

Break Out Session I

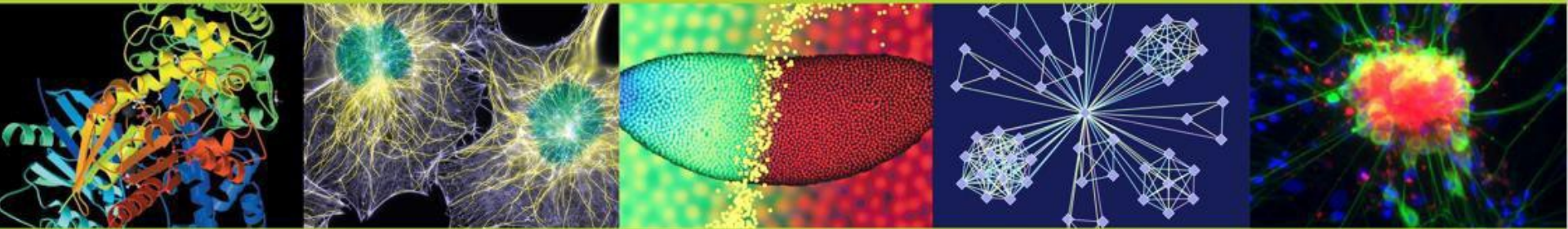
Science Education Partnership Award (SEPA)

- Program Overview
- WV Case Studies

Tony Beck, PhD, NIGMS

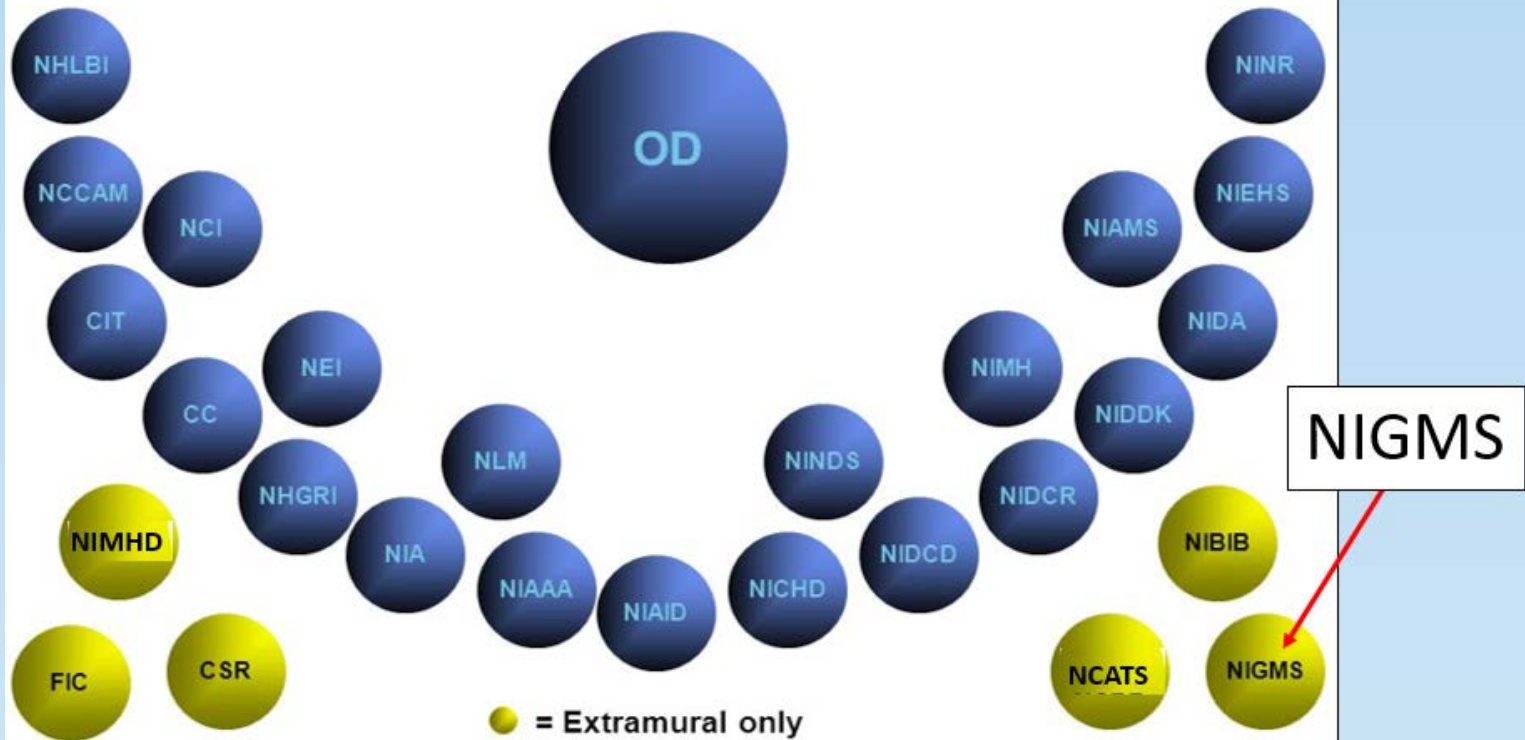
Ann Chester, PhD, West Virginia University

Charles Wood, PhD, Wheeling Jesuit University

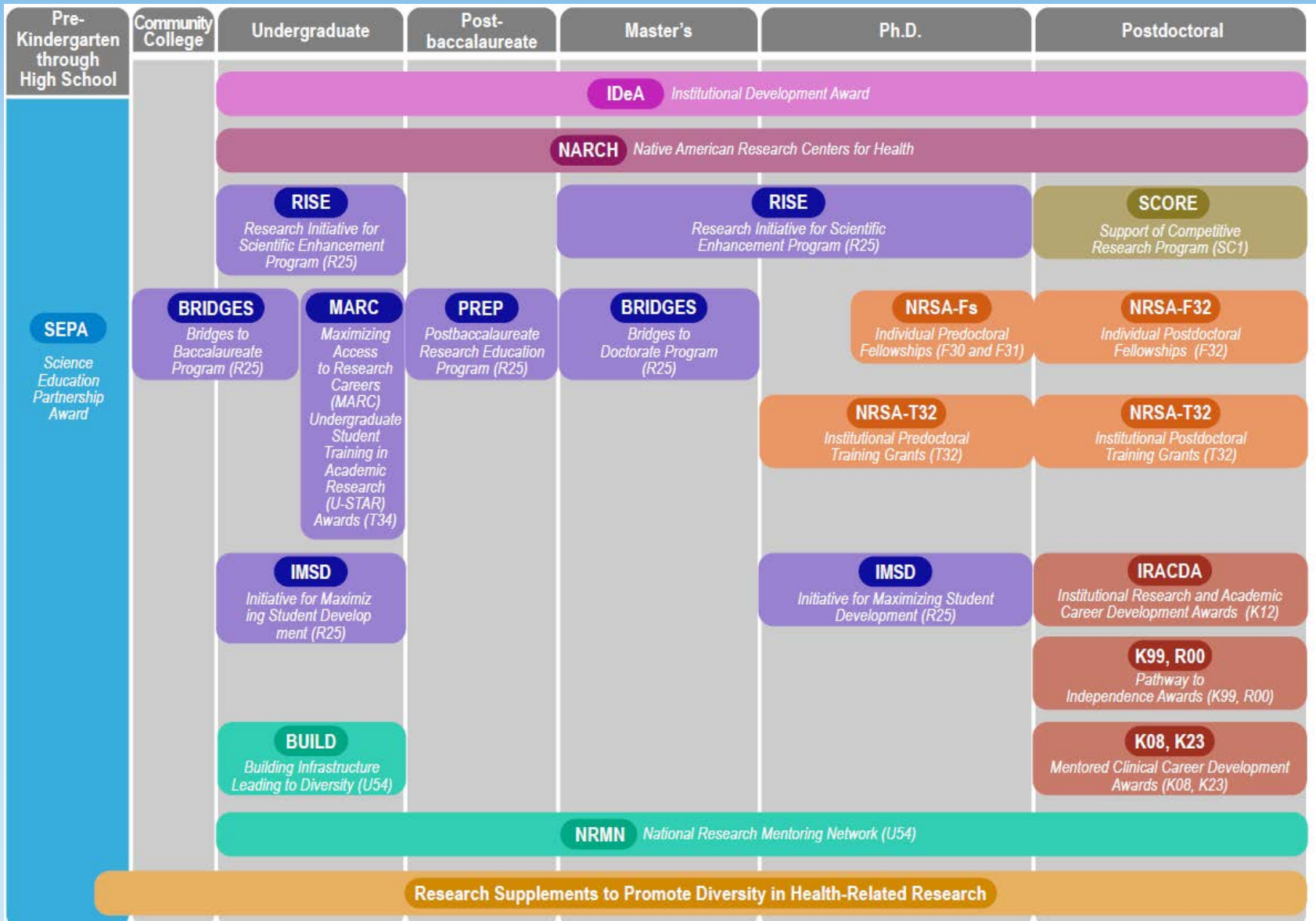


National Institute of Health (NIH)

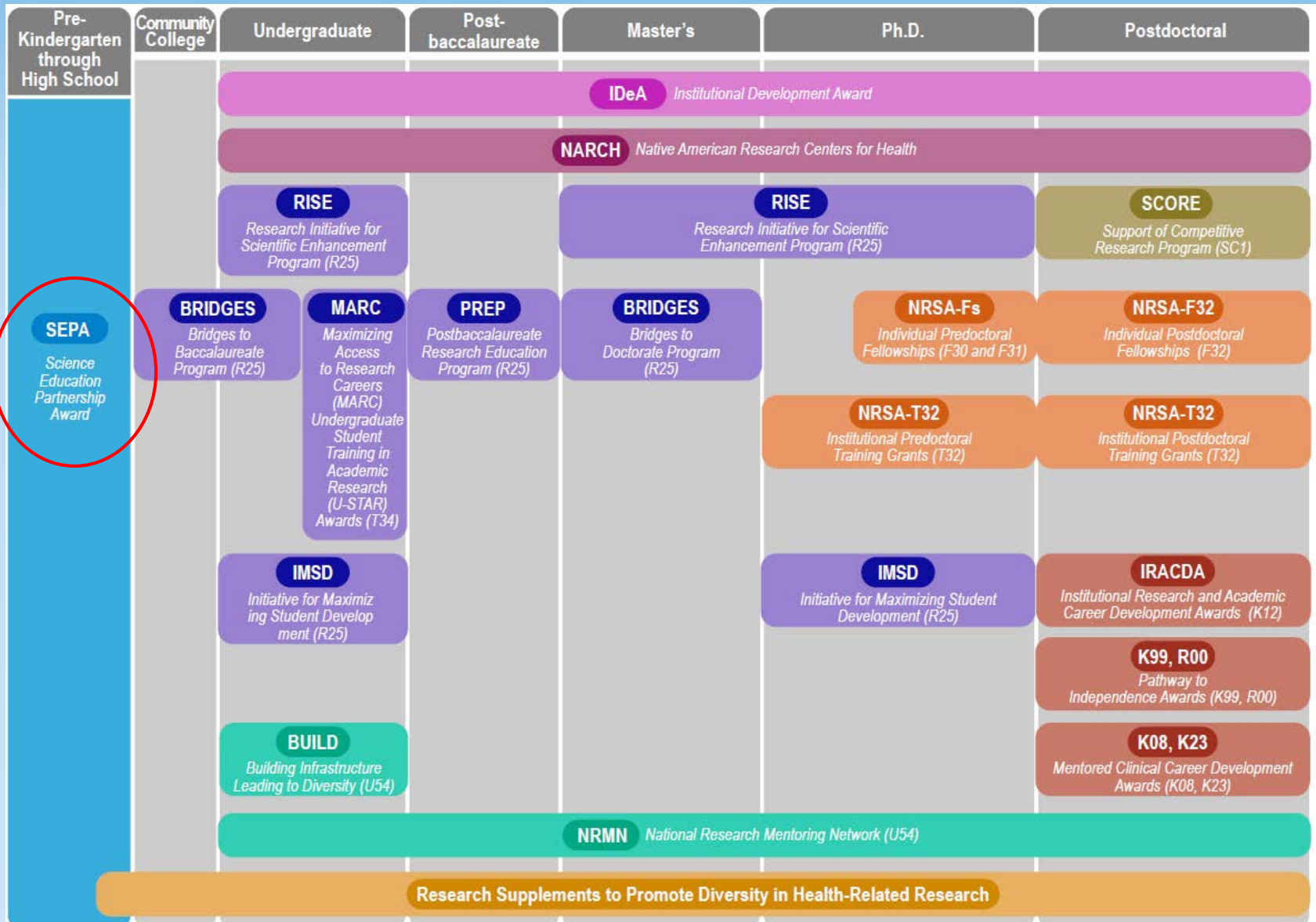
NIH consists of 27 Institutes and Centers



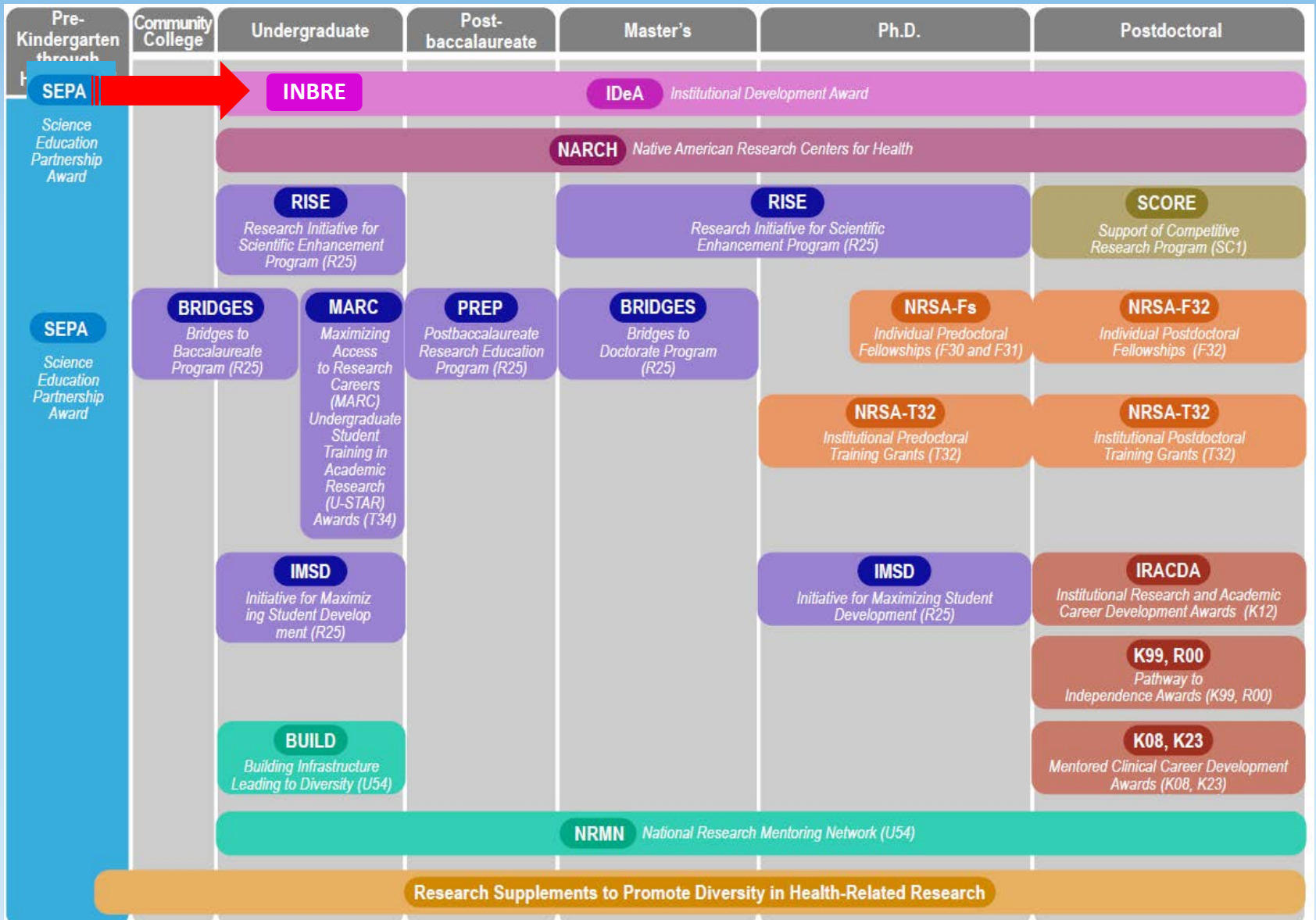
NIGMS Training & Workforce Diversity Programs



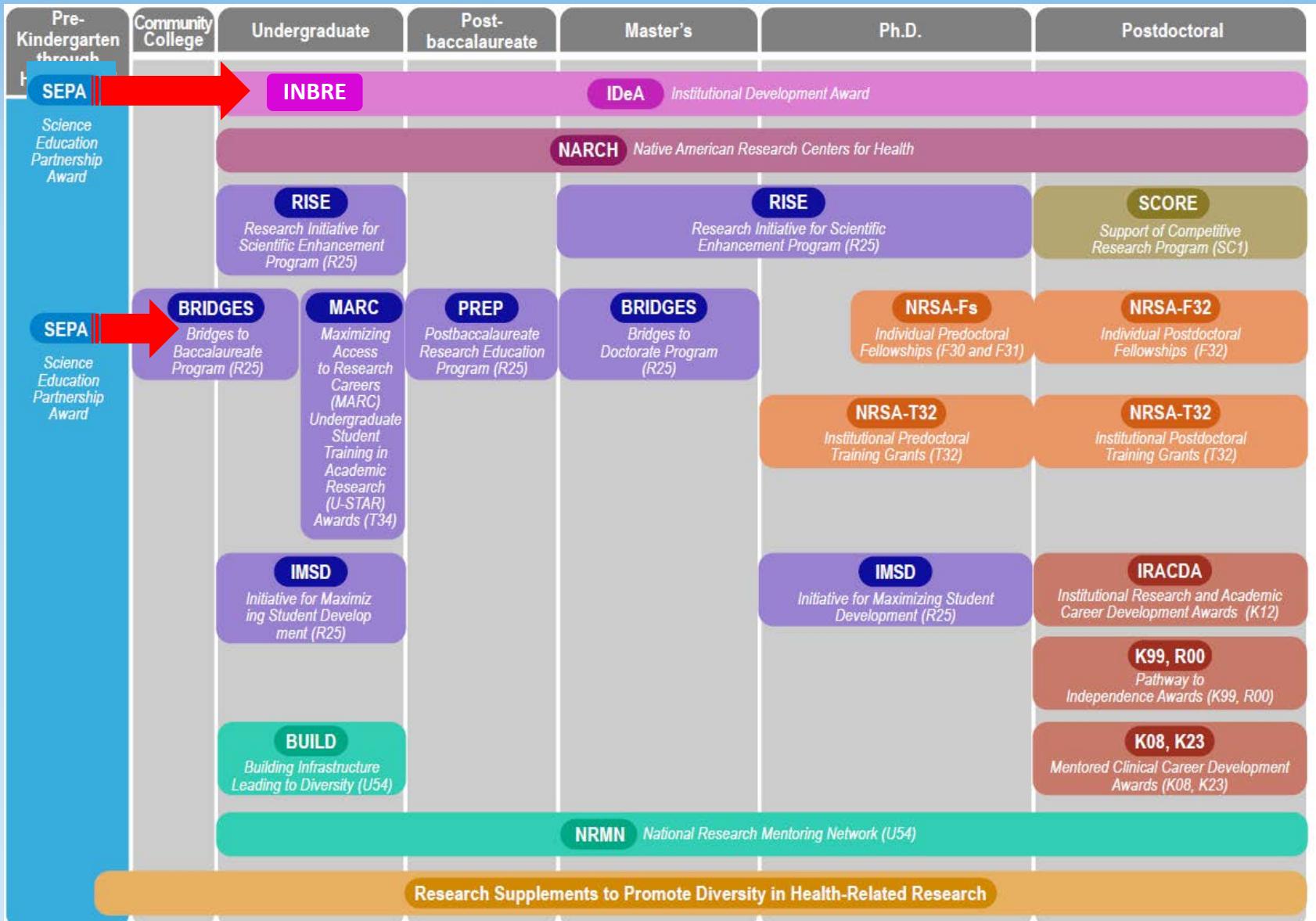
NIGMS Training & Workforce Diversity Programs



NIGMS Training & Workforce Diversity Programs



NIGMS Training & Workforce Diversity Programs



Purpose

- Increase the numbers of urban, rural and minority Students considering research and medical careers
- Public health literacy

Partnerships

- Scientists and clinicians partnering with educators, community organizations and science centers

Goals

- Career opportunities for minority and underserved students to increase workforce diversity
- Teacher professional development

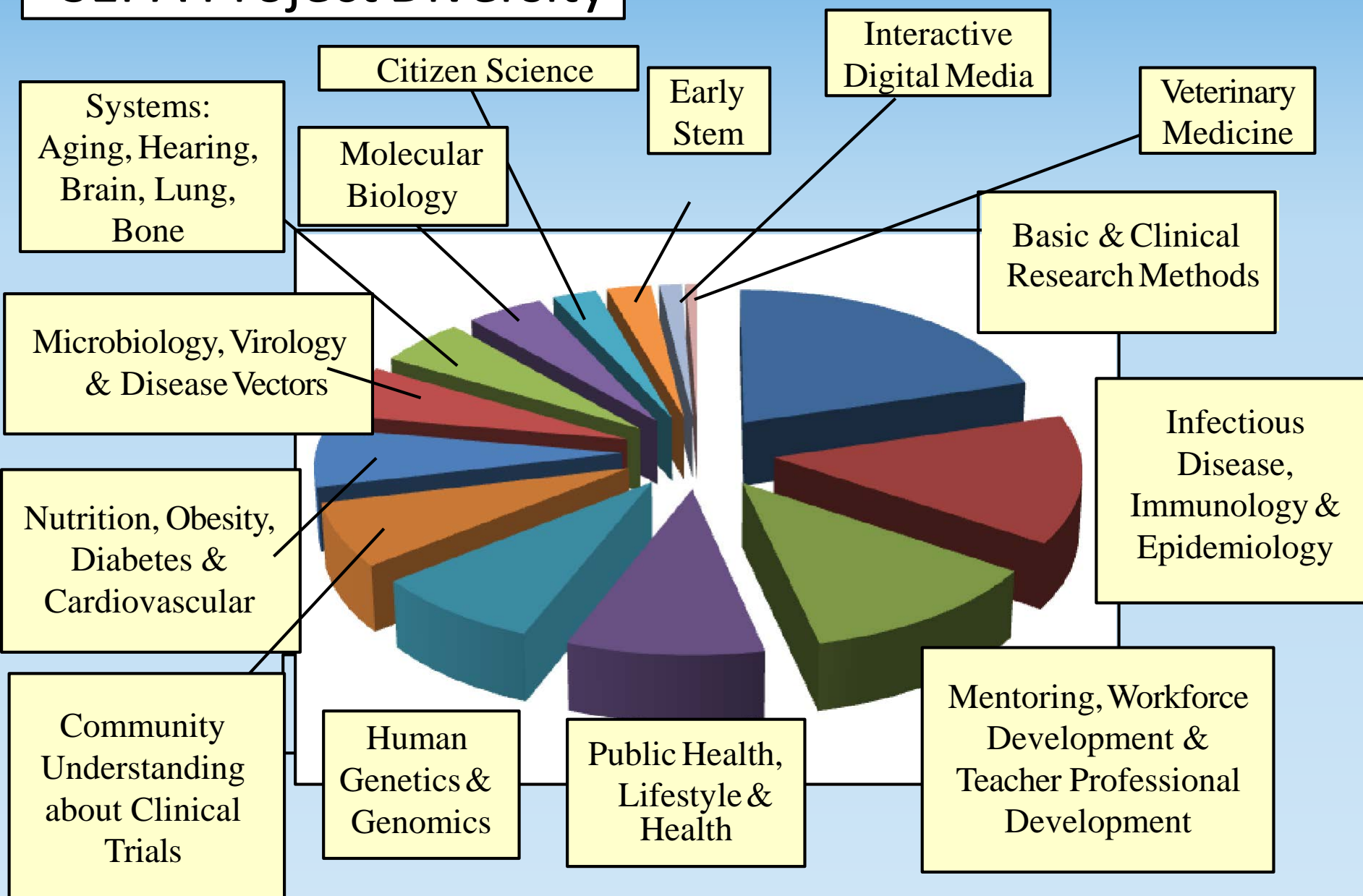
Target Audiences

- Pre-K to grade 12
- General public

Topics

- Any area of NIH funded basic or medical research

SEPA Project Diversity



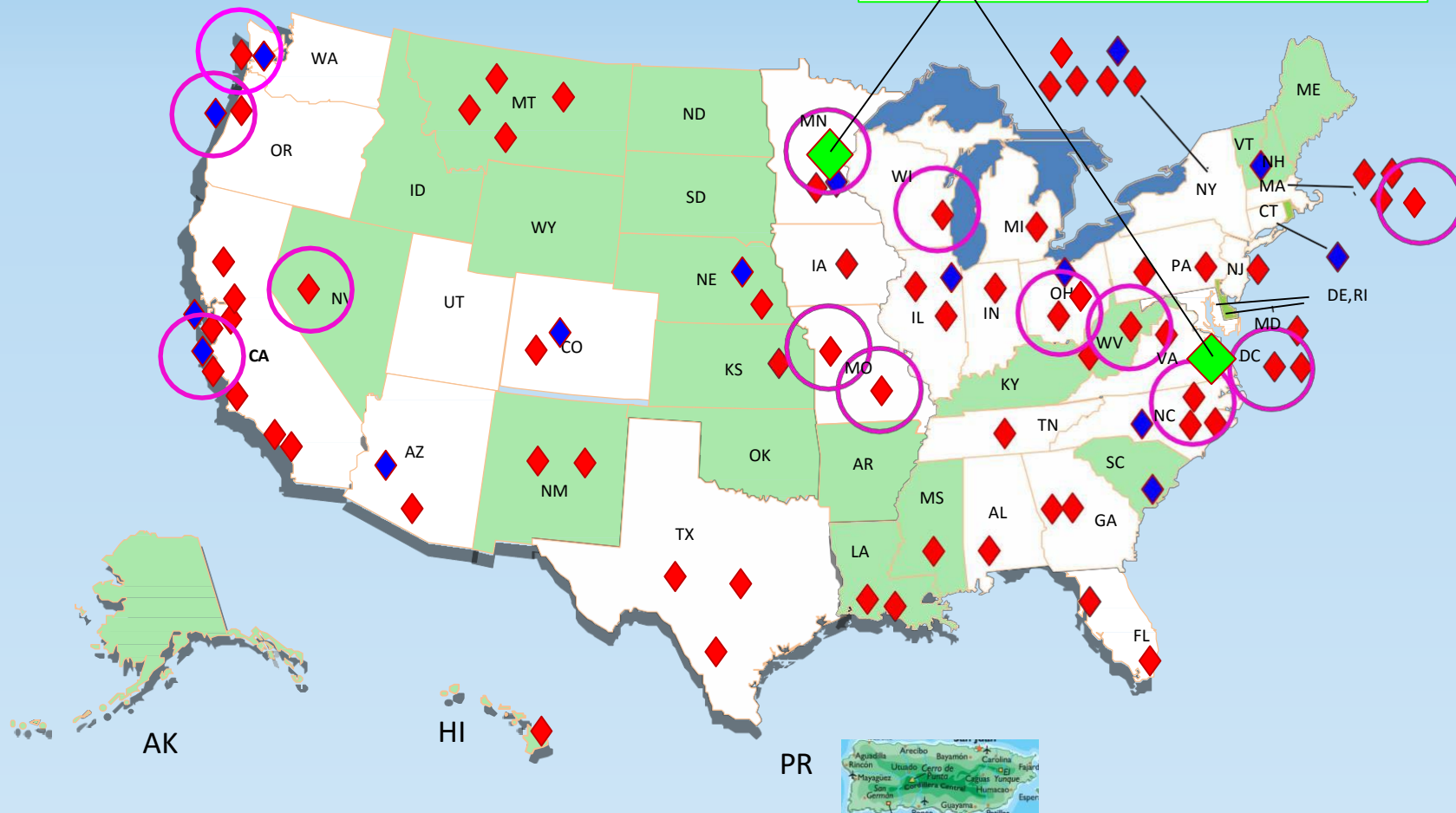
SEPA Distribution

○ FY17 AWARDS

◆ P-12 STEM Projects

◆ Museum Exhibits

◆ SEPA Public Radio Stations



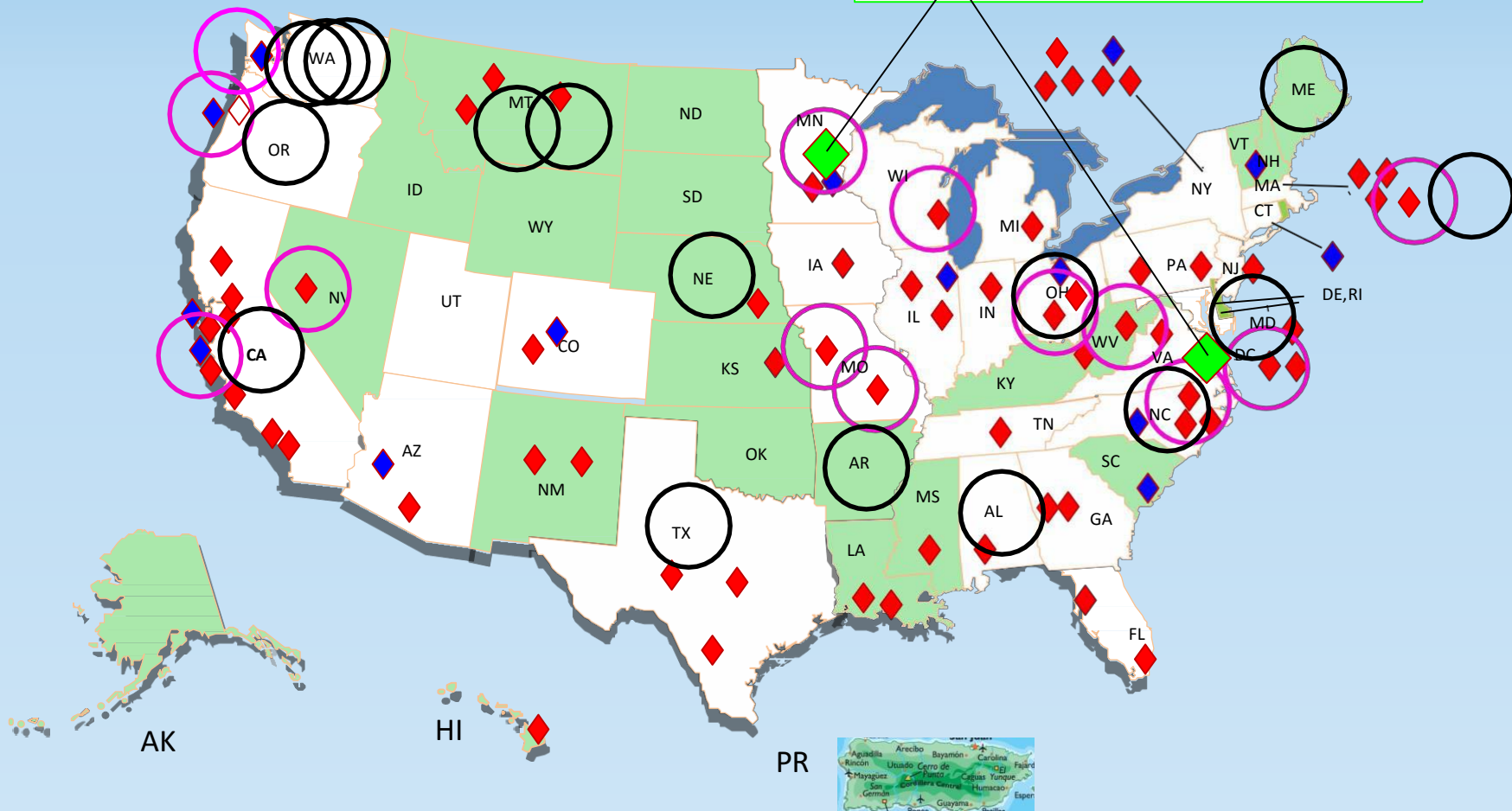
SEPA Distribution

○ FY18 AWARDS

◆ P-12 STEM Projects

◆ Museum Exhibits

◆ SEPA Public Radio Stations



SEPA Funding Opportunity Announcement (FOA)

Department of Health and Human Services

Part 1. Overview Information

Components of Participating Organizations

National Institute of General Medical Sciences ([NIGMS \(http://www.nigms.nih.gov\)](http://www.nigms.nih.gov))

Funding Opportunity Title

NIH Science Education Partnership Award (SEPA)(R25)

Funding Opportunity Announcement (FOA) Number

PAR-17-339

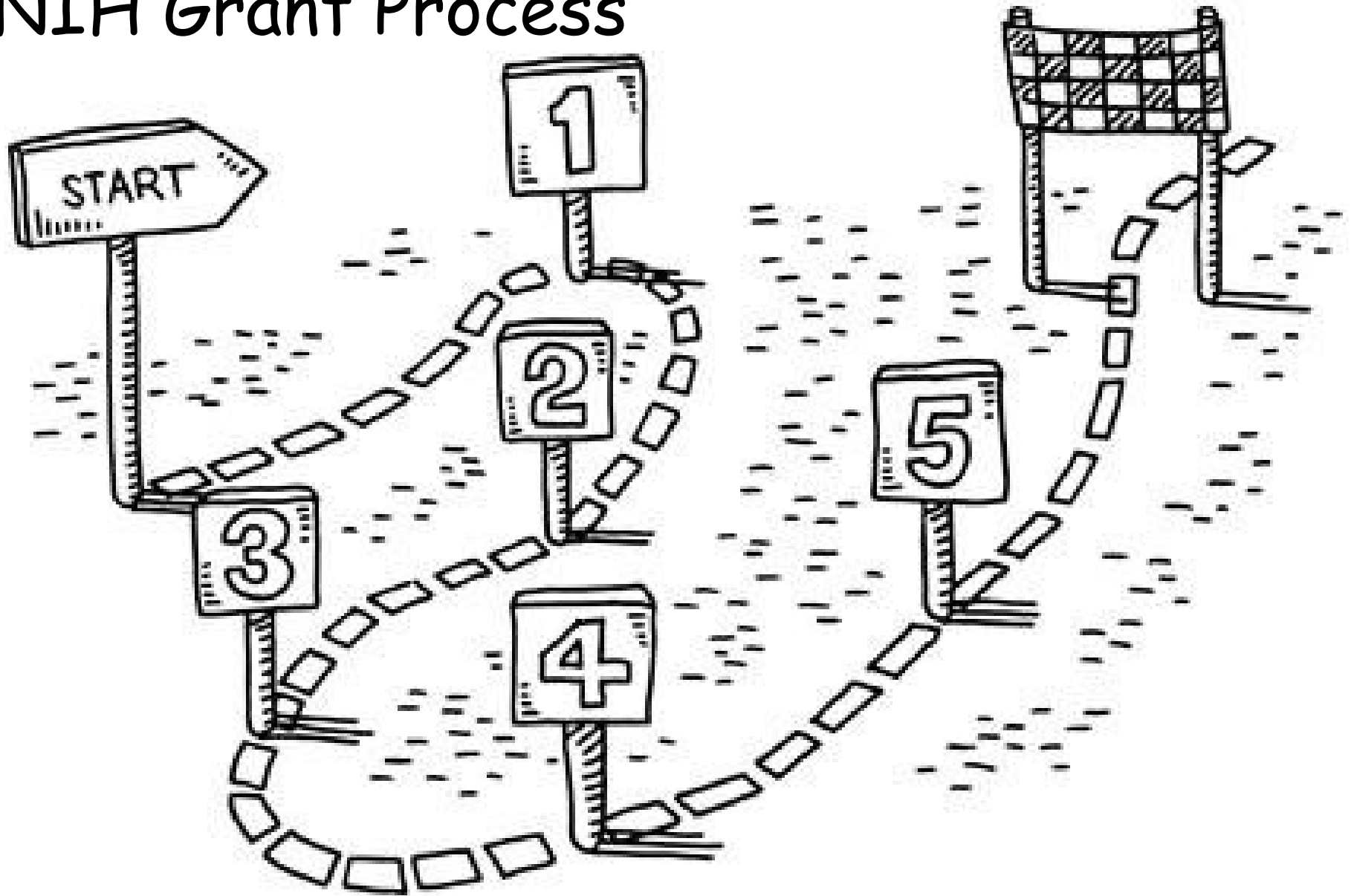
R25 Research Education

\$270K/year (\$250K+ 8% F&A)

5 Years @ \$1.35M



NIH Grant Process



<https://www.eliteresearch.com/how-do-you-develop-a-logic-model>



NIH Grant Process

PREPARATION - PART I

1. Study SEPA FOA
2. Visit SEPA website, <https://nihsepa.org/>
3. Search by
 - Topic
 - Target Audience
 - Applicant Organization
 - SEPA Projects by Funding Year
 - Annual SEPA PI Conference Reports

<https://www.eliteresearch.com/how-do-you-develop-a-logic-model>

Section VII. Agency Contacts

Scientific/Research Contact

Tony Beck, Ph.D. (SEPA)

National Institute of General Medical Sciences (NIGMS)

Telephone: 301-480-4623

Email: beckl@mail.nih.gov

Peer Review Contact

Jonathan Arias, Ph.D.

Center for Scientific Review (CSR)

Telephone: 301-435-2406

Email: ariasj@csr.nih.gov

Financial/Grants Management Contact

Christy Leake

National Institute of General Medical Sciences (NIGMS)

Telephone: 301-594-7706

Email: Christy.leake@nih.gov



NIH Grant Process

PREPARATION - PART I

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SEPA

SCIENCE EDUCATION PARTNERSHIP AWARD
SUPPORTED BY THE NATIONAL INSTITUTES OF HEALTH

Log in

- SEPA Projects
- Publications
- News
- Community
- Evaluation
- Annual Meeting



PRESIDENTIAL AWARDS FOR EXCELLENCE IN SCIENCE, MATHEMATICS & ENGINEERING MENTORING

Ann L. Chester,
West Virginia University

John A. Pollock,
Duquesne University

Virginia L. Shepherd,
Vanderbilt Center for
Science Outreach



Congratulations!

Feature Focus

Opioid Crisis

PBS NewsHour has produced a series of informative SEPA-funded segments about the opioid crisis in America.

Search Programs by State

View SEPA programs from as many as 40 states across the nation plus DC & Puerto Rico.

<https://nihsepa.org/>

Projects by Year of Award



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Annual Conference Reports



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- SEPA Projects
- Publications
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- Annual Meeting



PRESIDENTIAL AWARDS FOR EXCELLENCE IN SCIENCE, MATH ENGINEERING M

Search Projects by State

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Opioid Crisis

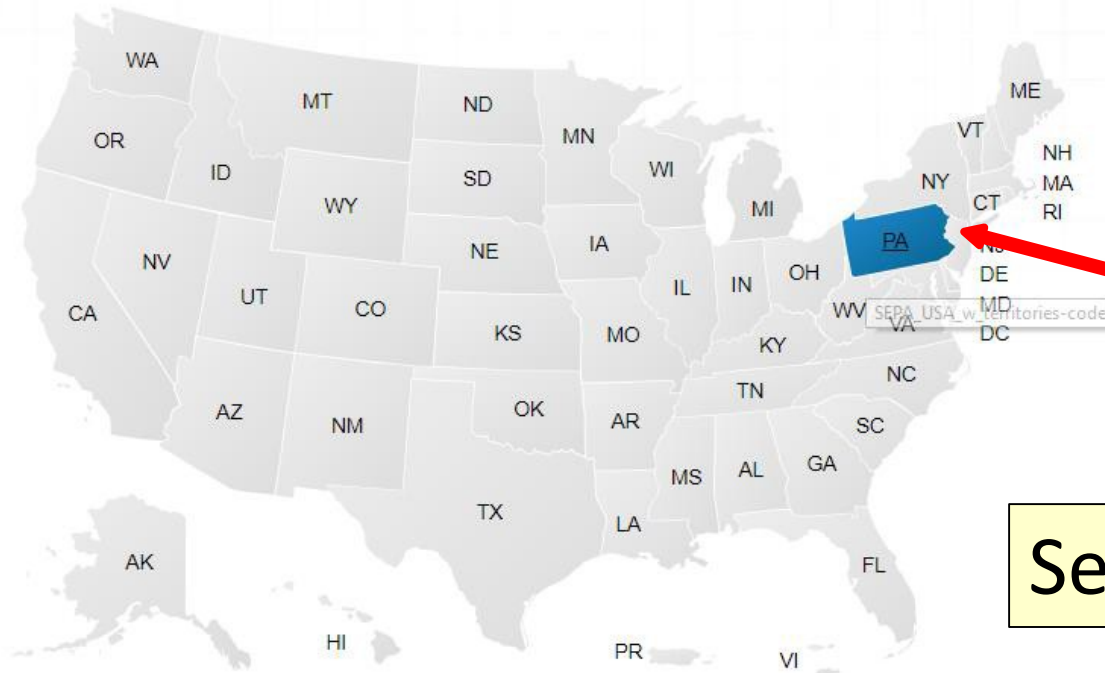
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<https://nihsepa.org/>

Filter by state:



PA

Search by State

Choose a State

Please make a selection





PA:
SEPA Projects
in by Year of
Award

Pennsylvania

Planarians and the pharmacology of addiction: an in vivo model for K-12 education

Temple University – Lewis Katz School of Medicine, Philadelphia PA
R125DA033270-01A1 : 07/15/2014 - 08/30/2018

A Partnership in Neuroscience Education

Duquesne University, Pittsburgh PA
R25OD016516 : 04/15/2014 - 02/28/2019

Resources for Education and Action for Community Health in Ambler (REACH Ambler)

University of Pennsylvania – School of Medicine, Philadelphia PA
R25OD010521-01 : 08/27/2012 - 07/31/2017

Investing in the Future: Collaborative Research Experiences for Students and Teachers

Pennsylvania State University Hershey Med Ctr, Hershey PA
R25RR023280-01 A2 : 08/01/2008 - 05/31/2013

If a Starfish Can Grow a New Arm, Why Can't I?

Pittsburgh Tissue Engineering Initiative, Pittsburgh PA
R25RR023286 : 03/26/2007 - 02/28/2012

Regenerative Medicine Partnership in Education (Phase III)

Duquesne University, Pittsburgh PA
R25RR020403 : 04/01/2008 - 08/31/2010

Partnership in Biomedical Discovery

University of Pittsburgh, Pittsburgh PA
R25RR020463 : 04/01/2008 - 03/31/2011

Heart of the Matter

Franklin Institute, Philadelphia PA
R25RR018562 : 09/30/2003 - 09/29/2008

Tissue Engineering Show and Educational Partnership

Duquesne University, Pittsburgh PA
R25RR015619 : 09/30/2000 - 08/31/2005

Science Teachers Workshops for Computer Training (1995)

Carnegie Mellon University, Pittsburgh PA
R25RR007642-2 : 04/01/1995 - 03/31/2000

Universe Within

QED Communications Inc, Pittsburgh PA
R25RR007585 : 09/30/1991 - 09/29/1993

Science Teachers Workshops for Computer Training

Carnegie Mellon University, Pittsburgh PA
R25RR007642 : 09/30/1991 - 03/29/1995

Promoting Literacy
National Dissemination Center
Genes and Engaging Teachers
Gene U: Genomic Experiences

Help and Support
Join our Mailing List
Contact the Web
View FAQ

Findings
Free from NIH's National General Health Research
Findings Online

Inform high school students and early career scientists about highlights in basic biological research.



Pennsylvania

Pennsylvania

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Temple University – Lewis Katz School of Medicine, Philadelphia PA

1R25DA033270-01A1 : 07/15/2014 - 06/30/2018

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Search by PI
or Project

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A Partnership in Neuroscience Education

Scientastic! Are You Sleeping?

Winner of two **Emmy® Awards!**

Scientastic: Are You Sleeping? | Preview



Project Website

Project Website(s)

<http://thepartnershipineducation.com>

Project Description

Abstract

Dissemination

Evaluation(s)

Project Description

High-caliber, rigorously-tested STEM teaching tools for the 21st century

Scientastic! Are You Sleeping? is an Emmy® Award-winning show, which blends live-action with 2-D and 3-D animations that incorporates a fictional plot with interviews from actual doctors and scientists, to view at

Project Information

Project ID: R25OD016516

Project Type: formal

Project Status: active

Funding Years:
04/15/2014 - 02/28/2019

State: PA

Institution:

Duquesne University

Department:
Department of Biological Sciences

Address:

Duquesne University Administration
Bldg. 600 Forbes Avenue Room
301A
Pittsburgh, PA 15282

Project Contact(s):

Pollock, John, PhD

Role: PI / Project Leader

Phone: 412-855-4043

Email: pollock@duq.edu

Explore SEPA



DNA is Elementary:
Promoting Genetics
Literacy



**Nationwide
Dissemination of Inside
Cancer: A SEPA-Funded**



Genes and Microbes:
Engaging Students and
Teachers in NGSS-



**Gene U: Inquiry-based
Genomics Learning
Experiences for**

Help and Support



A Partnership in Neuroscience Education

Scientastic! Are You Sleeping?

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Scientastic: Are You Sleeping? | Preview



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Project Description Abstract Dissemination Evaluation(s)

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Phone: 412-855-4043

Email: pollock@duq.edu

Help and Support



National Institute of
General Medical Sciences

A Partnership in Neuroscience Education

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PI Contact
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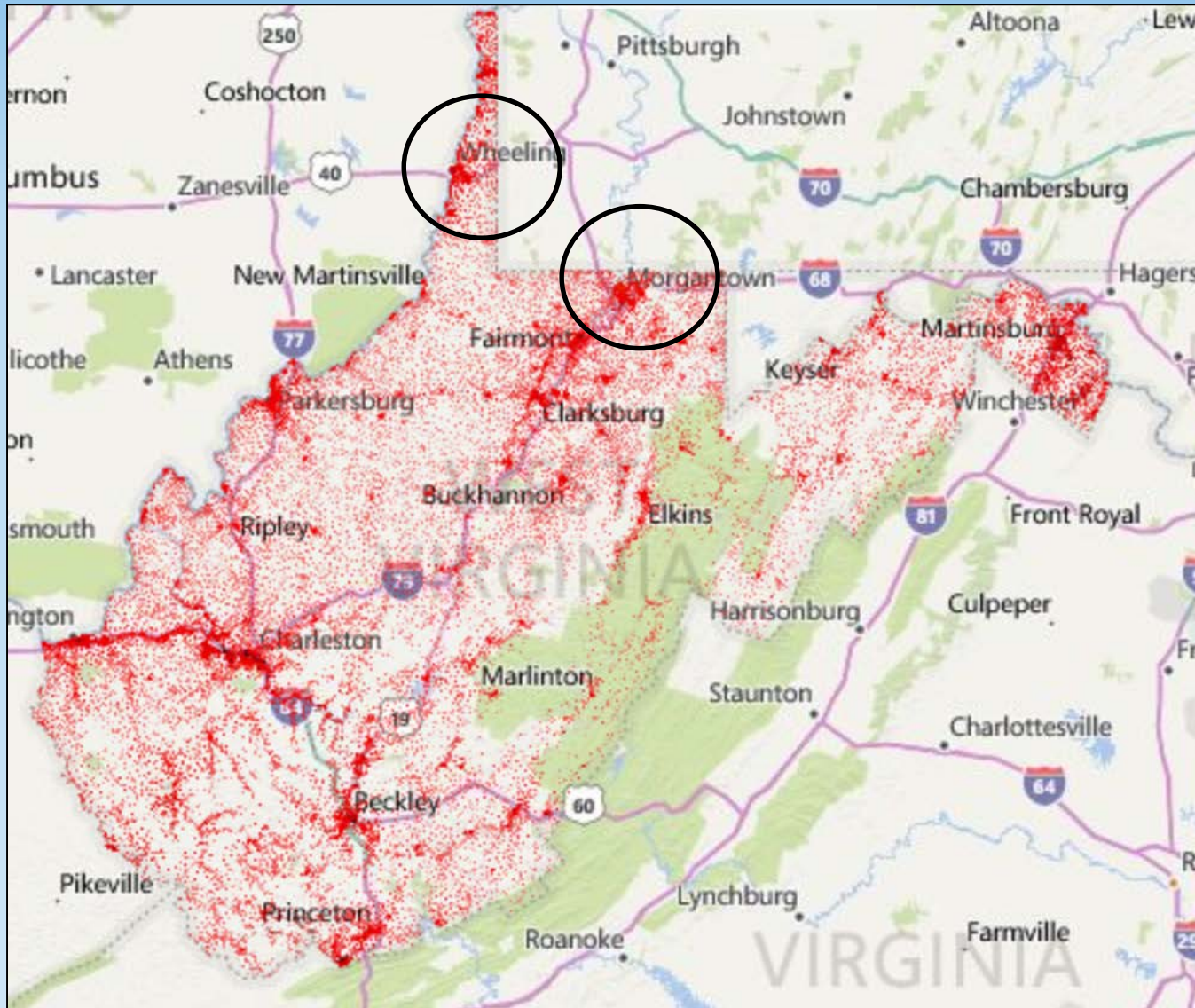
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Help and Support



SEPA – Case Studies



[Pandem-Sim: Saving the World with Biology](#)

Wheeling Jesuit University, Wheeling WV

WHAT'S NIH? NIH SEPA

e-Mission: **PANDEM-SIM**

Mission Pre-Mission Prep Support Curriculum Evaluation Contact

Pandem Disease Center Pandem Data

PANDEM-SIM
FIGHTING INFECTIOUS
DISEASES
EVERYWHERE

Pandem-Sim™ is a comprehensive educational project designed to increase high school students' knowledge of human infectious disease, microorganisms, the immune system, and epidemiological processes investigating disease outbreaks and health conditions.

[SCHEDULE NOW!](#)

[TEACHER TRAINING](#)

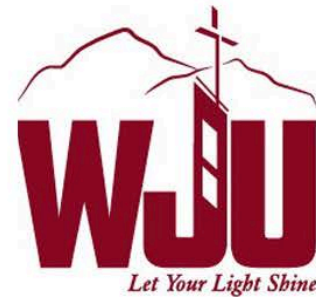




National Institutes
of Health

SEPA SCIENCE EDUCATION
PARTNERSHIP AWARD

Supported by the National Institutes of Health



WJU: Live Simulations & PBLs

- Two SEPA grants – CyberSurgeons & Pandem-Sim.
- WJU educator video-conferenced into classrooms acts as lead doctor or epidemiologist to guide high school students thru investigation of disease outbreaks. Student teams analyze patient medical data, diagnose disease, determine how it spreads, how to treat it, and issue public health alert. 90 minute activity with pre-mission curriculum.
- Our e-missions programs have gone into every state across the country and 22 countries around the world.
- WJU sims delivered to WVU HSTA students!





Resources & Websites



Search ...



- Standards based
- Spotlight on careers
- Links to videos and supporting materials

HOME

- What is NIH?
- Standards
- Next Generation Science Standards
- West Virginia State Science Standards
- Standards Aligned to PBL Modules
- PDC Goals and Objectives
- Epi-Career Directory
- Glossary
- Contact Us

FAST FACTS

Giant Viruses in Melting Permafrost

Scientists have found "giant viruses" in the Siberian permafrost. As the permafrost melts, the viruses are discovered to be still capable of causing disease—after 30,000 years of being frozen in the ground.

Image: Melting permafrost https://en.wikipedia.org/wiki/Melting_permafrost

Survey Researcher [Welcome to the Pandem Disease Center!](#)

- Suite of free resources
- Problem and case-based modules
- Teacher professional development materials
- Teacher only pages
- Free stuff for teachers

HOME TEACHER DEVELOPMENT BODY SYSTEMS PBL MODULES CBL MODULES CLINICAL TRIALS KEY RESOURCES LIVE MISSION

What is NIH?

- National Science Standards
- 21st Century Science Standards
- WV Science Standards
- PA Science Standards
- Contact Us
- Healthcare Career Directory

FAST FACTS

Corneal Ulcer

Ulcers on the cornea (the clear window covering of the eye) can occur if contact lenses are worn while sleeping, if they are not cleaned properly, or if you do not wash your hands well before

Welcome to Cybersurgeons!

The Center for Educational Technologies at Wheeling Jesuit University has developed *CyberSurgeons™* through a cooperative agreement with the National Institutes of Health. *CyberSurgeons™* is a comprehensive educational project designed to increase high school students' knowledge of human anatomy and physiology along with the clinical trial process. The project is a perfect fit in biology, anatomy and physiology, health, and related classes as well as in some guidance classes that have a careers component.

In addition to human anatomy content, students who use *CyberSurgeons™* materials gain a better understanding of translational science (moving knowledge from the research lab to a clinical setting), the clinical trials process, and how advances are made in healthcare.

CyberSurgeons™ components:

- Problem based learning modules
- Case-based learning materials

SPOTLIGHT ON CAREERS

Kinesthesiologist

Provides exercise principles to rehab physical therapy to enhance strength, endurance, and mobility of patients. Types of treatment include therapeutic exercise, geriatric rehab, water therapy, fitness and conditioning, and prosthetic rehabilitation.

Salary Varies greatly with education, experience, and specialty; \$29,560 - \$58,454

Education Past High School Options include 2 year associate programs or 4 year Bachelor degree programs, depending on the specialty

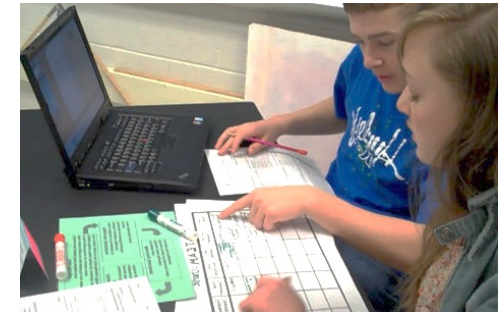
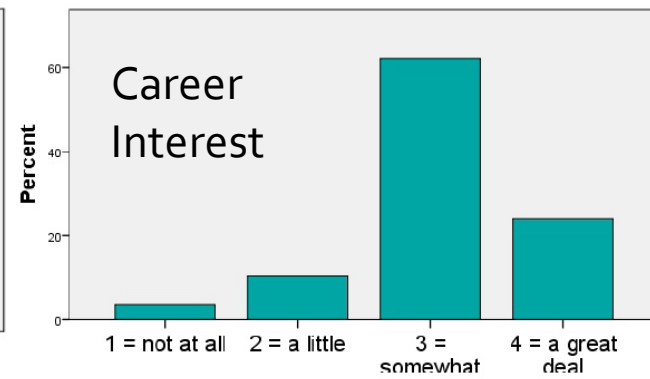
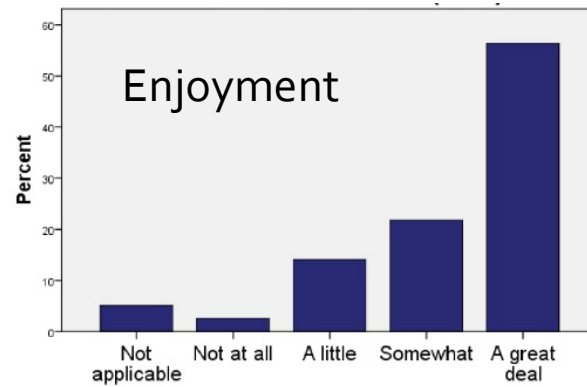
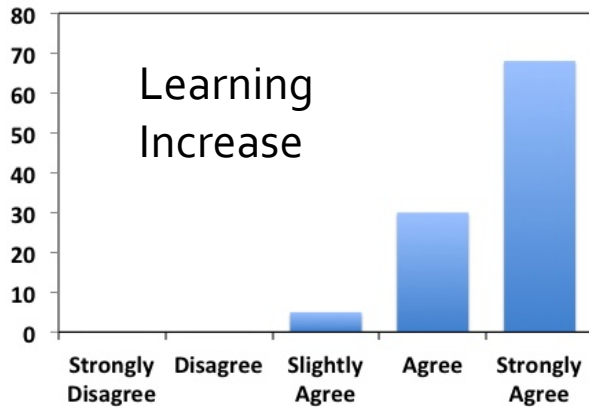
Job Outlook Varies greatly with education, experience, and specialty, most for physical therapists



Evaluation Highlights



- >2000 students evaluated across nation.



Students Engaged!

Sim Consequences

- Unexpected evidence of effectiveness. Three years ago we received inquiries from a local college asking what CyberSurgeons was. They had 2 students from 2 different high schools apply for pre-med saying that CyberSurgeons had piqued their interest in medicine!
- Sims sustainable because they continue to be used year after year, generating income long after funding stops. Since the project began >14,000 students in 600 class-rooms experienced a visceral involvement with medical diagnosis.
- Interested in preparing a SEPA grant?
Come chat with us for a little help!



HSTA Citizen Science: Adolescents Engaged in Citizen Science with Early Childcare Facilities to Address Childhood Obesity West Virginia University, Morgantown WV

HEALTH SCIENCES & TECHNOLOGY ACADEMY

Search this

HOME ABOUT US OUR IMPACT HOW WE WORK PUBLICATIONS JOIN US RESOURCES & EVENTS CONTACT US
PAST HIGHLIGHTS SEARCH

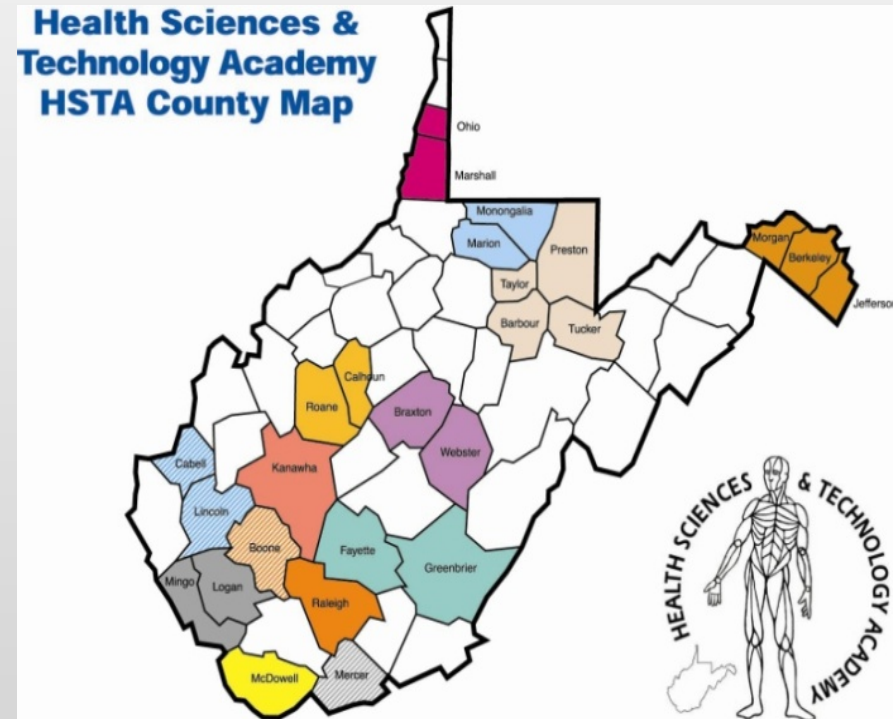


Health Sciences & Technology Academy NIH SEPA Funded since 1997 Let's EXPAND to all of WV

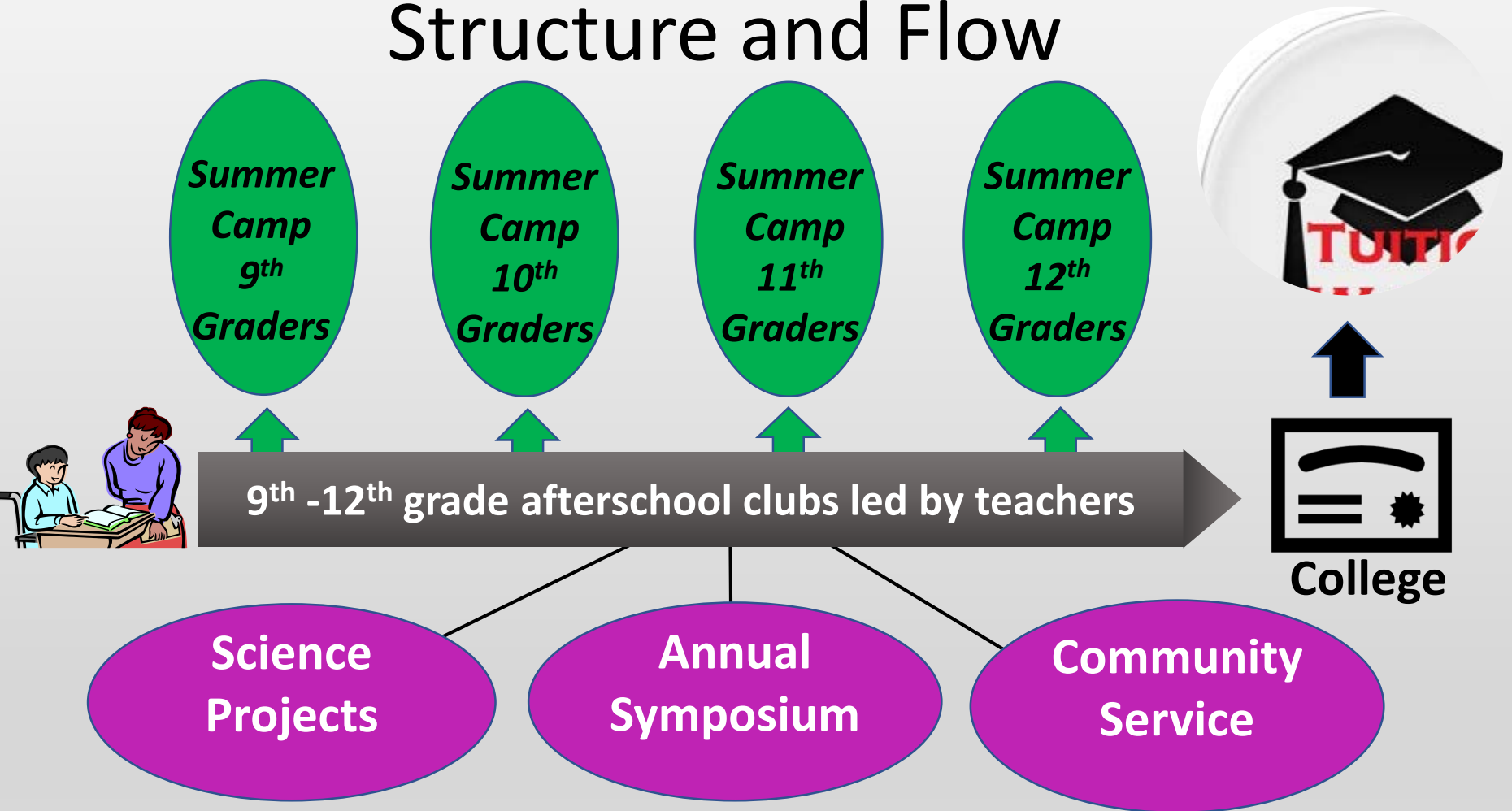


HSTA Infrastructure

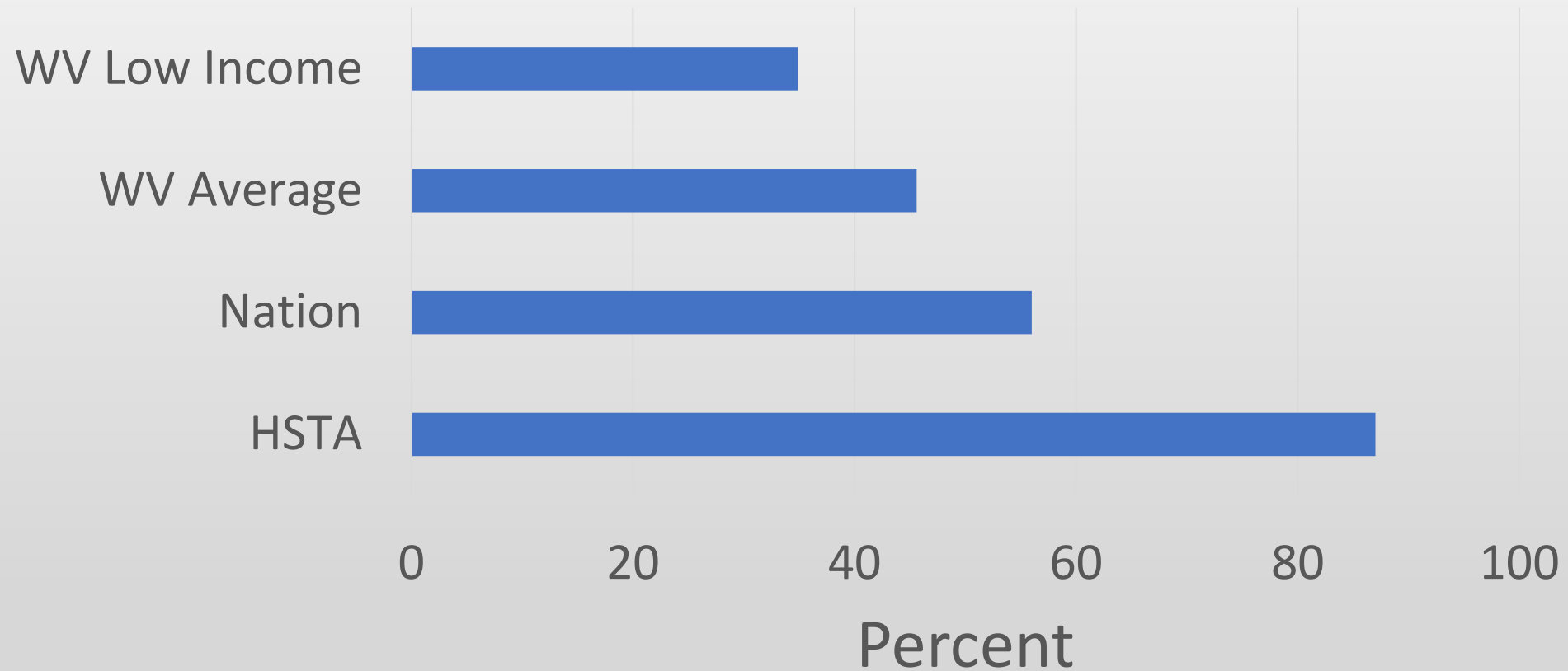
- Community Based Organization
 - 159 Volunteer Board Members
- 750 9th -12th grade students in 48 high schools
 - After school club setting
 - Complete annual research projects
 - Successful completion of the program results in tuition waiver to WV state schools
- 70 teachers
- 14 Field Site Coordinators
- 4 Community Research Facilitators



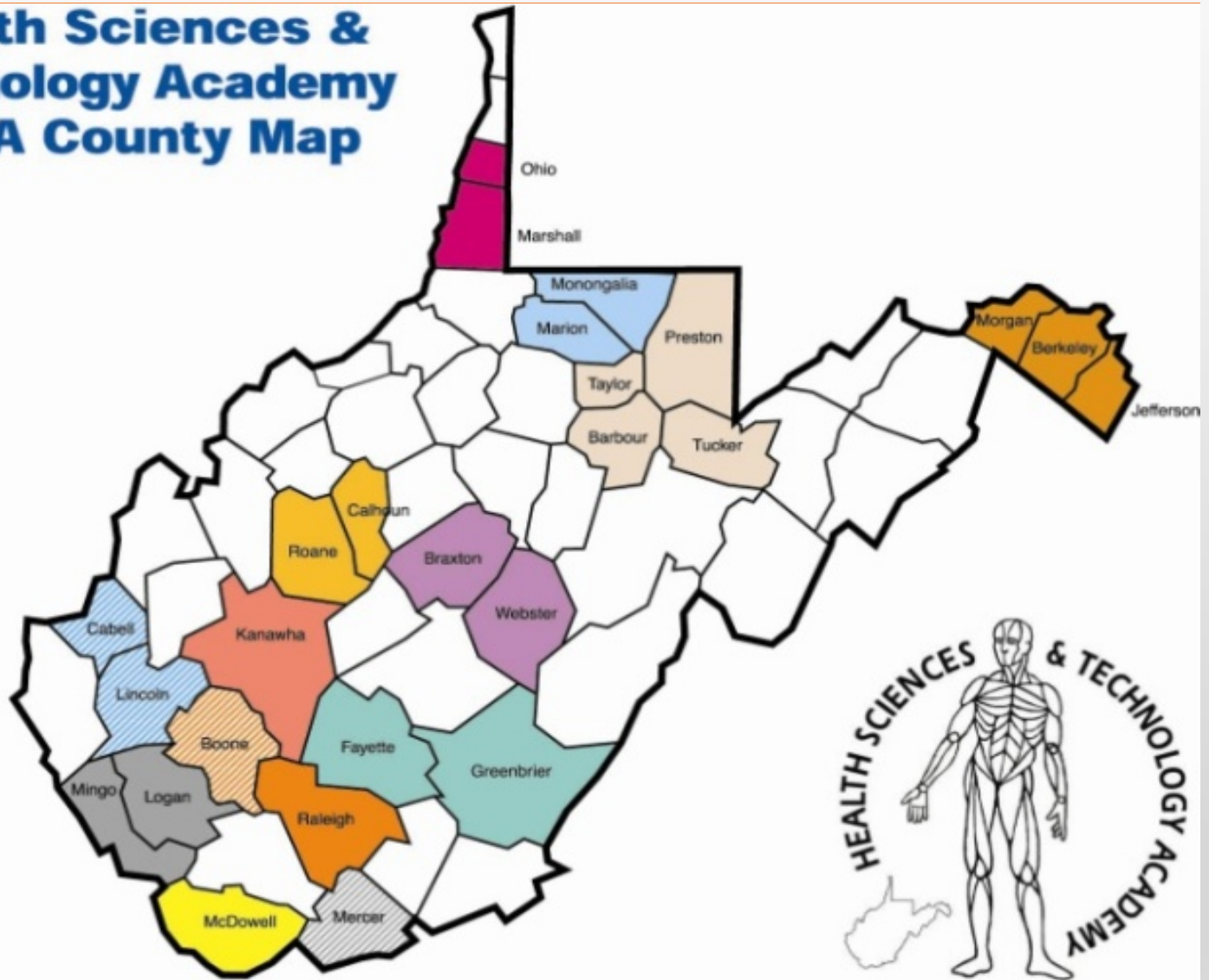
Structure and Flow



Graduation Rates (6 years)



Health Sciences & Technology Academy HSTA County Map





SEPA SCIENCE EDUCATION PARTNERSHIP AWARD
Supported by the National Institutes of Health

Our goal - a diverse pipeline

QUESTIONS?

