Agency	National Institutes of Health (NIH)
Program	Ruth L. Kirschstein NRSA Individual Postdoctoral Fellowship (F32) PA-18-670
Project period	3 years (not renewable)
Budget	NIH Postdoc Stipend (FY2017 chart) Tuition and Fees (for specific courses that support research training)
Due date(s)	NIH standard due dates New and resubmission: Apr 8, Aug 8, and Dec 8

Eligibility

- Doctoral degree (e.g. PhD, MD, DO, DC, DDS, DVM, OD, DPM, ScD, EngD, DrPH, DNSc, ND, PharmD, DSW, PsyD) from an accredited domestic or foreign institution
- By the time of award, the applicant must be a citizen or a non-citizen national of the United States or have been admitted for permanent residence.

Formatting

Font: Arial/Helvetica in black color with a size of 11 points or larger.

Margins: At least ½ inch on all sides.

No information should appear in the margins. For example, don't make headers or footers with the PI's name, or with page numbers.

Spacing: Single-spaced.

Figures: Within the figure/chart itself, you may use Arial/Helvetica font in a smaller type size; however, it must be easily legible and black in color. For the figure legend, use the same font size as the main text.

File format: Convert to PDF before uploading. Use a file name of 50 characters or less. Do NOT use any special characters (&, -, *, %, /, #) OR SPACES in file names. To separate words, use an underscore ("My_Attached_File.pdf").

Application Materials

- **Cover Letter** (required)

  The cover letter should contain any of the following information, as applicable:

  - Project title (200 characters or less)

- FOA title: Ruth L. Kirschstein National Research Service Award Individual Postdoctoral Fellowship (Parent F32)
- FOA number: PA-18-670
- **A list of 3 to 5 referees** (including name, departmental affiliation, and institution) who have agreed to submit letters of recommendation on your behalf.
- For late applications, information about the timing and nature of the delay
- For changed/corrected applications submitted after the due date, explain the reason for late submission of the changed/corrected applications. If you already submitted a cover letter with a previous submission and are now submitting a late change/corrected application, you must include all previous cover letter text in the revised cover letter.
- For supplemental video files, a statement that you intend to submit a video.
- A statement indicating that the proposed studies will generate large-scale genomic data that will be shared according to the NIH Genomic Data Sharing Policy (see NIH Guide Notices on the Implementation of the NIH Genomic Data Sharing Policy and Reminder about the Implementation of the Genomic Data Sharing Policy).

- **PHS Assignment Request Information**
  - Funding opportunity number: PA-18-670
  - Funding opportunity title: Ruth L. Kirschstein National Research Service Award Individual Postdoctoral Fellowship (Parent F32)
  - Awarding component assignment request: NHLBI
  - Recommend up to 3 suggested study sections (You may also exclude up to 3 study sections)
  - (Optional) A list of individuals who should not review your application and the reason why (usually a conflict of interest)
  - List up to 5 scientific areas of expertise needed to review your application (e.g. cardiovascular physiology, stem cell biology)
- **PROJECT SUMMARY**

  An abstract. No more than 30 lines of text.
- **PROJECT NARRATIVE**

  A concise lay summary. No more than 3 sentences. Think big picture/human health.

- **FACILITIES & OTHER RESOURCES**

  A detailed description of the institutional facilities and resources available to the fellowship applicant. The information provided is of major importance in establishing the feasibility of the goals of the fellowship training plan.

- **MAJOR EQUIPMENT**

  List major items of equipment already available for this project, and if appropriate, identify the equipment's location and pertinent capabilities.

- **PERSONNEL JUSTIFICATION**

  - ***Senior/Key Personnel***

    At minimum, list the fellowship applicant (PI) and the sponsor. Fellowship awards require a primary sponsor, but the applicant may also name a co-sponsor(s), consultants, or contributors. All individuals who have committed to contribute to the scientific development and execution of the project should be identified as senior/key personnel.

  - ***Other Significant Contributors***

    Individuals who have committed to contribute to the scientific development or execution of the project, but are not committing any specified measurable effort (e.g. unpaid collaborators and unpaid consultants). Senior/key personnel and other significant contributors cannot be asked to provide reference letters.

- **Biosketches**

  Required for all Senior/Key Personnel and Other Significant Contributors. A biosketch should not exceed 5 pages. An eRA Commons username is required for the applicant (PI) and sponsor. (instructions and examples)

  Include the following sections:

  A. Personal Statement

  B. Positions and Honors (listed in chronological order)

  C. Contributions to Science (briefly describe up to 5)
  Include a link to your NCBI MyBibliography webpage.

  D. Research Support and/or Scholastic Performance

  Research Support (if applicable): List both ongoing and completed research projects for the past 3 years. *Do not* state % effort or direct costs.

  Scholastic Performance (required): List by institution and year all undergraduate, graduate, and professional courses relevant to the training sought under this award. Include grades. Explain the grading system if it differs

from a 1-100 scale; an A, B, C, D, F system; or a 0–4.0 scale. Indicate the level required for a passing grade.

- **RESOURCE SHARING PLAN**
  - *Sharing Model Organisms*. If the project involves developing a model organism (not recommended for fellowships), include a plan to share and distribute that resource or explain why sharing is restricted or not possible.
  - *Genomic Data Sharing*. Describe your plan for sharing large-scale genomic data or explain why sharing is not possible.
- **INTRODUCTION TO RESUBMISSION** (if applicable) (1 page)
- **APPLICANT'S BACKGROUND AND GOALS FOR FELLOWSHIP TRAINING** (6 pages)

  Include the following sections:

  A. Doctoral Dissertation and Research Experience

  Summarize your past research activities; indicate which were part of your doctoral work and which, if any, were part of a previous postdoctoral project. Describe how your experience relates to or will make you an ideal candidate for the proposed fellowship. The research and training plan may either build directly on your previous work or it may use your experience as a strong base for working in a new field. If you are changing fields, explain the rationale and, if relevant, how your experience lead to interest in the new area of study.

  B. Training Goals and Objectives

  Describe your overall training goals for the duration of the fellowship and how the proposed fellowship will enable attainment of those goals. Identify the skills, theories, and conceptual approaches to be learned or enhanced during the award. Discuss how the proposed research will facilitate your transition to the next career stage (if applicable).

  C. Activities Planned Under this Award

  The activities planned under this award should be individually tailored and well-integrated with your research project. Describe, by year, the activities (research, coursework, professional development, clinical activities, etc.) that you will be involved in during the award period. Estimate the percentage of time to be devoted to each activity. The percentage should total 100 for each year. Describe the research skills and techniques that you intend to learn during the award period. Describe planned, non-research activities (e.g. those related to professional development or clinical activities) that you plan to engage in during

the award period. Provide a timeline detailing the proposed research training and related activities for the entire duration of the fellowship award.

- **SPECIFIC AIMS** (1 page)

  Suggested format:

  Paragraph 1. Introduce the problem. What is known and unknown? What is the critical need?

  Paragraph 2. Rationale, preliminary data, overall hypothesis, and objective(s).

  Specific Aims. List 2 to 3 specific aims (2 is fine for a fellowship). Give each aim a title that is the objective of the aim. Briefly summarize the rationale, objective, and experimental approach for each aim. If relevant, include a sub-hypothesis.

  Summary. In 2-3 sentences, state the expected outcome, why the project is innovative, and why the project is significant.

- **RESEARCH STRATEGY** (6 pages)

  Include the following sections:

  A. Significance

  Describe the scientific premise for the proposed project. You must explain the strengths and weaknesses of published research. Describe how the research will influence the scientific field or clinical practice. For basic science projects, describe how the research will fill an important knowledge gap or the translational implications.

  ~~**B. Innovation**~~

  Fellowship applicants should not include an Innovation section except in the unusual circumstance where it is specified in the FOA.

  C. Approach

  a. Preliminary Studies

  For fellowships, you may use data collected by others in the lab. Discuss your experience pertinent to this application.

  b. Research Design and Methods

  Rigor and Transparency guidance: Describe the experimental design and methods in sufficient detail to convey how you will obtain robust and unbiased results. Indicate what statistical tests will be used and the number of biological replicates to be performed.

Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims.

Sex as a Biological Variable guidance: Explain how relevant biological variables, such as sex, are factored into your research designs and analyses for studies in vertebrate animals and humans. For example, strong justification from the scientific literature, preliminary data, or other relevant considerations must be provided for applications proposing to study only one sex.

c. Timeline (optional)

d. Summary/Concluding Remarks (optional)

Important notices:

Implementing Rigor and Transparency (NOT-OD-16-011)
Consideration of Sex as a Biological Variable (NOT-OD-15-102)

- **REFERENCES CITED**

  No specific format. Include the names of all authors (don't use "et al"). Include PMCID numbers (if available). [Instructions to add PMCID numbers to all your EndNote references]

- **RESPECTIVE CONTRIBUTIONS** (1 page)

  Describe the collaborative process between you and your sponsor/co-sponsor(s) in the development, review, and editing of the Research Training Plan. Also, discuss your respective roles in accomplishing the proposed research.

- **SELECTION OF SPONSOR AND INSTITUTION** (1 page)

  Describe the rationale for the selection of both the sponsor and the institution.

  1. Explain why the sponsor and institution were selected to accomplish your research training goals. If your proposed research training is to take place at a site other than the applicant organization, provide an explanation.
  2. Foreign Institution: If you are proposing a research training experience at a foreign institution, describe how that the foreign institution and sponsor offer special opportunities for training that are not available in the United States. Key factors in the selection of a foreign institution should be described. The need for and level of proficiency in reading, speaking, and comprehending the foreign language should be addressed.
  3. Applicants requesting training at their doctorate or current institution: Training is expected to broaden a fellow's perspective. Therefore, if you are requesting training at either your doctorate institution or any institution where you have

been training for more than a year, you must explain why further training at that institution would be valuable.

- **TRAINING IN RESPONSIBLE CONDUCT OF RESEARCH** (1 page)

  Describe a training plan that addresses the five required instructional components outlined in the NIH Policy on Instruction in the Responsible Conduct of Research (RCR) (NOT-OD-10-019).

  1. Format: Describe the required format of instruction (i.e. face-to-face lectures, coursework, and/or real-time discussion groups). A plan with only on-line instruction is not acceptable.
  2. Subject Matter: Describe the breadth of subject matter (e.g. conflict of interest, authorship, data management, human subjects and animal use, laboratory safety, research misconduct, and research ethics).
  3. Faculty Participation: Describe the role of the mentor(s) and other faculty involvement in the instruction.
  4. Duration of Instruction: Describe the total number of contact hours of instruction, taking into consideration the duration of the program. Instruction should involve substantive contact hours between the trainee and the participating faculty. Acceptable programs generally involve at least eight contact hours. A semester-long series of seminars/programs may be more effective than a single seminar or one-day workshop because it is expected that topics will then be considered in sufficient depth, learning will be better consolidated, and the subject matter will be synthesized within a broader conceptual framework.
  5. Frequency of Instruction: Instruction must occur during each career stage and at least once every four years. Document any prior instruction during the applicant's current career stage, including the inclusive dates instruction was last completed.

- **SPONSOR AND CO-SPONSOR STATEMENTS** (6 pages)

  A. Research Support Available

  In a table, list all current and pending research and training support available to the applicant for this training experience. Include funding source, complete identifying number, title of the research or training program, name of the PD/PI, start and end dates, and the amount of the award. If the sponsor's research support will end prior to the end of the proposed training period, the sponsor should describe a contingency plan for how the fellow's research will be supported.

  The role of the sponsor/co-sponsor in the Research Training Plan should be described. If one or more co-sponsors is proposed, this plan should describe the

role of each sponsor and how they will communicate and coordinate their efforts to mentor the applicant effectively.

B. Sponsor's/Co-Sponsor's Previous Fellows/Trainees

State the total number of predoctoral and postdoctoral individuals previously sponsored. Select up to five that are representative, and for those five, provide information on their time spent in the lab, their present employing organizations, and their present position titles or occupations.

C. Training Plan, Environment, Research Facilities

The applicant's Research Training Plan should be individualized for the applicant, keeping in mind the candidate's strengths and any gaps in needed skills. The Research Training Plan should be designed to enhance both research and clinical training (if applicable). Describe the Research Training Plan that you have developed specifically for the fellowship applicant. Be sure to include the following points: Include items such as classes, seminars, opportunities for interaction with other groups and scientists, and any professional skills development opportunities. Describe the research environment and available research facilities and equipment. Indicate the relationship of the proposed research training to the applicant's career goals. Describe the skills and techniques that the applicant will learn. Relate these to the applicant's career goals. Discuss how the Research Training Plan will facilitate transition to the next stage of the applicant's career.

The information contained in the "Training Plan, Environment, Research Facilities" section of the *Sponsor's and Co-sponsors' Statements* should be coordinated with information provided in the *Description of Institutional Environment and Commitment to Training* attachment (see below).

D. Number of Fellows/Trainees to be Supervised During the Fellowship

Indicate how many pre- and postdoctoral trainees the Sponsor/Co-sponsor is expected to supervise during the award period. Co-sponsor statements must also include this information.

E. Applicant's Qualifications and Potential for a Research Career

On the basis of the applicant's academic record and research experience, describe how the applicant is suited for this research training opportunity. Include information about how the Research Training Plan and the sponsor's (or co-sponsor's) expertise will develop an independent researcher.

- **Letters of Support from Collaborators, Contributors, and Consultants** (6 pages)

  Letters of Support are not the same as Reference Letters. Attach letters of support from collaborators, consultants, or advisors who are expected to make substantive

contributions to the project or training. Describe their anticipated role and contributions.

- **Reference Letters**

  3 to 5 reference letters are required from individuals that are not directly involved in the project. **Referees must submit reference letters through eRA Commons by the application due date.** Give these instructions to your referees.

- **Description of Institutional Environment and Commitment to Training** (2 pages)

  Document a strong, well-established research program related to the candidate's area of interest. Describe opportunities for intellectual interactions with other investigators, including courses offered, journal clubs, seminars, and presentations. Indicate the facilities and other resources that will be available for either career enhancement or research activities. Refer to the resources described in the *Facilities and Other Resources* document and the information provided in the *Sponsor and Co-sponsor Statements* attachment.

- **Protection of Human Subjects** (if applicable)
- **Inclusion of Women and Minorities** (if human subjects)
- **Inclusion of Children** (if human subjects)
- **Data Safety Monitoring Plan** (if clinical trial)
- **Select Agent Research** (if applicable)
- **Vertebrate Animals** (if applicable)

  Include these 4 sections:

  1. Description of Procedures

  Concisely describe all procedures involving live vertebrate animals (Don't explain anything done after euthanasia). Identify the species, strains, ages, sex, and total number of animals by species. If dogs or cats are involved, indicate the source of the animals.

  2. Justifications

  Describe why the species is appropriate for the proposed research. Explain why the research goals cannot be accomplished by using an alternative model (e.g. computational, human, invertebrate, *in vitro* model).

  3. Minimization of Pain and Distress

  Describe the measures that will be taken to minimize discomfort, distress, pain, and injury. These include analgesia, anesthesia, sedation, palliative care, and humane endpoints.

4. Method of Euthanasia

For most applications, state that the animals will be euthanatized in a manner consistent with the American Veterinary Medical Association (AVMA) Guidelines for the Euthanasia of Animals. If a method is not consistent with AVMA guidelines, describe the method, provide a scientific justification, and indicate steps that will be taken to minimize pain and distress.

Notes

The *applicant* is considered the PI for fellowship award programs.

4/18/2018