

Michele McGuirl, PhD

Acting Director,  
Division for Research  
Capacity Building

[michele.mcguirl@nih.gov](mailto:michele.mcguirl@nih.gov)

August 28, 2024

# The NIH Science Education Partnership Award (SEPA) Program

Please direct SEPA questions to [yang.zhou@nih.gov](mailto:yang.zhou@nih.gov)

# What is the NIH SEPA Program?

- **Funding for educational activities for pre-kindergarten to grade 12 (P-12)**
- Goal is to ensure that students and teachers from all communities and regions of the country have opportunities to pursue studies/careers in STEM
- Notification of Funding Opportunity (NOFO) [PAR-23-137](#)
- **R25** – Clinical Trial Not Allowed
- Annual Due Date ~June 6

## Also:

- **Funding for eligible small business concerns to develop interactive digital media STEM resources** for P-12 students and teachers
- Notification of Funding Opportunity (NOFO) [PAR-23-213](#)
- R43/R44, SBIR – Clinical Trial Not Allowed
- Annual Due Date ~September 5

# R25-Supported Activities

- Classroom-based projects for P-12 students and teachers
- Informal science education projects conducted in venues such as science centers, museums, and libraries
- Projects that support quantitative and computational skills development are strongly encouraged
- **SEPA projects should propose one or more of the following:**
  - Courses for skills development
  - Research experiences
  - Mentoring activities
  - Curriculum or methods development
  - Outreach



# What is NOT Appropriate for SEPA?

## SEPA does not support:

- Research on the participating students and teachers (beyond what is needed to improve the program via feedback)
- Research experiences for college students or post-bacs
- Research on STEM education - **the R25 is not a research grant**
  - SEPA applicants should use best practices in STEM education to inform their design
  - Non-exempt Human Subjects Research is rare

## Resources and Tips

- Read the NOFO carefully
- Contact one of the program leads (**Yang Zhou, Tony Beck**) to discuss the program
- Review the [NIGMS SEPA website](#)
  - [SEPA Dashboard](#) (active grants)
  - [SEPA Community Website](#) (historical database of SEPA awards)

# NIGMS Resources

- Meet us at Society and STEM conferences
  - American Society for Biochemistry and Molecular Biology (ASBMB)
  - Society for Advancement of Chicanos/Hispanics & Native Americans in Science (SACNAS)
  - Association of Science and Technology Centers (ASTC)
  - American Society for Cell Biology (ASCB)
  - American Chemical Society (ACS)
- Ask for a virtual presentation
- Ask for a SEPA brochure

## NIH Science Education Partnership Award (SEPA) Program

### What Is the SEPA Program?

SEPA supports educational activities for pre-kindergarten to grade 12 (P-12) to ensure that students and teachers from all communities and regions of the country have the opportunity to pursue studies in science, technology, engineering, and mathematics (STEM).

### Application Information

Eligible institutions include colleges, universities, institutes, museums, and professional societies. More than one SEPA application per due date may be submitted as long as each is scientifically distinct and doesn't scientifically overlap an active SEPA award.

A program director/principal investigator with an active SEPA award may submit another SEPA application if the proposed project is distinct from the active one. Refer to full eligibility details in section III of [PAR-23-137](#).

### SEPA Topics and Audiences

SEPA focuses on two key STEM areas: 1) classroom-based projects for P-12 students and teachers, and 2) informal science education (ISE) projects conducted in external venues such as science centers, museums, and libraries. Projects that support quantitative and computational skills development are strongly encouraged.

Examples of SEPA-funded projects include:

- ▶ **Increasing access to chemistry for high schoolers with blindness: a program to jump start Central Texas** at Baylor University
- ▶ **Interactive family learning in support of early brain development** at the Oregon Museum of Science and Industry

SEPA projects may focus on one or more of these activities:

- ▶ Courses for skills development
- ▶ Research experiences
- ▶ Mentoring activities
- ▶ Curriculum or methods development
- ▶ Outreach

### Application Cycle and Funding

- ▶ SEPA is reviewed by a panel of P-12 STEM and ISE experts.
- ▶ Peer review is in October/November, and NIGMS Council review is in January; award announcements are May through August.
- ▶ SEPA budgets are up to \$250,000 plus 8% facilities and administrative costs per year for a maximum of 5 years.
- ▶ Next application receipt dates are June 7, 2024, and June 6, 2025.
- ▶ Refer to [PAR-23-137](#) for details.

Questions? Contact Dr. Tony Beck ([beckt@mail.nih.gov](mailto:beckt@mail.nih.gov)) or Dr. Yang Zhou ([yang.zhou@nih.gov](mailto:yang.zhou@nih.gov)).

Visit the [SEPA Website](#) to learn more about the program and access the pre-application webinar.



# Details of the SEPA R25 Program

- 21 NIH Institutes, Centers and Offices (ICOs) participate in SEPA
- Applications are submitted to NIGMS, which administers the program on behalf of the NIH
- After review, the ICOs are given the opportunity to:
  - Fully fund an application and manage the award, or
  - Provide co-funding and let NIGMS manage the award

	<b>Applications</b>	<b>Awards</b>	<b>Success Rates</b>
<b>FY21</b>	<b>102</b>	<b>21</b>	<b>21%</b>
<b>FY22</b>	<b>78</b>	<b>21</b>	<b>27%</b>
<b>FY23</b>	<b>62</b>	<b>28</b>	<b>45%</b>
<b>FY24</b>	<b>57</b>	<b>22 (7 by/with other ICOs)</b>	<b>39%</b>
<b>FY25</b>	<b>122</b>		

# Application Information

- Up to 5 years duration
- Maximum per year: \$250,000 in Direct Costs
- 8% Facilities and Administrative Costs

Receipt Date	Review Date	Awards Issues Date
June 6, 2025	~November 2025	~April – July 2025

- **Reviews are managed by NIH Center for Scientific Review (CSR)**
- **NIGMS and CSR administratively check applications**
  - Is it responsive to the NOFO? (don't propose what is not allowed)
  - Is it compliant? (all required sections/attachments are included, nothing extra is present)
- **Review Panel: Members are experts in STEM Education and Informal Science Education**
  - ~50- 60% of the applications are discussed; all receive written critiques
  - Scoring: range of 10 – 90 (10 is the best) or Not Discussed



# Examples of Funded SEPA Projects





# PBS NewsHour STEM StoryMaker: Project-based learning for youth health literacy and biomedical career awareness through journalism and storytelling



Through SEPA funding, adaptation of PBS NewsHour's Student Reporting Labs and youth mentoring program has the potential to address health disparities and science literacy deficits and to build a new cadre of minority youth and youth from underserved communities.


WETA TV 26, Arlington VA R25 GM150172

<http://www.pbs.org/newshour/topic/science/>

PBS NewsHour, March 12, 2024, 6:24 PM

Support Provided By: [Learn more](#)

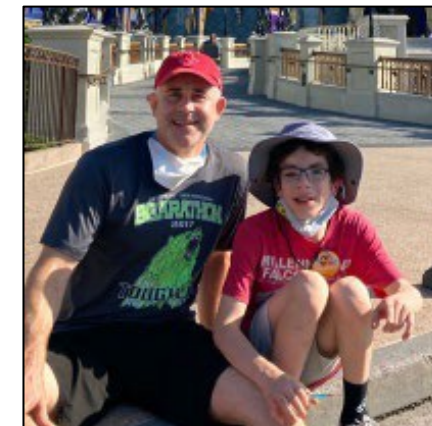
Related

 Nov 07

WATCH: Senate Judiciary committee holds hearing social media's impact on

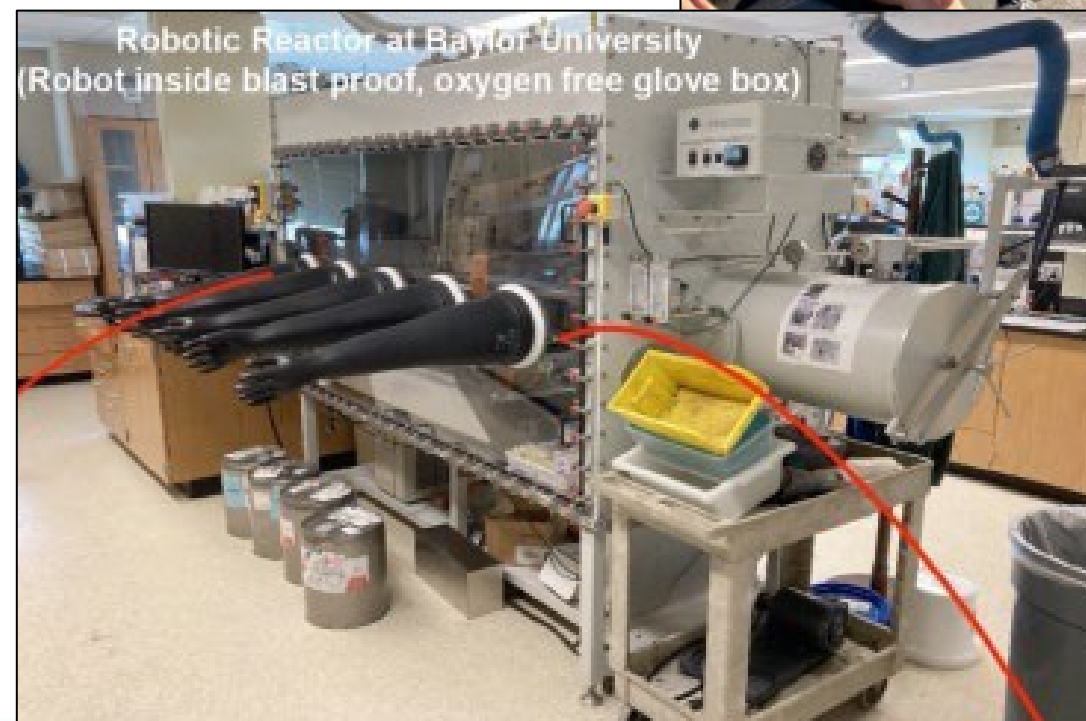
# Increasing access to chemistry for high schoolers with blindness: a program to jump start Central Texas

Baylor chemistry faculty in chemistry and special education and three PhD chemists with early blindness are collaborating with five teachers at the Texas School for the Blind and Visually Impaired. HS Students then attend Baylor labs for research experiences.



Shaw, Bryan F. R25GM146265

- Labs are designed for the visually impaired
- Braille and tactile labels on kits and computer screens
- Robotic reactor eliminates many dangers of synthetic organic chemistry
  - weighs and dispenses solids
  - dispenses liquids (6 different solvents)
  - combines reagents, then stirs, heats and cools reaction mixtures





<https://nihsepa.org/project/more-peas-please-bridging-the-gap-between-preschool-and-k-12-science-learning-environments/>, R25 GM132939, UNC Raleigh



## Preschool Education IN Applied Sciences

### INNOVATION

- The proposed project will expand the SEPA's reach into preschool learning environments.
- Impacting the Future STEM and Health Science Workforce by **"Bridging the Gap"** Between Preschool and K-12 Learning Environments
  - Facilitate Kindergarten Readiness through **Scientific Language Development**
  - Teaching Teachers **How to Teach Developmentally Appropriate** Inquiry-based Science within the context of healthy living
  - **Diversifying the STEM Pipeline** Early in Life

**With SEPA's support, our interdisciplinary team will use innovative approaches to address critical "leaks" in the structural integrity of our nation's STEM pipeline.**



### APPROACH

**Specific Aim 1:** Develop, implement, and evaluate the PEAS Teaching Guide, an innovative guide for Head Start teachers focused on integrative, inquiry-based learning in the Life Sciences that will: (1) **build teacher science teaching** knowledge, science teaching interest, and science teaching efficacy; and (2) **improve children's science knowledge** and development of language.



Figure 1. Preschool Cycle of Science Discovery

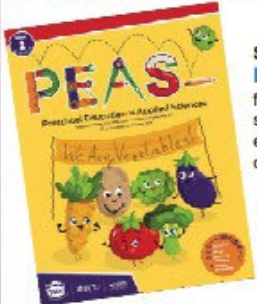


Figure 2. PEAS Teaching Guide Mock Cover Art

**Specific Aim 2:** Create the **NIH SEPA PEAS Institute for Early Childhood Teachers** focused on building science teaching knowledge, science teaching interest, and science teaching efficacy among Head Start teachers serving URM children (3-5 years) living in rural NC.

**Specific Aim 3:** Establish an early **STEM Network** of teachers, administrators, program faculty, and community partners within and between NC-based Head Start programs.

### PARTNERS

- **Principal Investigator:** Virginia C. Stage, PhD, RDN East Carolina University
- **Co-Investigator:** Archana V. Hegde, PhD, BK East Carolina University
- **Co-Investigator:** Lucia Mendez, PhD, CCC-SLP University of North Carolina at Greensboro
- **Co-Investigator:** L. Suzanne Goodell, PhD, RD North Carolina State University
- **Key Personal:** Tammy Lee, PhD & Daniel Dickerson, PhD East Carolina University
- **External Evaluator:** Sebastian Diaz, PhD Diaz Consulting
- **Head Start Program Partners**



This project is supported by the National Institute of General Medical Sciences, the National Institutes of Health. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.



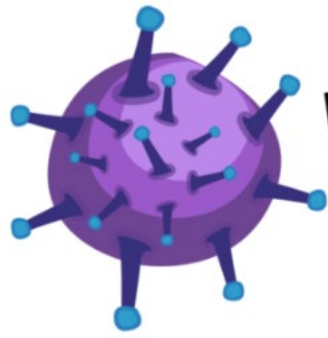
### IMPACT

- Over the course of the program, we will impact over **350 teachers and 3,400 children** with hands-on, inquiry-based science learning, with thousands of additional children reached as teachers continue implementing the PEAS approach in subsequent years.
- Further, strengthening the preschool educator workforce will improve the quality of early STEM experiences, **"bridge the gap" between preschool and K-12 learning environments**, advance the field by serving as a model for future programs, and ultimately feeding the STEM pipeline.



Figure 3. Pilot, Implementation, and Dissemination Counties for PEAS Program Activities





# NEW YORK CITY VIRUS HUNTERS

Icahn School of Medicine  
at Mount Sinai

BIOBUS WBF WILD BIRD FUND



The New York City Virus Hunters is one of our [Junior Scientist internship programs](#). In this collaboration among BioBus, the Kramer

## Mount Sinai wins \$1.3 million NIH SEPA award to expand the New York City Virus Hunters program

- The program engages high school students in large-scale citizen science.
- Students catalog and map circulating avian influenza and avian paramyxoviruses in New York City's wild birds.
- The goal is to track emerging viruses that can help scientists to prevent future outbreaks.



15 JUNIOR  
SCIENTISTS



3 MENTOR  
INSTITUTIONS



2500+  
SAMPLES



8 NOVEL  
VIRUSES

**Thank you!**



National Institute of  
General Medical Sciences