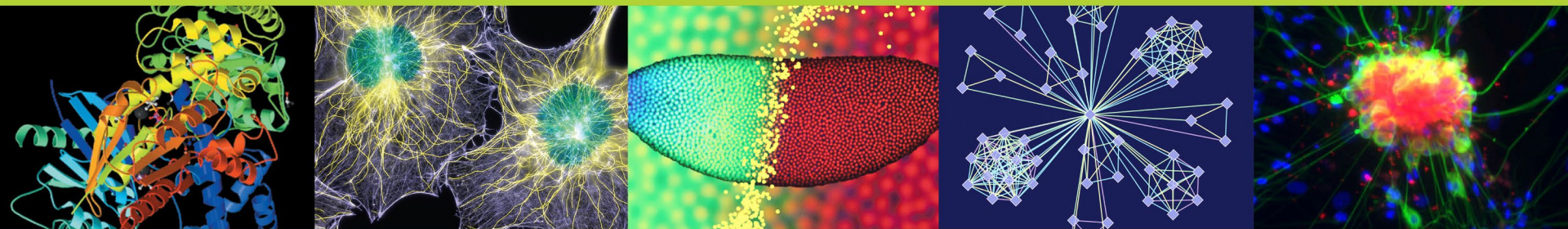


Undergraduate Research Training Initiative for Student Enhancement (U-RISE) (T34) & Maximizing Access to Research Careers (MARC) (T34)

Prospective Applicant Webinar - April 06, 2022



Before We Start

- **This webinar is being recorded** and will be available online. The slides will also be posted online.
- Type your questions in the “Q&A” chat box.
- There will be a Q&A period at the end of the webinar.

Webinar Participants

Program

- U-RISE: Baishali Maskeri, Ph.D., Kenneth Gibbs, Ph.D.
- MARC: Sydella Blatch, Ph.D., Patrick H. Brown, Ph.D.



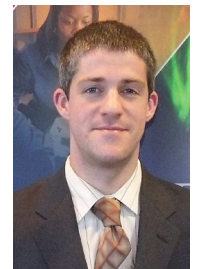
Review

- Latarsha Carithers, Ph.D., Chief, Training, Mentored Research, and Diversity Section



Grants Management

- Justin Rosenzweig, Grants Management Team Leader



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Disclaimer

This webinar and accompanying slides are for informational purposes only. They serve as an overview of the NIGMS MARC and U-RISE Programs and are not meant to be comprehensive in coverage of all required components of an application.

Applicants are responsible for following the instructions detailed in the FOAs and any Related Notices (included in the FOA's Overview Information section), and the SF424 Application Guide.

For Example

Department of Health and Human Services

Part 1. Overview Information

Participating Organization(s)

National Institutes of Health (NIH)

Components of Participating Organizations

National Institute of General Medical Sciences (NIGMS)

Funding Opportunity Title

Undergraduate Research Training Initiative for Student Enhancement (U-RISE) (T34)

Activity Code

T34 MARC Undergraduate NRSA Institutional Grants

Announcement Type

Reissue of [PAR-19-218](#) - Undergraduate Research Training Initiative for Student Enhancement (U-RISE) (T34)

Related Notices

- **March 4, 2022** - Notice of Informational Webinar on the NIGMS U-RISE and MARC Programs. See Notice [NOT-GM-22-031](#).
- **October 28, 2021** - Reminder: FORMS-G Grant Application Forms & Instructions Must be Used for Due Dates On or After January 25, 2022 - New Grant Application Instructions Now Available. See Notice [NOT-OD-22-018](#).
- **September 13, 2021** - Updates to the Non-Discrimination Legal Requirements for NIH Recipients. See Notice [NOT-OD-21-181](#).
- **August 5, 2021** - New NIH "FORMS-G" Grant Application Forms and Instructions Coming for Due Dates on or after January 25, 2022. See Notice [NOT-OD-21-169](#).
- **August 5, 2021** - Update: Notification of Upcoming Change in Federal-wide Unique Entity Identifier Requirements. See Notice [NOT-OD-21-170](#).
- **April 20, 2021** - Expanding Requirement for eRA Commons IDs to All Senior/Key Personnel. See Notice [NOT-OD-21-109](#).
- **May 28, 2021** - Notice of Change to the Instructions for Appendices in [PAR-21-146](#). See Notice [NOT-GM-21-041](#).
- **March 19, 2021** - Notice of Informational Webinar on the NIGMS U-RISE and MARC Programs. See Notice [NOT-GM-21-034](#).

Webinar Outline

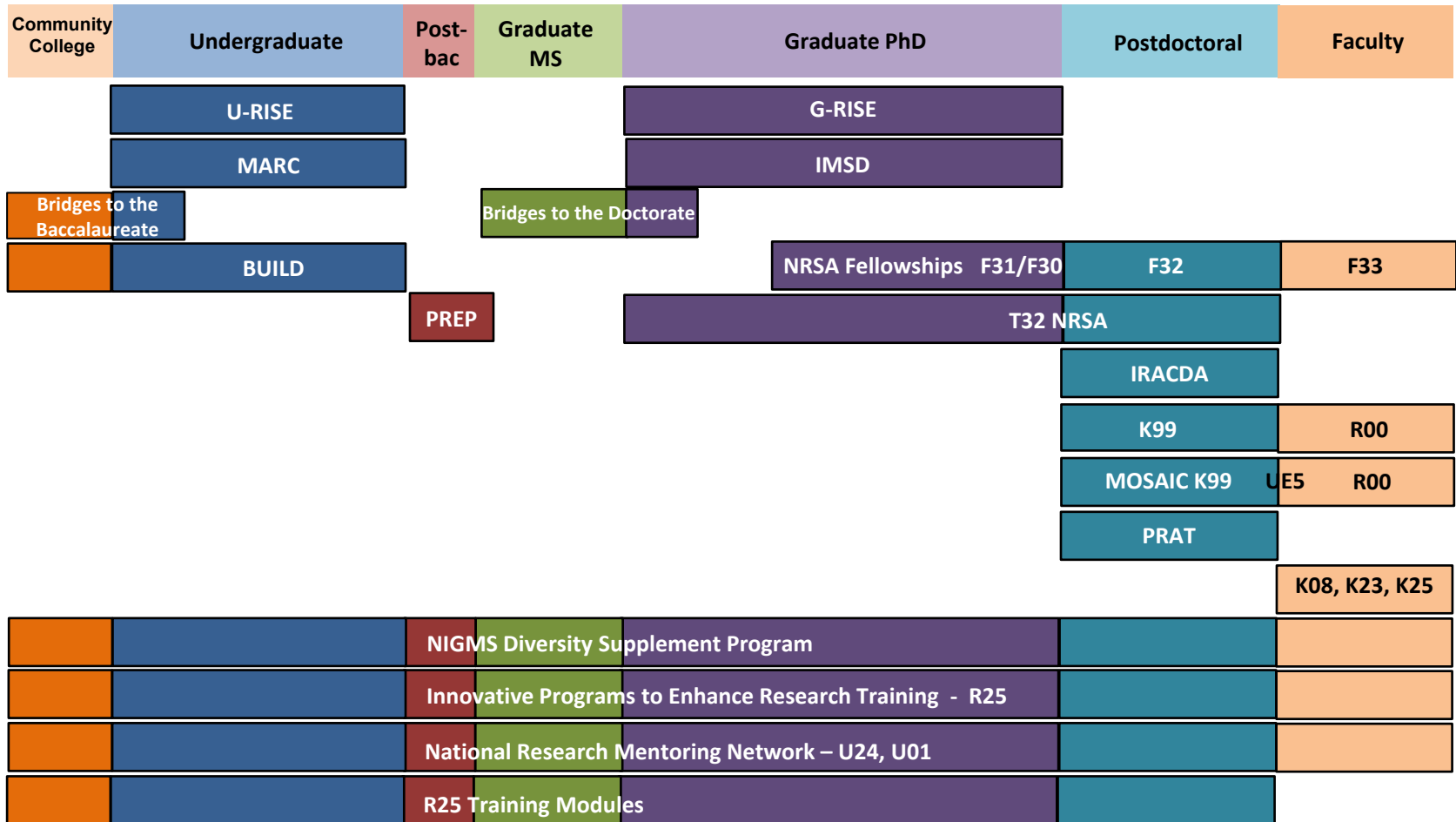
I. Program Overview

II. Application Overview

III. Peer Review Overview

IV. Budget Overview

NIGMS Training Programs



NIGMS TWD Programs

Program Goals

To develop a diverse pool of undergraduates who complete their baccalaureate degree and transition into and complete biomedical, research-focused higher degree programs (e.g., Ph.D. or M.D./Ph.D.)

U-RISE Program Website:

<https://www.nigms.nih.gov/training/RISE/Pages/U-RISE-T34.aspx>

MARC Program Website:

<https://www.nigms.nih.gov/training/MARC>

Eligibility Overview

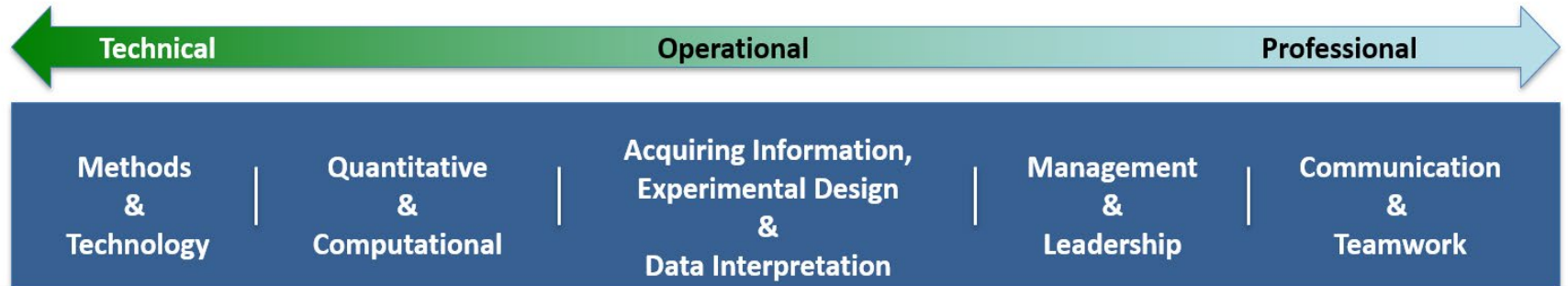
Eligibility	U-RISE	MARC
Institution	<p>Research Active Average < \$7.5M NIH Research Project Grant (RPG) funding per year over the past three fiscal years</p>	<p>Research Intensive Average \geq \$7.5M NIH Research Project Grant (RPG) funding per year over the past three fiscal years</p>
Principal Investigator	<ul style="list-style-type: none"> • Must have full time appointment • Multiple PIs are encouraged • At least one PI should be an established investigator in the biomedical sciences and capable of providing both administrative and scientific leadership 	
Trainees	<ul style="list-style-type: none"> • US Citizen or Permanent Resident • Research-oriented individual pursuing full time training (normally two to three years) • See the NIH Grants Policy Statement for additional information 	

Key Program Dates

Program	FOA	Application Due Date	Review	Council	Budget Start
Undergraduate Research Training Initiative for Student Enhancement (U-RISE) (T34)	PAR-21-146	May 26, 2022 May 26, 2023	October/ November	January	April
Maximizing Access to Research Careers (MARC) (T34)	PAR-21-147				June

NIGMS Training Programs Are Expected To

- Focus on technical, operational and professional **skills development**
- Promote **rigor and reproducibility** in research
- Teach the **responsible and safe conduct** of research
- Promote **diversity, equity and inclusion**
- Encourage **inclusive, safe, and supportive** research environments
- Use **evidence-informed** educational and mentoring practices
- Employ **cohort-building activities** that enhance the trainees' science identity and self-efficacy
- Provide **individualized mentoring** and oversight throughout
- Introduce trainees to a **variety of scientific careers** and research areas
- Make **career outcomes** publicly available



<https://www.nigms.nih.gov/research-areas/areas-of-research/training-workforce-development-and-diversity>

Webinar Outline

- I. Program Overview
- II. Application Overview**
- III. Peer Review Overview
- IV. Budget Overview

First Step in Preparing an Application

Read the FOAs, Related Notices and SF424 (R&R) Application Guide thoroughly

U-RISE: [PAR-21-146](#)

MARC: [PAR-21-147](#)



Important Update



Application withdrawal

Updates relevant to Forms-G



- Applications due after January 25, 2022 will use [Forms-G application forms and instructions](#). This includes
 - [NOT-OD-21-073](#) and [NOT-OD-21-110](#):
Changes to **biosketch format**
 - [NOT-OD-21-109](#): Expanding Requirement for **eRA Commons IDs** to All Senior/Key Personnel
 - [NOT-OD-21-170](#): Change in Federal-wide **Unique Entity Identifier (UEI)** Requirements

Application Title Format

Use the format:

“[MARC or U-RISE] at _____”
name of institution

For example:

MARC at Fantastic College

U-RISE at the University of Success

The Application - Page Limits

Section of Application	Select Page Limits *
Project Summary/Abstract	30 lines of text
Program Plan	25
Advisory Committee (optional)	1
Recruitment Plan to Enhance Diversity	3
Trainee Retention Plan	3
Outcomes Data Collection and Storage Plan	2
Dissemination Plan	1
Plan for Instruction in Methods for Enhancing Reproducibility	3
Plan for Instruction in the Responsible Conduct of Research	3
Each Biographical Sketch	5
Institutional Support Letter	10
Institutional Eligibility Letter	1
Conflict Resolution Protocols (optional)	3

***If page limits are exceeded, the application may be withdrawn prior to review**

New – Updated Appendix Page Limits



- Two materials are required in the appendix:
 - Required Training Activities (**2 pages maximum per activity**)
 - Responsible Conduct of Research Syllabi (**2 pages maximum**)
- Three additional materials are allowable in the appendix:
 - Elective Activities (**2 pages maximum per activity**)
 - Evaluation and Assessment Instruments (Blank rubrics and forms)
 - Conflict Resolution Protocols (3 pages maximum)
- Applications that violate appendix page limits will be withdrawn prior to review



<https://grants.nih.gov/grants/guide/notice-files/NOT-GM-21-041.html> (U-RISE)

<https://grants.nih.gov/grants/guide/notice-files/NOT-GM-21-048.html> (MARC)

Research Training Program Plan Form

PHS 398 Research Training Program Plan Form

[View Burden Statement](#) **PHS 398 Research Training Program Plan** OMB Number: 0925-0001
Expiration Date: 09/30/2024

Introduction			
1. Introduction to Application (for Resubmission and Revision applications)	<input type="text"/>	Add Attachment	Delete Attachment View Attachment
Training Program Section			
2. * Program Plan	<input type="text"/>	Add Attachment	Delete Attachment View Attachment
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12. Consortium/Contractual Arrangements	<input type="text"/>	Add Attachment	Delete Attachment View Attachment
Appendix			
13. Appendix	Add Attachments Delete Attachments View Attachments		

- Training Program Section
- Faculty, Trainees, and Training Record Section
- Appendix
- *Other Attachments (R&R Other Project Information Form)*

Training Program Section

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Appendix		
13. Appendix	Add Attachments Delete Attachments View Attachments	

Training Program Section

2. Program Plan
3. Plan for Instruction in RCR
4. Plan for Instruction in Methods for Enhancing Reproducibility
5. Multiple PD/PI Leadership Plan (if applicable)
6. *Progress Report for renewals through [PAR-19-218](#) (U-RISE) or [PAR-19-219](#) (MARC) only**



****Please contact Program Officer to confirm renewal status***

2. Program Plan (*Page limit: 25 pages*)

- 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)
- Preceptors/Mentors (Participating Faculty)
- Trainee Positions, Appointment Process, Retention and Support
- Training Outcomes
- Program Evaluation and Dissemination
- [Suggested Table Formats](#) (A.1, A.2, and A.3; B.1, B.2, or B.3)

Rationale, Mission & Objectives

- How the program will develop a diverse pool of well-trained scientists who have the skills required to transition into and complete biomedical, research-focused higher degree programs (e.g., Ph.D. or M.D./Ph.D.).
- How the program will **enhance the training environment** beyond just financial support of trainees
- Justification for the program
 - Current institutional efforts to promote diversity and create inclusive training environments, and how the program will enhance, but not duplicate, these efforts
 - *If applicable, how previous NIGMS training programs impact proposed program design*
- Describe the **current research training environment & student demographics** (Suggested Table Formats A.1, A.2, A.3; Data Tables 2,3,4)
- Training mission and **objectives (specific, measurable)**
 - Informed by baseline data, trainee pool and institutional context
 - Objectives should include, but not be limited to, degree completion rates, appropriate time-to-degree, and the rate of transitioning into and completion of research-focused higher degree programs

Suggested Table Formats: A.1-A.3

Sample Table Formats - T34 Competing Applications

Table	Title of Table
A.1	Undergraduates and Faculty in Participating Biomedical Departments and Interdepartmental Programs
A.2	Student Population Characteristics
A.3	Undergraduate Graduation Rates

- A summary of key data from the table should also be included in the narrative of the application.
- **If used, these tables must be included in the Program Plan section and will count towards the 25-page limit.**



Do Not include these Suggested Tables in the required Training Data Tables attachment or your application will be withdrawn.

Curriculum and Overall Training Plan

- How the courses, structured activities, and research experiences will **accomplish the training mission** and objectives
- Proposed changes to current research training practices to **keep pace with the rapidly evolving biomedical research enterprise** (e.g., curricular reforms, quantitative & computational skills development, etc.)
- Mechanism for ensuring that the trainees participate in **authentic research experiences** throughout the training period. Classroom-centered research training activities should describe objectives, course attributes, faculty, frequency, and expected trainee outcomes.
- Plans to ensure at least **one summer research training experience** at a research-intensive institution (for MARC, either at an external site or at their home institution), preferably those with [NIGMS basic biomedical and medical science training programs \(T32\)](#)
- Mechanism to ensure that trainees are learning the **highest standards of practice in biomedical research to ensure safety in the research environment**.

Curriculum and Overall Training Plan, cont'd

- 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
- Activities that will build a **strong cohort** of research-oriented individuals while enhancing the science identity, self-efficacy, and a sense of belonging
- 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
- If applicable, the ways 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

- How applicants/trainees will be provided with information about career outcomes of graduates of the program and the overall biomedical research workforce landscape
- How trainees will be provided with support as well as adequate, appropriate, and timely information regarding the **steps required to transition into the next phase** of the biomedical research workforce pathway (e.g., when applying to research-focused graduate programs, or funding opportunities)
- How the trainees will be sponsored or mentored by individuals who will **enhance their career opportunities**

Program Oversight, Participating Faculty Selection, and Mentor Training

Should include:

- The planned strategy and **administrative structure** to oversee and monitor the program and to ensure appropriate and timely trainee progress.
- How the program will ensure that participating faculty:
 - employ and impart the highest standards of **scientific rigor**,
 - reinforce the materials on **RCR and methods to enhance reproducibility**,
 - engage in activities that **promote trainee career development**
- How **faculty are trained** to use evidence-informed teaching, training and mentoring for trainees from all backgrounds
- The mechanism for **matching trainees** with the appropriate participating faculty mentors.
- A mechanism to **monitor mentoring**, including oversight of the effectiveness of the trainee/participating faculty match, and a plan for removing faculty displaying unacceptable mentorship qualities.

Institutional & Departmental Commitment

In addition to the *Institutional Support Letter*, this section may be used to expand upon the "**Facilities & Other Resources**" and "**Letters of Support**", to provide additional information regarding the institutional and departmental commitment to the program.

Do not repeat information contained elsewhere in the application.

Program Director(s)/Principal Investigator(s)

- Expertise as well as administrative and training experience
- Sufficient bandwidth to oversee the program
- Demonstrated commitment to training the next generation of biomedical research workforce
- At least one member with scientific expertise in the biomedical sciences
- Received training to mentor individuals from diverse backgrounds
- Multiple PDs/PIs approach is encouraged
- The application should describe the administrative structure and leadership succession plan for critical positions

Preceptors/Mentors (Participating Faculty)

Create a **diverse team** (e.g., underrepresented backgrounds, women, different career stages):

- Will promote the success of the trainees and training program
- Have sufficient time to commit to training
- Receive training in 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 skills in 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 environments
- Are evaluated as teachers and mentors

Trainee Positions, Appointment Process, Retention and Support

- Provide a **strong justification for the number of requested slots** per year in the context of the training grant eligible pool described in the rationale section and other training programs at the institution.
- Potential trainees should be **research-oriented individuals** enrolled in a major leading to a baccalaureate degree in a STEM discipline that will prepare them for a biomedical, research-focused higher degree program.
- Explain the **proposed training grant support structure**, i.e., how many individuals (e.g., 4 per year), at what stage (e.g., third- and four-year students), and for how long (e.g., for 2 years).
- Describe the **review process** to identify candidates for the program (e.g., a process that considers metrics beyond GPA, and standardized test scores that will identify promising candidates)
- 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 training

Training Outcomes

- Provide outcomes for the program described (or for new programs, provide outcomes for training grant eligible students for the proposed program).
- Through narrative descriptions and summary of data presented in the required Data Tables, the application **should describe** the following:
 - Evidence that recent program graduates conducted rigorous research (e.g., data in Table 5C)
 - The rate of baccalaureate degree attainment and time-to-degree for recent graduates. Should include institutional comparator groups and the graduation rates for all students in the STEM fields represented.
 - Success of former students in transitioning to the next phase in the biomedical research workforce pathway (e.g., matriculation to a research-focused higher degree program). Should match **Training Table 8D**. Although Table 8D for new applications only allow for five years of recent graduate outcomes, the application may describe up to 15 years of outcomes in the narrative and using [Suggested Table Format B.1, B.2, or B.3](#).

Suggested Table Formats B

<https://www.nigms.nih.gov/training/MARC/pages/MARCTables.aspx>

Table B.1: Past 5 Year Trainee Record

Program Outcomes Number of:	5 Years (e.g. 2014-2019)
Trainee slots awarded per Notice of Award	
Unfilled slots	
Trainees appointed (unique individuals)	
Trainees who participated in an academic research experience	
Trainees who participated in a summer research experience	
Trainees who withdrew from the program	
Trainees who completed B.S. or B.A.	
Trainees who entered biomedical M.S. programs	
Trainees who completed biomedical M.S. programs	
Trainees who entered biomedical Ph.D. programs	
Trainees who completed biomedical Ph.D. programs	

- Applications may describe up to 15 years, please choose the format that is relevant for your data.
- **If used, these tables must be included in the Program Plan section and will count towards the 25-page limit.**



Do Not include these Suggested Tables in the required Training Data Tables attachment or your application will be withdrawn.

Program Evaluation and Dissemination

Programs must conduct ongoing evaluations to monitor success of the program. Describe:

- Process to determine **whether the overall program is effective** in meeting its 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 (*e.g., if applicable, how previous NIGMS funded training program influenced proposed program design*)
- Past activities to **track and post the career outcomes** of trainees
- Past activities designed to **share the outcomes** of the training or mentoring interventions with the broader community

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

- All applications must include a plan to fulfill NIH requirements for instruction in RCR.
 - Five required components must be addressed
 - Components should be well integrated into the overall curriculum at multiple stages of trainee development in a variety of formats and contexts
- Explain how teaching of RCR synergizes with the curriculum designed to enhance trainees' abilities to conduct rigorous and reproducible research
- Describe how all participating faculty will reiterate and augment key elements when trainees are performing research in their labs
- See requirements detailed in the FOA and the SF424 Application Guide

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>

4. Plan for Instruction in Methods for Enhancing Reproducibility

- Describe how trainees will be instructed in principles important for enhancing research reproducibility
- Describe how instruction strategies are well integrated into the overall training program at multiple stages of trainee development and in a variety of formats and contexts.
- See additional instructions in the SF424 Application Guide for details

Resources

- NIH Website on [Rigor & Reproducibility](#)
- NIGMS [Clearinghouse for Data Reproducibility Training Modules](#)
- NIGMS [Funded Projects on Rigor & Reproducibility](#)

Faculty, Trainees, and Training Record Section

PHS 398 Research Training Program Plan Form

[View Burden Statement](#) **PHS 398 Research Training Program Plan** OMB Number: 0925-0001
Expiration Date: 09/30/2024

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Appendix		
13. Appendix	Add Attachments Delete Attachments View Attachments	

Required
7. Participating Faculty Biosketches
8. Letters of Support
9. Data Tables


7. Faculty Biosketches

Personal statement should address:

- Training, mentoring, and promoting inclusive, safe and supportive scientific **research environments**
- 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 biomedical research workforce **careers of interest**
- Fulfilling the need of the trainees to complete their PhDs in a **timely** fashion

New biosketch format: <https://grants.nih.gov/grants/forms/biosketch.htm>

8. Letters of Support

- **Institutional Support Letter** (10 page maximum) – ensuring success of the planned training program and its trainees
- **Institutional Eligibility Letter** (1 page maximum) – ensuring eligibility
 - [RPG average annual funding](#)
-  If these letters are **not included**, the application will be considered incomplete and will **not be reviewed**.
- **Other Letters of Support** (e.g., partner Institutions) - can be included but may not have information required in the Institutional Support Letter

9. Data Tables

<https://grants.nih.gov/grants/forms-f/data-tables.htm>

The application must include the required [Training Data Tables](#).

Data Tables	Date Posted	Blank Data Tables File Link/Format/Size	Instructions and Sample Data Tables File Link/Format/Size
New Applications			
New Undergraduate Training Submit tables: 2, 3, 4, 5C, 8D	3/25/2020	MS Word (49 KB)	MS Word (51 KB) PDF (360 KB)
Renewal or Revision Applications			
Renewal or Revision Undergraduate Training Submit tables: 2, 3, 4, 5C, 8D	3/25/2020	MS Word (49 KB)	MS Word (51 KB) PDF (360 KB)



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**.

Required Training Data Tables: 2

Sample Table 2. Participating Faculty Members

Name	Degree(s)	Rank	Primary Department or Program	Research Interest	Training Role	Undergraduates In Training	Undergraduates Graduated	Undergraduates Continued in Research or Related Careers
Abrams-Johnson, Jane	PhD	Asst. Prof.	Pharmacology	Regulation of Synthesis of Biogenic Amines	Preceptor Other Comm.	1	4	2
Jones, Lisa S.	PhD	Res. Asst. Prof.	Biochemistry	Protein Structure, Folding, and Immunogenicity	Preceptor Exec Comm.	3	3	3
Sandoz, Miguel J.	MD, PhD	Assoc. Prof.	Neuroscience	Developmental Genetics in Drosophila	Preceptor	4	6	5
Thomas, James C.	PhD	Prof.	Biochemistry	Molecular and Genetic Analysis of RNA Viruses	PD/PI	7	10	9

Rationale: This information allows reviewers to assess the distribution of **participating faculty** by **rank** (junior vs. senior), by **research interests**, and by **department** or interdepartmental program. In addition, data on the **mentoring records** of faculty permit an evaluation of the experience of participating faculty in facilitating the progression of undergraduates in their careers. The data concisely summarizes information about the training faculty.

Required Training Data Tables: 3

Sample Table 3. Federal Institutional Research Training Grants and Related Support Available to Participating Faculty Members

Grant Title	Award Number	Project Period	PD/PI	Number of Undergraduate Positions	Names of Overlapping Faculty
Bioimmunotherapy Training Grant	T32 CA05964-11	07/2011-06/2016	Thomas, James C.	12	Abelson Brown Fields Johnson Sung Watson
Genetic Basis of Mental Illness	T32 MH02708-07	07/2010-06/2015	Johnson, Albert P.	4	Johnson Watson
Research Education Program for Residents in Psychiatry	R25 MH09876-06	07/2013-06/2018	Mendez, Roberto V.	0	Mendez Rivers Truesdale
Career Development in Pediatric Mental Health	K12 HD01234-09	07/2012-06/2017	Sterman, Patricia S.	0	Rubin
Total				16	

Rationale: This table will permit an evaluation of the current **level of support** for undergraduate research training and the extent to which the proposed undergraduate program has **overlap** with other similar programs at the institution and in participating faculty.

Required Training Data Tables: 4

Sample Table 4. Research Support of Participating Faculty Members

Faculty Member	Funding Source	Grant Number	Role on Project	Grant Title	Project Period	Current Year Direct Costs
Jones, Janine L.	NIH	1 R01 GM76259-01	PD/PI	Structure and Function of Acetylcholine Receptors	06/2014--05/2018	\$190,000
Jones, Janine L.	NIH	5 K08 AI00091-03	PD/PI	Purification & Identification of Receptors	11/2012-11/2017	\$140,000
Ehlers, Roger G.-	Univ		PD/PI	University start-up funds	08/2014-07/2017	\$350,000
Mack, Thomas R.	Fdn		PD/PI	Control of Angiogenesis	03/2011-02/2015	\$185,000
Mack, Thomas R.	NSF	PCM 80-12935	PD/PI	Cell Culture Center	12/2012-11/2015	\$180,000
Mack, Thomas R.	NIH	1 P01 HL71802-05	Project PI	Subproject 4: Oncogenic Kit Receptor Signaling in vivo	10/2011-09/2015	\$165,000
Smith, James P.	None					
Zachary, Andrew	NIH	1 U01 AI28507-01	PD/PI	Human Monoclonal Antibodies as a Therapy for Staphylococcal Enterotoxin	07/2013-06/2018	\$200,000
Average Grant Support per Participating Faculty Member						\$282,000

Rationale: This table provides evidence of the **strength of the research environment**, the availability of **funds to support research conducted by the trainees**, and the **appropriateness** of the participating faculty in terms of their **active research support**.

Required Training Data Tables: 5C

Sample Table 5C. Publications of Those in Training: Undergraduate

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages)
Berg, Lawrence P.	Thompson, Patricia P.	Past	1998-2004	Miter, M.H., Owens, R., Thompson, P. , and Berg, L., 2004, Insulin Treatment of Diabetic Rats, J Comp Neurol, 373:350-378.
Chu, Jeremy K.	Greenstein, Michael L.	Current	2008-Present	Greenstein, M. , and Chu, J., 2010, Sympathetic Noradrenergic Innervation of Drosophila, Genetics 185: 1100-1190.
Jones, Janice R.	Brown, Bernice B.	Past	2000-2006	Brown, B. and Jones J., 2005, Repeated Sequences in Drosophila, J Mol Biol, 242:503-510. Corman, T., Walker, J.D., and Brown, B. , 2006, Ontogeny of Tolerance to Alloantigens, Am J Anat, 146:156-159.
Layback, Sally G.	Wand, Dennis R.	Past	2000-2001	No Publications: Left program
Neustaff, Lorena B.	Smith, Benjamin L.	Current	2011-Present	Smith, B. and Neustaff, 2014, Preliminary x-ray crystal structure of beta-adrenergic receptor. Biophysical J., Abstract.
Peters, Mark Q.	Samuels, Janine A.	Current	2010-Present	Samuels, J. and Peters M., 2012, Molecular Analysis of RNA Viruses, Molec Biol Cell, 11:12-18.

Rationale: This information provides an indicator of the ability of each faculty member to foster **undergraduate trainee productivity** through generation of publishable results.

Required Training Data Tables: 8D Part II

Part II. Recent Graduates (Only for New Applications)

Trainee	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position	Current Position	Subsequent Grant(s)/Role/Year Awarded
Gonzalez, Marc	Bradley, Andrea	6/2008		BS 2007 MD/PhD 2020	Therapeutic potential of cell signaling in Alzheimer disease	MD/PhD student UCLA School of Medicine Further Training	Medical Resident Dept of Neurology Cedars-Sinai Hospital Further Training	
Johnson, Gina	Vasquez, Richard	6/2010		BS 2010 MS 2013	Viral infections	Master's student Molecular Biology Vanderbilt University Further Training	PhD student Molecular Biology Northwestern University Further Training	GM F31/PI/2018-2020
Phelps, Ryan	Smith, Dan	6/2011		BS 2010 PhD 2020	Circadian rhythms, sleep & metabolism	PhD student Neuroscience NYU Further Training	Postdoctoral Scholar Weill Cornell Medical School Further training	NSF GRF/PI/2020
Byrd, Nina	Hoops, Eric	6/2012		BS 2012 MS 2015	Nuclear pore formation	PhD student Chemistry Baylor University Further training	Scientist I Pfizer Primarily Research	

Rationale: For new applications, this table provides information on the **effectiveness** of the proposed training program.

Appendix

PHS 398 Research Training Program Plan Form

View Burden Statement PHS 398 Research Training Program Plan OMB Number: 0925-0001
Expiration Date: 09/30/2024

Introduction

1. Introduction to Application (for Resubmission and Revision applications) Add Attachment Delete Attachment View Attachment

Training Program Section

2. * Program Plan Add Attachment Delete Attachment View Attachment

3. Plan for Instruction in the Responsible Conduct of Research Add Attachment Delete Attachment View Attachment

4. Plan for Instruction in Methods for Enhancing Reproducibility Add Attachment Delete Attachment View Attachment

5. Multiple PD/PI Leadership Plan (if applicable) Add Attachment Delete Attachment View Attachment

6. Progress Report (for Renewal applications) Add Attachment Delete Attachment View Attachment

Faculty, Trainees and Training Record Section

7. Participating Faculty Biosketches Add Attachment Delete Attachment View Attachment

8. Letters of Support Add Attachment Delete Attachment View Attachment

9. Data Tables Add Attachment Delete Attachment View Attachment

Other Training Program Section

10. Vertebrate Animals Add Attachment Delete Attachment View Attachment

11. Select Agent Research Add Attachment Delete Attachment View Attachment

12. Consortium/Contractual Arrangements Add Attachment Delete Attachment View Attachment

Appendix

13. Appendix Add Attachments Delete Attachments View Attachments

Required

- Required Training Activities (**2-page max, per activity**)
- Responsible Conduct of Research Syllabi (**2-page max**)

Allowable

- Elective Activities (**2-page max, per activity**)
- Evaluation and Assessment Instruments
- Conflict Resolution Protocols (**3-page max**)

- ⊘ Applications will not be reviewed that
- **Lack required appendices**
 - **Include unallowed appendices**
 - **Exceed page limit of any materials**

Required Appendix Items

- **Required Training Activities (2 pages maximum per activity)** -To adequately assess the content of the didactic portion of the training program, the application must include brief descriptions of all required **courses, workshops, and training activities (e.g., streamlined syllabi with topics, timelines, activities, credits, etc.).**
- **Responsible Conduct of Research Syllabi (2 pages maximum)** - Syllabi/Outlines to describe RCR training and when the trainees receive it.



If these are not included or exceed page limits, the application will be considered incomplete and will not be reviewed.

<https://grants.nih.gov/grants/guide/notice-files/NOT-GM-21-041.html> (U-RISE)

<https://grants.nih.gov/grants/guide/notice-files/NOT-GM-21-048.html> (MARC)

Optional Appendix Items

- **Elective Activities**
 - 2 pages maximum per activity
- **Evaluation and Assessment Instruments**
 - Blank rubrics and forms
- **Conflict Resolution Protocols**
 - 3 pages maximum

<https://grants.nih.gov/grants/guide/notice-files/NOT-GM-21-041.html> (U-RISE)

<https://grants.nih.gov/grants/guide/notice-files/NOT-GM-21-048.html> (MARC)

Other Attachments

R&R Other Project Information Form

RESEARCH & RELATED Other Project Information

OMB Number: 4040-0001
Expiration Date: 12/31/2022

1. Are Human Subjects Involved? ☒ Yes ☐ No

1.a. If YES to Human Subjects
Is the Project Exempt from Federal regulations? ☐ Yes ☐ No
If yes, check appropriate exemption number. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8
If no, is the IRB review Pending? ☐ Yes ☐ No
IRB Approval Date:
Human Subject Assurance Number:

2. Are Vertebrate Animals Used? ☒ Yes ☐ No

2.a. If YES to Vertebrate Animals
Is the IACUC review Pending? ☐ Yes ☐ No
IACUC Approval Date:
Animal Welfare Assurance Number:

3. Is proprietary/privileged information included in the application? ☒ Yes ☐ No

4.a. Does this Project Have an Actual or Potential Impact - positive or negative - on the environment? ☒ Yes ☐ No

4.b. If yes, please explain:

4.c. If this project has an actual or potential impact on the environment, has an exemption been authorized or an environmental assessment (EA) or environmental impact statement (EIS) been performed? ☐ Yes ☐ No

4.d. If yes, please explain:

5. Is the research performance site designated, or eligible to be designated, as a historic place? ☒ Yes ☐ No

5.a. If yes, please explain:

6. Does this project involve activities outside of the United States or partnerships with international collaborators? ☒ Yes ☐ No

6.a. If yes, identify countries:

6.b. Optional Explanation:

7. Project Summary/Abstract

8. Project Narrative

9. Bibliography & References Cited

10. Facilities & Other Resources

11. Equipment

12. Other Attachments ☐

Required

- Recruitment Plan to Enhance Diversity (3 pp.)
- Trainee Retention Plan (3 pp.)
- Outcomes Data Collection and Storage Plan (2 pp.)
- Dissemination Plan (1 pp.)

Optional

- Advisory Committee (1 pp.)



Applications will not be reviewed that:

- Lack required attachments
- Include unallowed attachments
- Exceed page limit of any materials

Recruitment Plan to Enhance Diversity (3 pages)

- Describe outreach strategies and activities to recruit trainees from underrepresented groups (see [NOT-OD-20-031](#)).
- 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
- Providing accommodations for is not the same as recruitment of students with disabilities

Resources

- NIGMS [Enhancing Diversity in Training Programs](#)
- NIH Extramural Diversity [Recruitment & Retention](#)



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

Trainee Retention Plan (3 pages)

- Describe efforts to sustain the scientific interests & academic and research progress 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 are not sufficient

Resources

- NIGMS [Enhancing Diversity in Training Programs](#)
- NIH Extramural Diversity [Recruitment & Retention](#)



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

Outcomes Data Collection and Storage Plan (2 pages)

- A plan to track the outcomes for all supported trainees for a minimum of **15 years beyond** the trainee's participation in the program.
- You are encouraged to make the aggregate outcome data available on your 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).



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

Dissemination Plan (1 page)

- A specific plan to nationally disseminate any findings resulting from or materials developed under the auspices of the program.
- Examples include data or materials from successful training or mentoring interventions via web postings, presentations at scientific meetings, and/or workshops.



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

Advisory Committee (1 page) *Optional*

- Not a required component of a training program.
- Describe how the Advisory Committee will assess the overall effectiveness of the program.
- Include the roles, responsibilities, and desired expertise of committee members, frequency of committee meetings, and other relevant information.
- Only pre-existing Advisory Committee members should be named in the application.

Webinar Outline

- I. Program Overview
- II. Application Overview
- III. Peer Review Overview**
- IV. Budget Overview

Review of Applications

- U-RISE and MARC applications reviewed by standing NIGMS review committees: TWD-C and TWD-D.
www.nigms.nih.gov/Research/application/Pages/reviewcommittees.aspx
- Committees are equivalent: applications assigned to one of two committees to balance conflicts and workload.
- Receipt letter from scientific review officer (SRO) will provide information about meeting dates, instructions for providing updates, link for committee roster, and people to contact during the review and post-review process.
- Scores and summary statements accessed through PI's eRA Commons account.

Review of Applications

- Please read the review criteria while preparing your application to make sure all the required information is included.
- Review panel will assess your application against the review criteria.

Review Criteria – Section V of FOA

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)
- Trainee Positions, Appointment Process, Retention, and Support
- Training Record
 - Training Outcomes for Trainees (renewals) or Training Grant Eligible Pool (new)
 - Program Evaluation

Review Criteria – Section V of FOA

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

- Training in Methods for Enhancing Reproducibility [plan] – Acceptable Y/N?
- Recruitment Plan to Enhance Diversity [plan] – Acceptable Y/N?
- Training in the Responsible Conduct of Research [plan] – Acceptable Y/N?
- [Protections for Human Subjects, Vertebrate Animals, Biohazards]
- Resubmissions
- Renewals

Additional Review Considerations (no separate scores given and not considered in Overall Impact score)

- Budget and Period of Support (# Trainee Slots)

Application Preparation - Reminders

- Read the FOA thoroughly and make sure that your application addresses all the training elements and that all requested materials are included.
- Make sure that materials are supplied in the correct locations, per FOA instructions.
- Allow enough time to carefully check your application after submission. We cannot accept any missing items after the receipt deadline.

 **Applications will be *withdrawn* if anything is missing or unallowed materials are included!**

Application Preparation - Tips

- Don't bury important information; don't expect reviewers to “read between the lines” to figure out what you are proposing.
- Include clear, measurable and attainable program goals
- Make sure faculty biosketches are up-to-date and relevant for training program (personal statement).
- Data in tables and text should match; also across tables.
- Present outcomes data in a straightforward manner.
 - Don't exaggerate.
 - Don't hide data (reviewers will “do the math”).
- Avoid non-compliance and withdrawal
 - [Feedback Loop Post](#)

Review Process: Usual Timeline

Timeframe

Activity

(From submission date)

1 - 2 months

Referral

2 - 6 months

Review Panel

6 - 7 months

Summary Statement Available

7 - 8 months

Advisory Council

8 - 9 months

Funding Decisions

9 - 10 months

Award Start Date

Webinar Outline

- I. Program Overview
- II. Application Overview
- III. Peer Review Overview
- IV. Budget Overview**

Budget - Participants

- Support is allowed for **students** in the form of **stipend**.
- Students may be supported on U-RISE/MARC funding usually up to **three years**.
- Students may not concurrently hold another federally sponsored award that duplicates U-RISE/MARC support.

Stipends, Tuition, and Fees

- Kirschstein-NRSA awards provide stipends as a subsistence allowance to help defray living expenses during the research training experience.
- NIH will contribute to the combined cost of tuition and fees at the rate in place at the time of award.
- Stipend levels, as well as funding amounts for tuition and fees are announced annually in the NIH Guide for Grants and Contracts, and are also posted on [Ruth L. Kirschstein National Research Service Award \(NRSA\) webpage](#).

Trainee Travel

- NIGMS will provide up to **\$1,000** per trainee to travel to scientific meetings or training experiences that will enhance scientific development, build science identity, create a sense of belonging in the scientific community, and build professional networks.
- For supported institutions outside the continental United States, **\$1,250** for travel per trainee will be provided.
- NIGMS will also provide funds for the [summer research training](#) experience for up to 50% of the awarded number of U-RISE/MARC trainees at the time the competing award is made.
- Funds for the summer research experience (SRE) will be provided as follows: **\$3,000** per trainee, to be used in accordance with the institutional policies as a per diem for a period of up to ten weeks; and an additional \$500 for travel to and from the host research training.

Training Related Expenses

- TRE that may be requested is limited to a maximum of:

U-RISE	MARC
\$10,000/trainee/year (\$350,000 max)	\$8,000/trainee/year (\$250,000 max)

- TRE funds may be used for costs associated with skills development training activities; seminar speakers; and with training or mentoring interventions.
- Limited program evaluation costs (typically up to \$3,000 for the 5-year training grant period).
- Other program-related expenses may be included within the budget for training-related expenses.

Personnel Effort

- TRE funds may be used for personnel costs/staff salary. Typically, salary support for the PD/PI/co-Investigators (or in a combination of multiple PD(s)/PI(s)/co-Investigators) does not exceed 1.8 person months (i.e., 15% effort on a 12-month basis) in total, depending on the size and scope of the program.
- Typically, the total combined salary support for other administrative personnel (e.g., program administrator/program coordinator and/or program assistant/clerical support) does not exceed 3.0 person months (i.e., 25% effort on a 12-month basis) depending on the size and scope of the program.

xTrain for Student Appointments

- All U-RISE or MARC trainees must have an appointment form submitted through the eRA Commons to xTrain before they may receive their stipend.
- If participants cannot continue in the grant program for the full appointment period, an amended appointment must be submitted to xTrain with the correct appointment period.

xTrain Web Page - application guide, quick reference sheets, FAQs, training materials:

https://era.nih.gov/services_for_applicants/other/xTrain.cfm

For Additional Information

	U-RISE	MARC
Funding Opportunity Announcement (FOA)	<u>PAR-21-146</u>	<u>PAR-21-147</u>
NIGMS website	<u>U-RISE</u>	<u>MARC</u>

[Frequently Asked Questions – Application Guide, Electronic Submission of Grant Applications](#)

[Answers to Frequently Asked Questions: NIGMS Undergraduate and Predoctoral Cross-Disciplinary NRSA Training Programs \(T32/T34\)](#)

Critical Deadlines

- Letter of Intent Due Date(s)
 - Not Applicable
- Application Due Date(s)
 - May 26, 2022
- Earliest Start Date

U-RISE	MARC
April 2023	June 2023

Questions?

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