edu/catalog.php?record_id=11463

Committee on Prospering in the Global Economy of the 21st Century: An Agenda for American Science and Technology, National Academy of Sciences, National Academy of Engineering, Institute of Medicine, *Rising Above the Gathering Storm: Rapidly Approaching Category 5*, 2010. http://books.nap.edu/catalog.php?record_id=12999

Committee on Underrepresented Groups and the Expansion of the Science and Engineering Workforce Pipeline, Committee on Science, Engineering, and Public Policy, and National Academy of Sciences. *Expanding Underrepresented Minority Participation: America's Science and Technology Talent at the Crossroads*, 2011.

http://books.nap.edu/catalog.php?record_id=12984

Planning Committee for the Convocation on Rising Above the Gathering Storm: Two Years Later, Thomas Arrison. *Rising Above the Gathering Storm Two Years Later: Accelerating Progress Toward a Brighter Economic Future. Summary of a Convocation*, 2009. http://www.nap.edu/catalog.php?record_id=12537

National Science Foundation, Division of Science Resources Statistics, *Women, Minorities, and Persons with Disabilities in Science and Engineering: 2009*, NSF 09-305 (Arlington, VA; January 2009). <http://www.nsf.gov/statistics/wmpd/>

National Science Foundation, Division of Science Resources Statistics. 2008. *Science and Engineering Degrees: 1966–2006*. Detailed Statistical Tables NSF 08-321. Arlington, VA. <http://www.nsf.gov/statistics/nsf08321/>

Books & Articles on Responsible Conduct of Research Training

University of Kansas, Office of Research and Graduate Studies, *Ethics in the University: Reflections on Responsible Scholarship*, 2010.

<http://www.rgs.ku.edu/leadership/ethics.pdf>

National Academies of Science, *On Being a Scientist: A Guide to Responsible Conduct in Research (3rd Edition)*, 2009. http://www.nap.edu/catalog.php?record_id=12192

Office of Research Integrity (Nicholas H. Steneck), *ORI Introduction to the Responsible Conduct of Research*, 2004.

Macrina, Francis L., *Scientific Integrity: Text and Cases in the Responsible Conduct of Research*, Washington, D.C.: ASM Press, 2005.

Office of Research Integrity (Nicholas H. Steneck), *A Guidebook for Teaching Selected RCR Topics to Culturally Diverse Trainee Groups*, 2004.

<http://www.ori.dhhs.gov/documents/Alexander.RCR%20Guidebook.BW.pdf>

Professional Organizations & Conferences

The American Association for the Advancement of Science (AAAS) www.aaas.org

Society for the Advancement of Chicanos and Native Americans in Science (SACNAS)
www.sacnas.org (www.sacnas.org)

Annual Biomedical Research Conference for Minority Students (ABRCMS)
www.abrcms.org

Understanding Interventions Conference www.understandinginterventions.org

Faculty Programs, Institutes for Science Teaching, American Society for Microbiology
<http://facultyprograms.org>

Appendix

The following sample documents are intended as templates to be tailored to your specific training program.

Proposal Preparation Checklist

Evaluation Checklist

Recruitment Plan Checklist

Training Program Checklist

Sample Participant Application Forms

Sample Mentor/Student Feedback Forms

Sample Exit Interview Form

Proposal Preparation Checklist

The following sample is a checklist for an NIH T32 proposal submission.

T32 (Predoctoral) Proposal Preparation Checklist

Item:	Responsible Party:	Date due:
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Text:

Research Training Program		
Training Program Director/Principal Investigator		
Past Training Record		
Trainee Appointments		
Research Environment, Commitment, and Resources		
Training Program Evaluation		
Recruitment Plan		
Recruitment and Retention Plan to Enhance Diversity		
Training in the Responsible Conduct of Research		
Abstract/Summary		

Data Tables

Table 1	Participating Departments		
Table 2	Participating Faculty		
Table 3	Overlapping Training Grants		
Table 4	Other Support		
Table 5A	Mentors - Predoctoral trainees		
Table 6A	Publications		
Table 7A	Dept application, admission, enrollment, and completion		
Table 8A	Recent applicants' qualifications		
Table 9	Trainee qualification		
Table 10	URM Trainees		
Table 11	Appointments (renewal only)		
Table 12	Trainees supported (renewal only)		

Other materials:

Budget		
CVs (Biosketches)		
Letters of Support:		
Research		
Dean		
Chair		

Evaluation Checklist

The following is a sample checklist of items that you may wish to include in your evaluation plan.

Applicants:

- Number
- Qualifications (GPA, test scores, prior training)
- Demographic data (Race/ethnicity, disability, financial need)

Participants:

- Number
- Time in program
- Demographic data (Race/ethnicity, disability, financial need)
- Program activities participated in (courses, seminars, workshops)
- Attendance at conference
- Presentation of research
- Publication of research
- Matriculation/Graduation
- Employment
- Scholarships/Fellowship received
- Surveys of changes in attitude/interests

Former Participants:

- Matriculation/Graduation
- Employment
- Presentation of research
- Publication of research
- Grant funding received

Faculty Mentor Impacts:

- Collaborations/Publication
- Changes in training practices

Institutional Impact:

- Changes in application numbers
- Changes in retention/graduation numbers
- Changes in GPA/Test scores

Recruitment Plan Checklist

Institutional Environment:

- Current recruitment activities
- Established connections to minority serving institutions
- Current application, admission, and matriculation data
- Historical application, admission, and matriculation data

Items to include in a proposed plan:

- Web presence description
- Creation/strengthening of connections to minority serving institutions
- Visits to feeder schools
- Attendance at national recruitment events (such as minority conferences like SACNAS and ABRCMS)
- Support of campus visits for prospective students
- Undergraduate summer research or bridging programs
- Established connections to local community college/undergraduate/master's institutions
- Presence of other training programs on campus and collaborations between those programs
- Faculty involvement in recruitment activities
- Application Process
- Other items planned to increase and diversify the applicant pool

Training Program Checklist

Training programs incorporate a variety of elements. Here is a sample checklist of components.

Coursework:

- Core coursework in the discipline or cross-discipline
- Statistical training
- Specialized training course
- Responsible conduct of research course

Workshops/Seminars/Additional Training:

- Grant writing workshop
- Communicating science workshop
- Poster presentation workshop
- Standardized test prep workshop
- Applying to graduate programs workshop
- Obtaining a postdoctoral fellowships workshop

Meetings/Symposia:

- Local Poster Symposia
- Regional/National Conference
- Speaker Series
- Participant meetings
- Mentor recognition event

Sample Participant Application Forms

Undergraduate Program Application Form:

First Name:

Last Name:

Email:

Phone: () -

Street Address:

City:

State: Zip:

Please select one:

- US Citizen
- US National
- Permanent Resident
- International Student

Please select all that apply:

- American Indian/Alaska Native
- Black
- Asian American
- Hispanic/Latino/Chicano
- Pacific Islander
- Other (please specify)

Gender: F M

Highest Level of Education Completed by

Parent 1:

- Less than High School
- GED
- High School
- Some College
- Bachelors
- Graduate/Professional Degree

Parent 2:

- Less than High School
- GED
- High School
- Some College
- Bachelors
- Graduate/Professional Degree

Please attach a transcript, a description of your educational and career goals (150 words or less) and a brief description of your research interests (150 words or less).

Sample Application Requirements, Graduate Training Program

December 18, 2014

TO: Faculty Participating in the Sample* Predoctoral Training Program

FROM: Peter Smith, Director

On behalf of the Steering Committee for the Graduate Training Program in Really Cool Science, I would like to solicit nominations for eight trainee positions that will become available on {date}.

Appointment to the program is for 12 months, but is renewable if the student makes satisfactory progress in her/his graduate research/studies and in fulfilling the requirements of the Training Program. Support will provide a stipend and an allowance for supplies, travel, insurance and other program related activities. Appointments can be for a maximum of two years. Support for students after they have completed their tenure on the training grant is the responsibility of the sponsoring faculty member and home department.

Please nominate your student if he/she meets the following qualifications.

Eligibility Requirements

To be eligible a student must satisfy the following criteria:

1. They must be a U.S. citizen or permanent resident of the United States.
2. Their Ph.D. dissertation advisor must be a faculty participant of the Sample Predoctoral Training Program.
3. They must have completed at least one semester and preferably one or two years of graduate studies at KU.
4. They must agree to complete the requirements in the training program
5. They must agree to participate in the quarterly meetings, seminar series, and a yearly symposium.
6. They must complete a 3-6 month industrial internship sometime within their tenure as a graduate student.
7. Their research project must fit within the guidelines of the training program.

Nomination Process

To be considered for a position, the following materials must be submitted to **Dr. Fred Jones** (fjones@ku.edu) by {date}:

From the mentor:

1. A letter of nomination describing the reasons why you feel the student should be considered for this training grant.
2. Indicate the amount and source of any funds that will be used to supplement the trainee's stipend.

From the trainee applicant:

3. A listing of the courses that the student has taken at KU and the grades earned in each. GRE scores must also be provided.
4. A brief description of their Ph.D. research dissertation project.
5. A brief biographical sketch for the student.
6. An indication of whether the student is a resident or non-resident of the U.S. and the state of Kansas.

7.

If selected as a trainee, the student will receive a stipend (\$xx,xxx/12 months) and their tuition. A modest supply and expense budget (\$x,xxx), health insurance, and travel budget (\$xxxx) will also be provided to each trainee.*

*NOTE: The stipend amount is set by NIH and compliance with issues such as IACUC or IRB may be required as "Just in Time" information.

Sample Mentor/Student Feedback Forms

When working with undergraduate students in their first lab experience, regular feedback may be desired. The following is a sample of forms allowing student and mentor feedback on the research experience.

Sample* Program Student evaluation of Mentor form

Please provide the information requested, save this document, and return it via email (as an attachment).

Student Name

Mentor

Date:

1. My mentor has provided the necessary assistance to prepare me to conduct my research project.
 strongly agree agree neutral disagree strongly disagree
2. My mentor assisted in designing a research project that corresponds with my skill level and the time available
 strongly agree agree neutral disagree strongly disagree
3. I have a good relationship with my mentor.
 strongly agree agree neutral disagree strongly disagree
4. I have a good working relationship with other members of the lab.
 strongly agree agree neutral disagree strongly disagree
5. My research is interesting and supports my long-term career goals and interests.
 strongly agree agree neutral disagree strongly disagree
6. My mentor has discussed opportunities for presenting my research with me.
 strongly agree agree neutral disagree strongly disagree
7. My mentor has discussed graduate school/career opportunities with me
 strongly agree agree neutral disagree strongly disagree

Good things I have learned since the mentorship began:

Things I still have to learn to do:

Overall satisfaction with my mentor arrangement.

- very satisfied satisfied neutral unsatisfied extremely unsatisfied

Other comments:

Sample* Program

Mentor evaluation of Student form

We would like information about how your mentorship arrangement is working for you. **This feedback is crucial** to helping us learn how to develop and maintain effective and satisfying mentorships for all parties involved. The student has given us permission to follow their work with their mentor. Please provide the information we have requested, save this document, and return it via email (as an attachment).

Student Name:

MentorName:

Date:

1. Student has good attendance and is punctual
 strongly agree agree neutral disagree strongly disagree
2. The quality of the students work is:
 excellent good acceptable needs improvement unacceptable
3. The student's understanding of the field of study/research area is increasing.
 strongly agree agree neutral disagree strongly disagree
4. The student has a positive attitude towards research.
 strongly agree agree neutral disagree strongly disagree
5. The student is able to address challenges and formulate solutions to problems encountered in the research process.
 strongly agree agree neutral disagree strongly disagree
6. I have discussed opportunities for presenting research with the student
 Yes No
7. I have discussed graduate school/career opportunities with the student.
 Yes No
8. The student has his/her own research project.
 Yes No

Good things the student has accomplished since the mentorship began:

Things the student still must work on:

Overall satisfaction with student progress:

- very satisfied satisfied neutral unsatisfied extremely unsatisfied

Comments:

Sample Exit Interview Form

You may wish to collect some feedback as students prepare to exit the program. The following form is a sample of possible questions for an in-person exit interview.

Program Exit Interview

New Address, Phone, Email:

Permanent Contact Address, Phone, Email:

How do you feel about your laboratory work/research experience? (Likes and dislikes)

Was the research project you were working on in your mentor's laboratory completed to your satisfaction?

Was your mentor also satisfied?

Did you report the project at a local or national forum(s)? Where? When?

Will the results be published in some form? Where? When?

Do you have any suggestions for improving this program?

Have your future goals and interests in research changed because of what you experienced in this program? How?

Will you be receiving financial support sufficient to permit you to continue your education? Yes No

If yes, what is the source of that support?

Family?

Scholarship? [Which one(s)?]

Employment? Where? (Science related?)

Loans?

