

## NIH Presentation at OUHSC for Young Investigators

On Monday September 29<sup>th</sup> 2008 OUHSC (OKC campus) hosted a NIH workshop at the Biomedical Research Center titled “A Primer on Obtaining NIH Grant Support for Young Investigators” from 10:00 a.m. to 11:45 p.m.; the speaker was Jared B. Jobe, Ph.D. Dr. Jobe is a Program Director of the National Heart, Lung, and Blood Institute (NHLBI). The workshop spotlighted the F-series (Fellowship), K-series (Career Development), and R-series (Research Project) of NIH programs, the review process of these programs, how to prepare a successful application and how to react to the summary statement from the reviewers. The information he presented was geared toward New Investigators. This is a brief summary of the workshop.

### Fellowships (F-series)

The NIH F-series awards are designed to provide support for young investigators until they are established, independent investigators. NIH funds a high percentage of applications for these awards. Support starts as early as the predoctoral stage. Within each F-series there are several different types of individual awards; interested potential applicants are encouraged to review the F-series web page for eligibility and specific details. The web link to the NIH F-series award page is: [http://grants.nih.gov/training/F\\_files\\_nrsa.htm](http://grants.nih.gov/training/F_files_nrsa.htm) The F-series support individuals pursuing a research doctorate (e.g., Ph.D.) and health-professional doctorate (e.g., M.D.). Below is a short description of a few F-series awards.

- F31 – Predoctoral Fellowship Grant: Applicants must be at the dissertation research stage of their doctoral training.
- F32 – Postdoctoral Fellowship Grant: Applicants must have the potential to become productive independent investigators in fields related to NIH.
- F33- Sabbatical/Senior Fellowship Grant: Experienced scientists with at least 7 years of relevant postdoctoral research or professional training who are interested in changing the direction of their careers.

### Career Development (K-series)

The NIH K-series awards are designed to “protect” time, i.e., free up time currently spent in clinic or on administrative duties. Most are for early career development, are meant to train U.S. citizens/permanent residents (exception: K99/R00), and are limited to U.S. research/clinical institutions. Within each K-series there are several different types of individual awards; interested potential applicants are encouraged to review the K-series web page for eligibility and specific details. The web link to the NIH K-series award page is: <http://grants.nih.gov/training/careerdevelopmentawards.htm> The K-series support individuals with a research doctorate (e.g., Ph.D.) and with a health-professional doctorate (e.g., M.D.). Below is a short description of a few K-series awards.

- K01 – Mentored Research Scientist Development Award (3-5 years): Are established to provide training needed for a research career, support career development activities, and protect time and effort for persons in early stages of research career.
- K08 – Mentored Clinical Scientist Development Award (3-5 years): Clinicians who are interested in developing independent research careers.
- K23 – Mentored Patient-oriented Research Career Development Award (3-5 years): The purpose of this award is to support research conducted with human

subjects (or on material of human origin such as tissues or specimens) for which an investigator directly interacts with human subjects.

- K24 – Mid Career Investigator Award in Patient-oriented Research (3-5 years): The purpose of this program is to provide support for clinician investigators to allow them protected time to devote to patient-oriented research and to act as research mentors primarily for clinical residents, clinical fellows and/or junior clinical faculty.
- K99/R00 – Pathway to Independence Award (1-2 year mentored, 3 year independent R00): Set up in two phases. Phase I mentored research, 1-2 years (K99). Phase II independent research support (R00) 1-3 years, contingent on securing an independent research/faculty position. Each phase provides funds for salary and research costs.

### Research Grants (R-series)

The NIH R-series awards are designed to support specific projects. The projects can range from 1 year (e.g., R34) to 5 years (e.g., R01) depending on the particular program. The R-series awards represent NIH's most popular award programs. Because of the variety of the different R-series programs interested potential applicants are encouraged to review the R-series web page for eligibility and specific details. The web link to the NIH R-series award page is: [http://grants.nih.gov/grants/funding/funding\\_program.htm#RSeries](http://grants.nih.gov/grants/funding/funding_program.htm#RSeries) The R-series support individuals with a wide variety of terminal degrees. Below is a short description of a few R-series awards.

- R01 – Regular Research Project Grant: Used to support a discrete, specified, circumscribed research project. NIH's most commonly used grant program. No specific dollar limit unless specified in funding opportunity announcement. Advance permission required for \$500K or more (direct costs) in any year. Generally awarded for 3 -5 years. All NIH institutes utilize.
- R03 – Small Grant: Provides limited funding for a short period of time to support a variety of types of projects, including: pilot or feasibility studies, collection of preliminary data, secondary analysis of existing data, small, self-contained research projects, development of new research technology, etc. Limited to two years of funding. Direct costs generally up to \$50,000 per year. Not renewable. Utilized by more than half of the NIH institutes.
- R21 – Exploratory Grant: Encourages new, exploratory and developmental research projects by providing support for the early stages of project development. Sometimes used for pilot and feasibility studies. Limited to up to two years of funding. Combined budget for direct costs for the two year project period usually may not exceed \$275,000. No preliminary data is generally required. Most NIH institutes utilize.

### Review Process

Every application NIH receives is evaluated using five main criteria that the applications need to adhere to. These criteria are listed below.

1. Significance: Does the study address an important problem? How will clinical practice or scientific knowledge be advanced?
2. Approach: Are the conceptual or clinical framework, design, methods, and analyses adequately developed, well integrated, well reasoned, and appropriate to the aims of the project? Does the application acknowledge potential problem areas and consider alternative tactics?
3. Innovation: Is the project original and innovative? For example, does the project challenge existing paradigms or clinical practice; address an innovative hypothesis or critical barrier to progress in the field? Does the project develop or

employ novel concepts, approaches, methodologies, tools, or technologies for this area?

4. Investigators: Are the investigators appropriately trained and well suited to carry out this work? Is the work proposed appropriate to the experience level of the principal investigator and other researchers? (If applicable) Does the investigative team bring complementary and integrative expertise to the project?
5. Environment: Does the scientific environment in which the work will be done contribute to the probability of success? Do the proposed studies benefit from the unique features of the scientific environment, or subject populations, or employ useful collaborative arrangements? Is there evidence of institutional support?

### Successful Applications

Tips for securing funding.

Getting started:

- Identify the several most likely institutes for funding based on your specialty/ scientific interests. See who funds your mentor's research, what institutes are issuing program announcements in your area, and see what institute staff attend the same meetings you do.
- Become familiar with the websites of those institutes who might fund you and sign up for the NIH Guide ListServe: <http://grants1.nih.gov/grants/guide>
- Access and familiarize yourself with NIH Website: <http://www.nih.gov/>
- Contact and establish a working relationship with an individual at a specific NIH institute or institutes.

Writing the Application:

- Read and follow all instructions in NIH Guide, PHS398/SF424 R7R, and related updates.
- Conduct and demonstrate a thorough literature review. Make reasonably detailed arguments.
- Provide a specific rationale for your proposed investigation.
- Be certain that your stated aims follow your rationale.
- Present a complete and organized research plan.
- Include well-designed, legible tables and figures.

Submitting the Application:

- Choose an appropriate review group (locate listing of review groups and rosters via NIH Webpage).
- Use key words in title and abstract that will ensure an appropriate assignment for your application.
- Be sure to observe any institute-specific requirements when preparing your application.
- Write a cover letter. Request institute assignment(s) and study section assignment.

### Summary Statement

The summary statement from the reviewers usually arrives 6-8 weeks after the review. Read the summary statement carefully. If funded, congratulations. If not funded, follow the below suggestions. Keep in mind that more resubmission applications receive funding than original submission applications.

One Week Later After Receiving the Summary Statement:

- Arrange a phone call with the institute staff person listed on the statement to discuss your summary statement.
- Highlight the criticisms, then make a list.
- Preliminarily, determine how you will respond to each criticism.

- Ask yourself if any “fatal flaws” were identified by the reviewer.
- Discuss any human subjects concerns.

After the Discussions with Institute Staff:

- Think about how to organize the three-page introduction: by topic or by reviewer.
- Write a draft three-page introduction to be used in the resubmission of the application.
- Wait for the next NIH cycle and resubmit the application with the addition of the introduction and incorporating suggested changes from the summary statement. Be as persistent with the application as you would with a manuscript (NIH applications may be resubmitted twice, for a total of 3 submissions).