



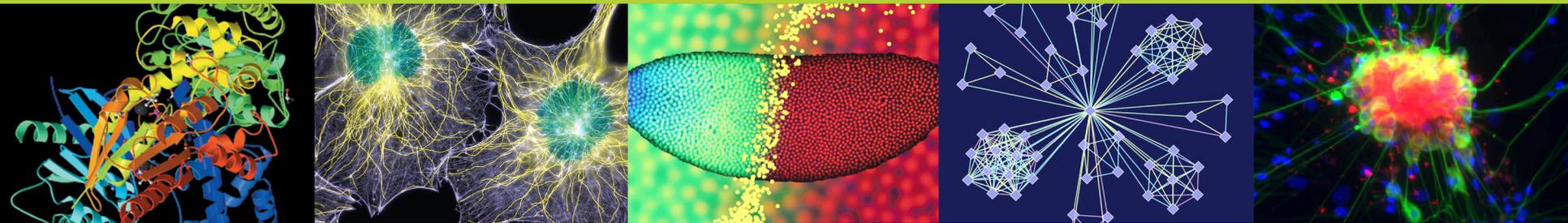
National Institute of  
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# NIGMS Ruth L. Kirschstein NRSA Predoctoral Institutional Research Training Grant Programs (T32)

Shiva Singh, Jon Lorsch, Alison Gammie,  
Stephanie Constant, and Lisa Moeller

National Institute of General Medical Sciences, NIH



# Today's Webinar Agenda

- **Introductions:** Shiva Singh, Chief, Predoctoral Training, NIGMS
- **Opening Remarks:** Jon Lorsch, Director, NIGMS
- **Overview and Details of the T32 Application Process:** Alison Gammie, Director TWD, NIGMS
- **Review of T32 Applications:** Stephanie Constant, Chief SRB, NIGMS
- **Application Budget:** Lisa Moeller, Team Leader, GAB, NIGMS
- **Q & A Period**

# A few reminders

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- **This will be recorded and available online**
- **Type your questions in the “chat” box**

# **\*\*DISCLAIMER\*\***

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*This webinar and accompanying slides are for informational purposes only. They serve as an overview of the T32 Predoctoral Training Programs and are not meant to be comprehensive in coverage of all required components of an application.*

**For any submission, applicants are responsible for following the instructions detailed in the FOA and any Related Notices included in the FOA's Overview Information section.**



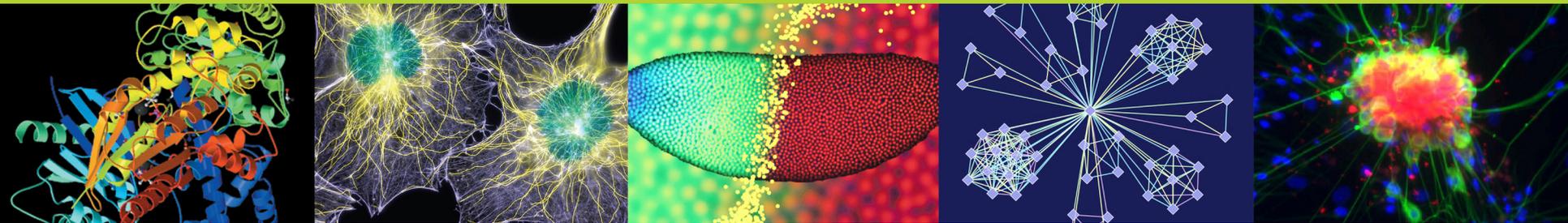
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# Opening Remarks

**Jon Lorsch**

Director, National Institute of General Medical Sciences





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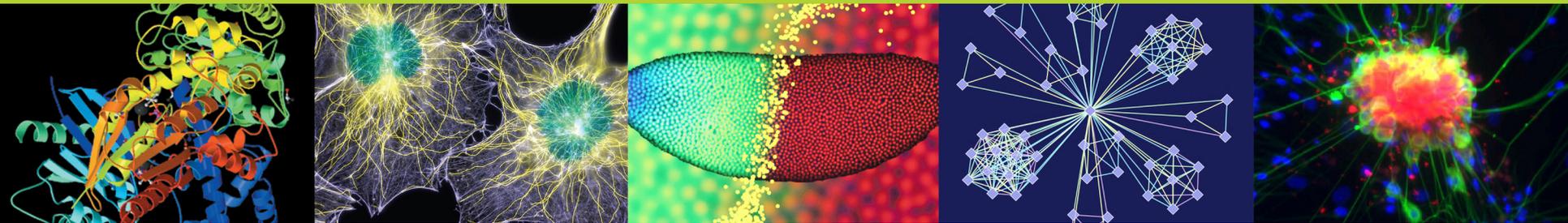


# Graduate Research Training

**Alison Gammie**

Director Training, Workforce Development and Diversity

NIGMS



# NIGMS Graduate Training – Basic Biomedical Programs

NIGMS is encouraging changes in biomedical graduate training to keep pace with the rapid evolution of the research enterprise that is increasingly complex, interdisciplinary, and collaborative.

Programs should provide high-quality research training, mentored research experiences, and additional opportunities that equip trainees with the technical, operational and professional skills required for careers in the biomedical research workforce.

The intention is not to layer additional activities onto existing structures; instead, NIGMS encourages creative approaches to biomedical graduate training.

# Major Themes in NIGMS Training Programs

- **Trainee skills development** – use evidence-based approaches to provide technical, operational and professional skills
- **Specific Aims** - obtainable and measurable training objectives
- **Rigor & transparency, responsible & safe conduct** of research throughout the training experience
- **Commitment to diversity & inclusion**
- **Promote a culture of safety**
- **Mentor training and oversight** of trainee/mentor matches
- **Career preparedness** – provide knowledge of and skills to transition into the range of careers in the biomedical research workforce
- **Strong institutional support** for research training
- **Evaluation** - the collection and dissemination of data on the success/failure of educational aims; make career outcomes publicly available



Methods &  
Technology

Quantitative &  
Computational

Acquiring Information,  
Experimental Design &  
Data Interpretation

Management &  
Leadership

Communication &  
Teamwork

# Program Objective

**Basic biomedical** – To develop a diverse pool of well-trained scientists with the technical, operational, and professional skills necessary to conduct rigorous and reproducible research, and transition into careers in the biomedical research workforce.

Diversity at all levels—from the kinds of science to the regions in which it is conducted to the backgrounds of the people conducting it— contributes to excellence in research training environments and strengthens the research enterprise. This FOA is intended to support outstanding research training programs that will enhance diversity at all levels (e.g., see the [Notice of NIH's Interest in Diversity](#)).



# Proposed *Trainee* Focused Objectives: Technical/Operational Skills

- A broad understanding across biomedical disciplines
- Expertise in a basic biomedical scientific discipline and the skills to independently acquire the knowledge needed to advance their chosen fields
- The ability to think critically and independently, and to identify important biomedical research questions and approaches that push forward the boundaries of their areas of study;



# Proposed *Trainee* Focused Objectives: Technical/Operational Skills

- A strong foundation in scientific reasoning, rigorous research design, experimental methods, quantitative and computational approaches, and data analysis and interpretation;
- The skills to conduct research in the safest manner possible, and a commitment to approaching biomedical research responsibly, ethically, and with integrity;



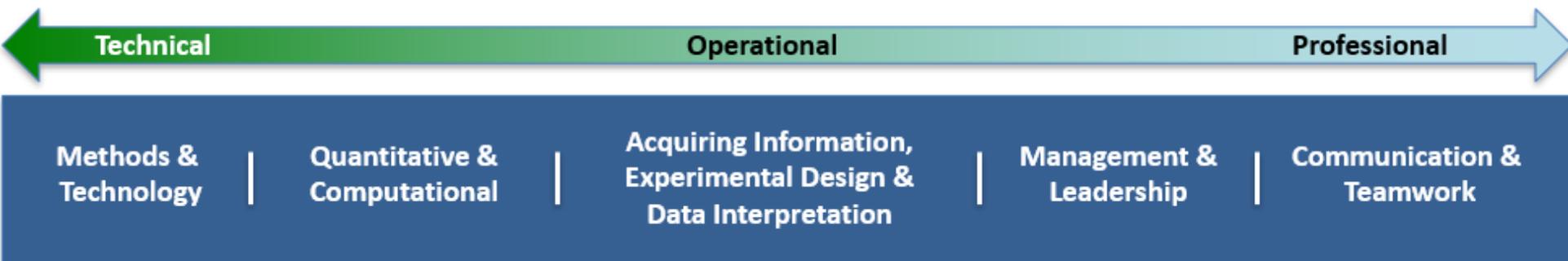
# Proposed *Trainee Focused Objectives:* Professional Skills

- Experience initiating, conducting, interpreting, and presenting rigorous and reproducible biomedical research with increasing self-direction;
- The ability to work effectively in teams with colleagues from a variety of cultural and scientific backgrounds, and to promote inclusive and supportive scientific research environments;



# Proposed *Trainee Focused Objectives:* Professional Skills

- The skills to teach and communicate scientific research methodologies and findings to a wide variety of audiences (e.g., discipline-specific, across disciplines, and the public); and
- The knowledge, professional skills and experiences required to identify and transition into careers in the biomedical research workforce (i.e., the breadth of careers that sustain biomedical research in areas that are relevant to the NIH mission).



# Is my basic biomedical graduate program a good match with NIGMS?

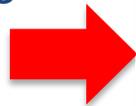
## Scientific Area?

Training areas correspond to the NIGMS-supported areas of basic biomedical sciences and/or other emerging areas within the [NIGMS mission](#).

# NIGMS T32 Program Areas

- 1 BBS: Behavioral-Biomedical Sciences Interface
- 2 BS: Biostatistics
- 3 BT: Biotechnology
- 4 CBM: Cellular, Biochemical, and Molecular Sciences
- 5 CBI: Chemistry-Biology Interface
- 6 CBB: Computational Biology, Bioinformatics, and Biomedical Data Science
- 7 GEN: Genetics
- 8 MB: Molecular Biophysics
- 9 MM: Molecular Medicine
- 10 PS: Pharmacological Sciences
- 11 SIB: Systems and Integrative Biology
- 12 TBB: Transdisciplinary Basic Biomedical Sciences

- One area per institution, normally defined by a DUNS or Institution Profile (IPF) number
- Must indicate entering the one-digit code and abbreviation (e.g., 1 BBS) in the “Agency Routing Identifier” field of the application



4. a. Federal Identifier	<input type="text"/>
b. Agency Routing Identifier	<input type="text"/>
c. Previous Grants.gov Tracking ID	<input type="text"/>

# Application

# Useful Websites

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- **Basic Biomedical NIGMS T32 FOA:**

<https://grants.nih.gov/grants/guide/pa-files/PAR-20-213.html>

- **NIGMS Predoctoral Research Training Grant Website:**

<https://www.nigms.nih.gov/Training/InstPredoc/Pages/default.aspx>

- **Predoctoral Training Grants FAQs:**

<https://www.nigms.nih.gov/training/instpredoc/Pages/predoc-training-grants-faqs.aspx>

- **NIGMS T32 Staff:**

<https://www.nigms.nih.gov/training/instpredoc/pages/PredocDesc-Contacts.aspx>

# General Tips

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- **Follow the FOA and Notice Instructions in conjunction with the Training (T) instructions in the SF424 (R&R) Application Guide**
- **Three options for submitting application:**
  - Grants.gov workspace
  - NIH ASSIST
  - Your institution's system-to-system
- **Considered a NEW applications if:**
  - The institution never had an NIGMS T32 in the area
  - The previous program was funded by NIGMS under a parent announcement (PA11-184, PA14-015, PA16-152, PA18-403)
- **Considered a RENEWAL application only if funded under:**
  - PAR-17-341 (basic biomedical program)

# Strictly Adhere to Page Limits

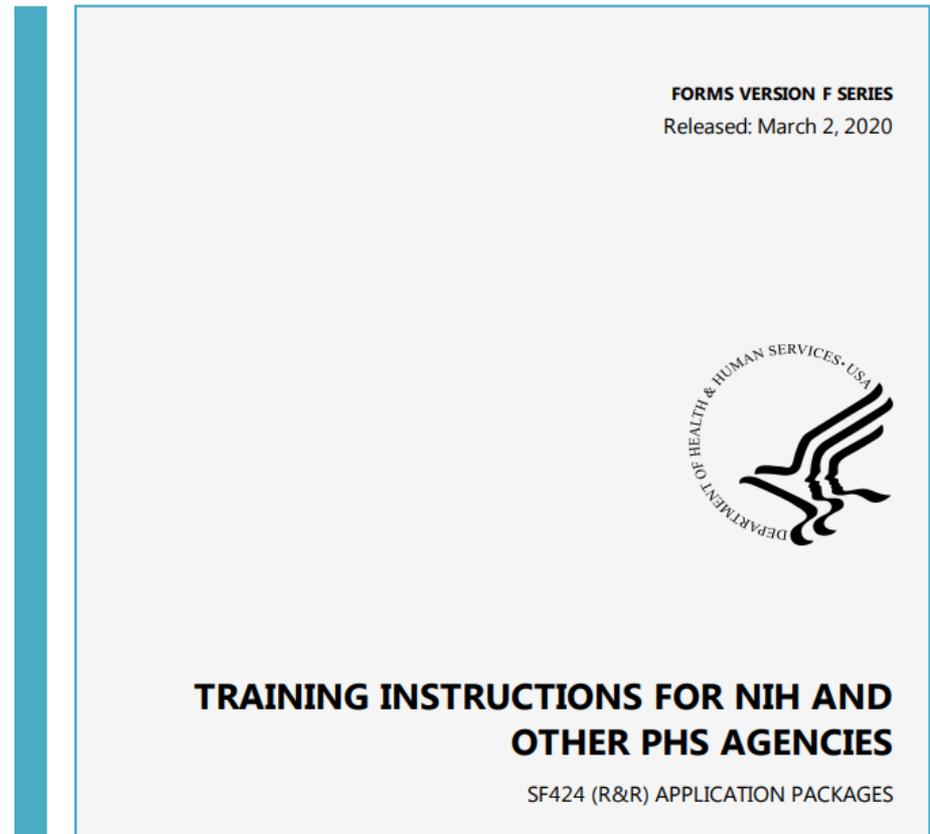
Check the Application Guide – FORMS F for institutional [Training \(T\)](#), :

<https://grants.nih.gov/grants/how-to-apply-application-guide/format-and-write/page-limits.htm>

Check the FOA for Additional Items:

- Required Attachments
- Required Appendices

If FORMS F page limits differ from FOA, FOA supersedes



# Other Project Information

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- **Project Summary/Abstract**
- **Attachments**
  - Advisory Committee (optional, however list names if one exists, 1 pg.)
  - **Application and Admissions Data (required, see [Suggested Format](#))**
  - **Recruitment Plan to Enhance Diversity (required, 3 pg.)**
  - **Trainee Retention Plan (required, 3 pg.)**
  - **Outcomes Data Collection and Storage Plan (required, 2 pg.)**
  - **Dissemination Plan (required, 1 pg.)**

# Application and Admissions Data (3 pg.)

NIGMS recommends using **Formats Table A** for applications with:

## Single departmental programs

Instructions and examples: [Word](#) | [PDF](#) | [HTML](#)

No instructions, blank: [Word](#) | [PDF](#) | [HTML](#)

## Interdisciplinary programs with multiple admissions

Instructions and examples: [Word](#) | [PDF](#) | [HTML](#)

No instructions, blank: [Word](#) | [PDF](#) | [HTML](#)

**Sample: Suggested Format Table A, Part Ia: Numbers and Characteristics of Applicants**

Ac Yr	Total Applicants	URM	Applicants with Disabilities	Applicants from Disadvantaged Backgrounds	Women	Institutionally Defined
2014-15	399	80	20	72	239	n/a
2015-16	384	77	19	69	230	n/a
2016-17	489	98	24	88	293	n/a
2017-18	342	68	17	62	205	n/a
2018-19	438	88	22	79	263	n/a
<b>Avg</b>	<b>410</b>	<b>82</b>	<b>21</b>	<b>74</b>	<b>246</b>	<b>n/a</b>

Ac Yr, Academic Year; URM, Underrepresented Racial & Ethnic Minorities; n/a, not applicable; Avg, average

# Recruitment Plan to Enhance Diversity (3 pages)

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- Describe outreach strategies and activities to recruit trainees from underrepresented groups (see [NOT-OD-18-210](#)).
- Describe specific efforts to be undertaken by the training program, including the involvement of training program faculty
- Centralized institutional recruitment efforts alone is not sufficient
- Note: accommodation is not the same as outreach or active recruitment of students with disabilities
- Potential effective strategies:  
<https://www.nigms.nih.gov/training/diversity/pages/approaches.aspx>

# Trainee Retention Plan (3 pages)

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- Describe efforts to sustain the scientific interests of trainees from all backgrounds.
- Describe the specific efforts to be undertaken by the training program, including the involvement of training program faculty
- Centralized institutional retention efforts alone is not sufficient
- Resources:

<https://www.nigms.nih.gov/training/diversity/pages/approaches.aspx>

<https://extramural-diversity.nih.gov/building-participation/recruitment-retention>

# Outcomes Data Collection and Storage Plan (2-page maximum)

- Plan to track the outcomes for all supported trainees for a minimum of 15 years beyond the trainee's participation in the program.
- Encouraged to make the aggregate outcome data available on the institution's website.
- A strategy to ensure the secure storage and preservation of program data and outcomes (i.e., centralized, safeguarded, and retrievable during leadership changes).

# Dissemination Plan (1-page maximum)

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- Plan to publish or present nationally any findings or materials developed under the auspices of the program.
- Examples of dissemination may include data or materials from successful training or mentoring interventions via web postings, presentations at scientific meetings, and/or workshops.

# Training Program

## Follow FOA, not the Application Guide

### Rationale, Mission, & Objectives

- Justification for the program (provide data)
- Training mission and objectives (specific and measurable)

# Curriculum and Overall Training Plan should describe

- How the courses, structured activities, and research experiences will accomplish the specific training mission and objectives
- Proposed changes to current research training practices to keep pace with the rapidly evolving biomedical research enterprise
- Mechanism for ensuring that the trainees are learning the highest standards of practice (e.g., record keeping, safety)
- How laboratory safety is taught throughout the didactic and mentored portions of the program
- The use of evidence-informed approaches to trainee learning, mentorship, inclusion, and professional development
- The activities that will build a strong cohort of research-oriented individuals while enhancing the science identity, self-efficacy, and a sense of belonging among the cohort members

# Curriculum and Overall Training Plan should describe

- Representative examples of training programs for individual trainees
- The trainees' academic and research background needed to pursue the proposed training and plans to accommodate differences in preparation among trainees
- How the training activities will be available to other trainees in the program(s), department(s) or institution(s) from which the supported trainees are drawn
- For multi-disciplinary and/or multi-departmental programs, indicate how the individual disciplinary and/or departmental components of the program are integrated and coordinated, and how they will relate to an individual trainee's experience; and
- The ways, when applicable, that the training plan is distinct from, but will share resources and synergize with, other NIGMS-funded predoctoral training programs at the same institution

# Career Development

- Provide information regarding the variety of careers in the biomedical research workforce
- Engage with a range of potential employers to ensure the trainees will acquire the appropriate skills and knowledge
- Provide experiential learning opportunities (e.g., internships, shadowing, informational interviews, teaching opportunities).
- Post outcomes of training program

# Program Oversight, Participating Faculty Selection, and Mentor Training

- Oversight throughout the training process is essential
- Select faculty based on commitment to training and mentoring
- Ensure that trainees are in research environments that promote responsible conduct as well as rigor and transparency
- Provide mentor training and a mechanism for
  - Matching mentors/mentees
  - Monitoring mentee/mentor relationships and plans for removing faculty showing poor mentorship qualities from the program
- Ensure faculty participate in career advising (e.g., use of IDPs)

# Institutional and Departmental Commitment to the Program

- A 10-page letter providing assurances of the institutional commitment to the program must be included in the "**Letters of Support**" section of the application.
- Applicants may use this section to expand upon the “Facilities & Other Resources” section and the “Letters of Support” section, as necessary, to provide additional information regarding the institutional and departmental commitment to the program.
- Do not repeat information contained elsewhere in the application.

# Institutional Commitment

## 10-page Letter of Support

- Developing and promoting a culture in which the highest standards of safety, scientific rigor, reproducibility, and responsible conduct are advanced;
- Ensuring sufficient start-up funding to permit early stage faculty to participate in training, and bridge funding to ensure that training may continue if a mentor experiences a hiatus in funds;
- Supporting core facilities and technology resources, and describing how they can be used to enhance training;
- Providing adequate staff, facilities, and educational resources to the planned program;
- Supporting the PDs/PIs and other key staff associated with the planned training program;
- Fostering and rewarding excellence in training (e.g., through institutional policies such as tenure and promotion);
- Supporting the remediation or removal of Participating Faculty from the program who are poorly performing mentors;
- Promoting diversity and inclusion at all levels of the research training environment (trainees, staff, faculty, and leadership);
- Ensuring a positive, supportive and inclusive research and training environment for individuals from all backgrounds;

# Institutional Commitment

## 10-page Letter of Support

- Ensuring the research facilities and laboratory practices promote the safety of trainees;
- Guaranteeing the research facilities are accessible to trainees with disabilities;
- Ensuring that proper policies, procedures, and oversight are in place to prevent discriminatory harassment and other discriminatory practices and to appropriately respond to allegations of such discriminatory practices, including providing any required notifications to NIH (e.g., requesting a change of PD/PI status; see [NOT-OD-19-056](#));
- Providing trainees access to student support services, such as healthcare, counseling services, and housing;
- Ensuring that trainees will continue to be supported when they transition from the training grant to other sources of support;
- Providing resources and expertise for evaluating the training outcomes of the program; and
- For institutions that have multiple NIGMS-funded predoctoral training grants, the letter should also explain what distinguishes the proposed program from existing ones at the same training level, how the programs will synergize and share resources when appropriate, and how the training faculty, pool of potential trainees, and resources are sufficiently robust to support the proposed program in addition to existing ones.

# Program Directors/Principal Investigators

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- Scientific expertise, administrative and training experiences
- Sufficient bandwidth to oversee the program
- Record of using rigorous and transparent methods in experimental design, data collection, analysis, and reporting
- Demonstrated commitment to training the next generation of biomedical research workforce
- Received training to mentor individuals from diverse backgrounds
- Multiple PDs/PIs approach is encouraged
- Administrative structure and succession plan for critical positions

# Preceptors/Mentors (Program Faculty)

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Create a diverse team (e.g., from underrepresented backgrounds, women, and faculty at different career stages). Select individuals who:

- Have sufficient time to commit to training given their other professional obligations;
- Receive training in effective, evidence-informed teaching and mentoring practices;
- Promote the use of highest standards of practice to ensure the safety of all individuals in the research environment;
- Cooperate, interact, and collaborate;
- Promote the development of trainee skills in approaches to rigorous experimental design, methods of data collection, data analysis and interpretation, and reporting;
- Provide opportunities for trainees to initiate, conduct, interpret, and present rigorous, reproducible and responsible biomedical research with increasing self-direction;
- Demonstrate a commitment to effective mentoring, and to promoting inclusive, safe and supportive scientific and training environments; and
- Are evaluated as teachers and mentors.

# Application and Admissions

- Describe the admissions data provided in the **required** "Application and Admissions Data" attachment in "Other Attachments," including the characteristics of training grant eligible (I) applicants, (II) admitted individuals, and (III) matriculants for each of the past 5 academic years. Applicants are encouraged to report on the numbers and averages for the categories listed in [NIH's Interest in Diversity](#).
- Expand upon the "Recruitment Plan to Enhance Diversity" and explain how it will ensure a diverse pool of applicants who have the potential to strongly benefit from, and with proper training and support, succeed in the program.
- Describe the plans for a holistic candidate review process (i.e., a process that considers metrics beyond undergraduate institution, GPA, and standardized test scores).
- If the program participants are drawn from multiple departments, describe how the PD(s)/PI(s) will ensure that holistic approaches are being used across all relevant departments.
- If the training program does not conduct its own recruitment and admissions for Ph.D. students entering the university and instead appoints students who were admitted by university departments or other graduate programs, provide a strong rationale for taking this approach.

# Trainee Positions

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- Describe how large the program will be *across all cohorts* (i.e., the total number of individuals enrolled in the proposed program ranging from the entering cohort to those nearing graduation). For interdepartmental programs, describe the expected number of individuals in the program from each scientific discipline.
- Provide a **strong justification** for the number of requested funded slots per year in the context of the training grant eligible pool, the size of the proposed program, the number of participating faculty, and other NIGMS-funded training grants at the institution
- Explain the proposed training grant support structure, i.e., how many individuals (e.g., 4 per year), at what stage (e.g., first-year entrants), and for how long (e.g., for 1 year). *Note: NIGMS typically funds trainees for 1-2 years and during years 1-3 of the Ph.D. program except under exceptional circumstances.*
- Define and justify the selection and re-appointment criteria for the training grant supported trainees in the program (appointment procedure protocols must be provided in the "Trainee Appointment Procedures" Appendix).

# *Retention and Support*

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- Applicants may use this section to expand upon the Trainee Retention Plan (provided in the "Other Attachments") and to provide evidence of the program's commitment to ensuring the well-being and success of all trainees throughout their graduate training.
- Describe the ability for participating department(s) and/or the institution(s) to support trainees for the duration of their graduate careers.

# Training Outcomes – Tables must match the narrative

Provide recent outcomes through narrative the required [training tables](#). Although the training tables for new applications only allow for 5 years of recent outcomes, the application may describe up to 15 years of outcomes in the narrative. The application should describe the following:

- Evidence that recent program graduates conducted **rigorous research that advanced scientific knowledge** and/or technologies, with increasing self-direction (e.g., peer-reviewed publications in [Training Table 5A](#), or other measures of scientific accomplishment appropriate to the field);
- The rate of **Ph.D. degree attainment and time-to-degree** for recent graduates ([Training Table 8A](#)). Explain how the time-to-degree was calculated. Indicate how many individuals obtained a Ph.D. degree, are still in training, left the program with a master's degree, or withdrew from the program with no degree;
- A description or analysis of how the Ph.D. degree attainment, time-to-degree data, and evidence of scholarly productivity (e.g., peer-reviewed publications, or other measures of scientific accomplishment appropriate to the field) for recent program graduates from **underrepresented groups** (see [Notice of NIH's Interest in Diversity](#)) **compares to the data for recent program graduates from well-represented groups**
- The success of recent graduates transitioning to careers in the biomedical research workforce ([Training Table 8A](#)).

# Program Evaluation and Dissemination

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NIGMS funded training programs must conduct ongoing evaluations to monitor the success of the training and mentoring activities. The application should describe:

- The evaluation or assessment process to determine whether the overall program is effective in meeting its training mission and objectives, and whether the scientific research climate is inclusive, safe, and supportive of trainee development;
- Plans for being responsive to outcomes analyses, critiques, surveys and evaluations;
- Past activities to track and post the career outcomes of trainees (applicants should expand upon, but not duplicate the information in the “Outcomes Data Collection and Storage Plan”); and
- Past activities designed to share the outcomes of the training or mentoring interventions with the broader community (applicants should expand upon, but not duplicate the information in the “Dissemination Plan”).

# Plan for Instruction in the Responsible Conduct of Research (RCR) (3 pages)

- Describe how RCR components are well integrated into the overall curriculum at multiple stages of trainee development.
- Explain how teaching of RCR synergizes with the curriculum designed to enhance trainees' abilities to conduct rigorous and reproducible research.
- Describe how all program faculty will reiterate and augment key elements of responsible conduct when trainees are performing research in their labs.

RCR Policy: <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-10-019.html>

Resources: <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-16-122.html>

# Plan for Instruction in Methods for Enhancing Reproducibility (3 pages) - Scored

- Describe how trainees will be instructed in principles important for enhancing research reproducibility, including evaluation of foundational research underlying a project, rigorous experimental design and data interpretation, consideration of relevant biological variables, authentication of key biological and/or chemical resources, data and material sharing, record keeping, and transparency in reporting
- Describe how instruction strategies are well integrated into the overall curriculum, that is, how they are taught at multiple stages of trainee development and in a variety of formats and contexts
- Describe how all program faculty will reiterate and augment key elements of methods for enhancing reproducibility when trainees are performing research in their labs

# Rigor & Reproducibility Resources

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- **NIH Website on Rigor and Reproducibility:**
- <https://www.nih.gov/research-training/rigor-reproducibility>
- **Clearinghouse for R25 Training Modules:**
- <https://www.nigms.nih.gov/training/pages/clearinghouse-for-training-modules-to-enhance-data-reproducibility.aspx>
- **NIGMS Administrative Supplements:**
- <https://www.nigms.nih.gov/training/instpredoc/Pages/rigor-rep.aspx>

# Progress Report

## only for RENEWAL applications – programs funded under PAR-17-341

- Include information to demonstrate that the program successfully trained a diverse pool of individuals who have the technical, operational, and professional skills to transition into careers in the biomedical research workforce.
- Describe successes and challenges with regards to implementing the programmatic elements described in the previous application, including but not limited to the following areas:
  - Incorporating evidence-informed training and mentoring practices into the program.
  - Teaching of rigor and transparency, and the responsible and safe conduct of research throughout the training experience.
  - Enhancing diversity and inclusion at all levels.
  - Overseeing all aspects of the program (e.g., of the mentor/mentee matches, the participating faculty, and trainee progress).
  - Preparing trainees for a broad range of careers in the biomedical research workforce (including but not limited to the use of Individual Development Plans (IDPs)).

# Progress Report only for RENEWAL applications – programs funded under PAR-17-341

- Provide justifications for failing to implement previously proposed programmatic elements.
- Provide evidence that the specific and measurable objectives described in the previous application were achieved and if not, provide a justification for failing to achieve the objectives.
- Describe how the funds provided under Training Related Expenses were used to benefit the program.
- Provide the methods and results of the evaluations of the program activities. Indicate whether the training activities were effective in contributing to the program objectives.
- Provide evidence that the scientific research climate is inclusive, safe, and supportive of trainee development.

# Progress Report only for RENEWAL applications – programs funded under PAR-17-341

- Expand upon the "Training Outcomes" to highlight successes and areas for improvement.
- Describe how the program responded to outcomes analyses, critiques, surveys and evaluations. Describe the barriers to success and indicate changes to the program designed to address these barriers.
- Describe how the program makes training and career outcomes publicly available.
- Indicate whether the PD(s)/PI(s) disseminated the outcomes of the training or mentoring interventions to the broader training community.
- Indicate the broader impact of the program (e.g., on the curriculum, training environment, or institutional practices).
- Highlight how the training program has evolved in response to changes in relevant scientific and technical knowledge, educational practices, and evaluation of the training program.

# Faculty Biosketches

Participating faculty should provide a personal statement that describes the appropriateness of their research background for the proposed training program, and their commitment to the following:

- Training, mentoring, and promoting inclusive, safe and supportive research environments;
- Teaching trainees to conduct ethically sound and responsible scientific research;
- Maintaining a record of, and providing training in rigorous and unbiased experimental design, methodology, analysis, interpretation, and reporting of results;
- Promoting the use of highest standards of practice to ensure the safety of all individuals in the research environment;
- Supporting trainees participating in activities required to identify and transition into careers in the biomedical research workforce that are consistent with the trainees' skills, interests, and values; and
- Fulfilling the need of the trainees to complete their Ph.D. degrees in a timely fashion with the skills, credentials, and experiences to transition into careers in the biomedical research workforce.

# Other Required Components

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- **Letters of Support** – Mandatory Institutional Letter (see above)
- **Training Data Tables** for new applications for predoctoral programs (Tables: 1, 2, 3, 4, 5A, 8A, Part III). Check that they are internally consistent and that they match the narrative.
  - **New T32 Data Tables & Instructions:**  
<http://grants.nih.gov/grants/funding/424/datatables.htm>
  - **FAQs:** [https://grants.nih.gov/grants/forms\\_updates\\_faq.htm](https://grants.nih.gov/grants/forms_updates_faq.htm)
  - **xTRACT User Guide and Resources:**  
[https://era.nih.gov/modules\\_user-guides\\_documentation.cfm](https://era.nih.gov/modules_user-guides_documentation.cfm)
  - **xTRACT videos:** [https://era.nih.gov/era\\_training/era\\_videos.cfm](https://era.nih.gov/era_training/era_videos.cfm)

# Appendices

## ■ Required

- Required Training Activities
- Responsible Conduct of Research Syllabi
- Trainee Appointment Procedures (3 pages)

## ■ Allowable

- Elective Activities (total of 4)
- Evaluation and Assessment Instruments
- Conflict Resolution Protocols (3 pages)

# Important Dates

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**Application Due date(s):** May 25, September 25, and January 25 by 5:00 PM local time of applicant organization

Submit early to allow adequate time to make any corrections to errors found in the application during the submission process by the due date

- **Peer Review:** Fall, Winter, Summer
- **Advisory Council Review:** January, May, September
- **Earliest Start Date:** July



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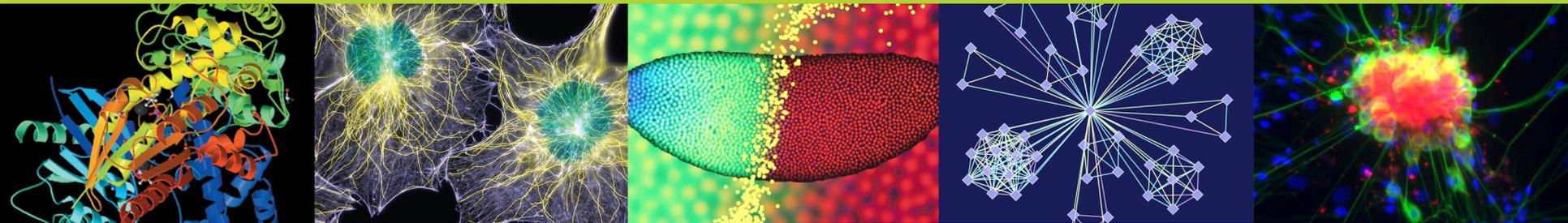


# Review of T32 Applications

**Stephanie Constant, PHD**

**Chief, Scientific Review Branch**

**National Institute of General Medical Sciences**



# TWD Standing Committees

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- TWD-A
    - Dr. Isaah Vincent ([isaah.vincent@nih.gov](mailto:isaah.vincent@nih.gov))
  - TWD-B
    - Dr. Lisa Newman ([newmanla2@mail.nih.gov](mailto:newmanla2@mail.nih.gov))
- 
- 21 members on each committee
  - All members have strong expertise in Graduate Training
  - Diversity and gender distribution
  - Geographic distribution
  - Supplemented with Ad hoc members

# TWD Standing Committees

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- Expanded expertise includes:
  - Evaluations / Outcomes Analysis
  - Career Outcomes in Graduate Education
  - Training in Multiple Career Paths
  
- Two-year membership:
  - Allow additional expertise to be added as needed
  - Membership may be renewed
  
- Reviewer orientations:
  - Held jointly for TWD-A and –B to ensure consistency across panels

<https://public.era.nih.gov/pubroster/standingCommitteRoster.era?CID=104227>

<https://public.era.nih.gov/pubroster/standingCommitteRoster.era?CID=104228>

# Review of Applications

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**JULY 15, 2020**

## Retiring Peer Review Site Visits for NIGMS Training Programs

**BY DR. ALISON GAMMIE AND DR. STEPHANIE CONSTANT**

<https://loop.nigms.nih.gov/2020/07/retiring-peer-review-site-visits-for-nigms-training-programs/>

# Review of Applications

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## Only the review criteria listed in the FOA are considered

**Overall Impact:** Reviewers will provide an overall impact score to reflect their assessment of the likelihood that the proposed training program will produce a diverse pool of well-trained scientists with the ***technical*** (e.g. appropriate methods, technologies, and quantitative/computational approaches), ***operational*** (e.g. independent knowledge acquisition, rigorous experimental design, and interpretation of data), and ***professional*** (e.g. management, leadership, communication, and teamwork) **skills necessary to conduct rigorous and reproducible research, and transition into careers in the biomedical research workforce**, in consideration of the following review criteria and additional review criteria (as applicable for the project proposed).

# Review of Applications – Review Criteria

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## Scored Review Criteria

- Training Program and Environment
  - Rationale, Mission, and Objectives
  - Curriculum and Overall Training Plan
  - Career Development
  - Program Oversight, Participating Faculty Selection, and Mentor Training
  - Institutional and Departmental Commitment to the Program
- Training Program Director(s)/Principal Investigator(s) (PD(s)/PI(s))
- Preceptors/Mentors (Participating Faculty)
- Application Process, Trainee Positions, Retention and Support
- Training Record
  - Training Outcomes for Trainees (renewals) or Training Grant Eligible Pool (new)
  - Program Evaluation

# Review of Applications – Review Criteria

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**Additional Review Criteria** (part of Overall Impact score but no separate scores given)

- Training in Methods for Enhancing Reproducibility [plan] – ACCEPTABLE Y/N?
- [Protections for Human Subjects, Vertebrate Animals, Biohazards]

**Additional Review Considerations** (no separate scores given and

not considered in Overall Impact score)

- Recruitment Plan to Enhance Diversity [plan] – ACCEPTABLE Y/N?
- Training in the Responsible Conduct of Research [plan] – ACCEPTABLE Y/N?
- Budget and Period of Support (# Trainee Slots)

# Reminder: Training Data Tables

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➤ All **New** applications are **required** to have:

- Table 1
- Table 2
- Table 3
- Table 4
- Table 5A
- ⊖ ~~Table 6A~~
- Table 8A (part III)

Applications that do not contain the required tables, or that submit any additional tables in this attachment will be considered noncompliant and **will not be reviewed**.

➤ Applications may include data on previous training programs in tabular form ***in the text section*** – will be evaluated as “Preliminary Data”.

➤ Please label any other types of Tables using A-Z to avoid confusion.

# Reminder: Other Attachments

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## ➤ Not required, but allowed

- An Advisory Committee (do not name members unless pre-existing on AC)

## ➤ Required

- Application and Admissions Data (e.g. Suggested Table Format Table A)
- Recruitment Plan to Enhance Diversity (3 pages max)
- Trainee Retention Plan (3 pages max)
- Outcomes Data Collection and Storage Plan (2 pages max)
- Dissemination Plan (1 page max)

**Applications that do not contain the FOA required attachments will be considered incomplete and **will not be reviewed.****

# Reminder: Institutional Letter of Support

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## ➤ Required

- All requested information must be contained within a single letter – cannot distribute across several letters by different authors.
- If multiple Deans involved, then all should sign letter.
- This ***includes*** requirement for language regarding oversight of discriminatory harassment and other discriminatory practices.
- Letter = 10 pages maximum

**If this letter is not included, the application will be considered incomplete and **will not be reviewed.****

- ## ➤ Additional LOS are permitted however they may not contain any information required in the Institutional LOS.

# Reminder: Appendix Materials

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- **Allowable for all FOAs** – *blank* data collection forms, *simple lists* of interview questions, *blank* informed consent forms
  
- **For this T32 FOA**
  - **Required**
    - Required Training Activities
    - Responsible Conduct of Research *Syllabi*
    - Trainee Selection and Appointment Procedures (3 pages max)
  
  - **Allowable**
    - Elective Activities (*up to four total*)
    - Evaluation and Assessment Instruments
    - Conflict Resolution Protocols (3 pages max)

**Consequence for Submitting Disallowed Materials:** **withdrawal** of application without review - <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-18-126.html>

# Reviewer Challenges

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- Rigor & Reproducibility and Responsible Conduct of Research training need to be integrated throughout the application (considered in Overall score).
  - Not sufficient to just describe in the two training plans
- Enhancing Diversity applies **both** to trainees and mentors within the application (considered in Scorable Criteria / Overall score).
  - Not sufficient to just describe in the Recruitment Plan to Enhance Diversity
  - If there are deficiencies, then describe how you will address these
- Innovation and overlap with other T32 programs
  - What is unique about this program relative to other training programs; how will it contribute to **your** field, e.g. your graduates, etc.
- Consider including leadership transition plans

# Reviewer Challenges

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- Evaluations component is limited / not well designed
  - Your evaluation component should relate to and measure the goals of **your** program
  - Discuss both short- and long-term evaluation goals
- Institutional Letter is weak / lacking content
  - The topics requested for the Institutional Letter must **all** be addressed
- Biosketch personal statements are missing commitment to mentoring language
- Need to **justify** number of trainee slots requested
  - Having had a certain # in a previous program is not sufficient justification
  - Describe your pool of TGE students, the resources and mentors available to support the proposed number, etc.
  - Anything outside NIGMS guidelines (i.e. early years and no more than 2 years of funding for each trainee) must be extremely well justified



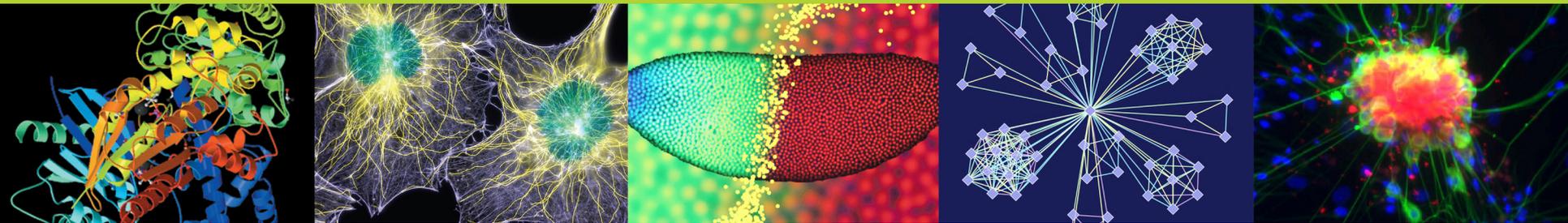
National Institute of  
General Medical Sciences



# Budget T32 Applications

**Lisa Moeller**

**Team Leader, Grants Administration Branch  
National Institute of General Medical Sciences**



# Application Budget

- Use PHS 398 Training Budget Form
- Stipends - use current level (published annually)
- Tuition/Fees - Request total needs (do not apply NIH formula in application budget)
- Travel (\$300 per trainee)
- Training Related Expenses (TRE)
  - Use current level (published annually)
  - Includes health insurance (if same health insurance fees are charged to non-federally-supported trainees at your institution)
  - Indirect costs – 8% (base excludes: tuition/fees, equipment, subs > \$25,000)

# Questions?

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