



Session/Poster Information



View Your Session

ID	8668
Title	NIH SEPA Funding for ISE Exhibits—Program Overview and Grant Writing Workshop
Day/Time/Location <i>(subject to change)</i>	Saturday, September 21, 2019: 11:45 AM - 1:00 PM, Metro Toronto Convention Centre, Meeting Room 711





Contact Person

Tony Beck

National Institutes of Health (NIH)

beckl@mail.nih.gov

SEPA website, <https://nihsepa.org/>

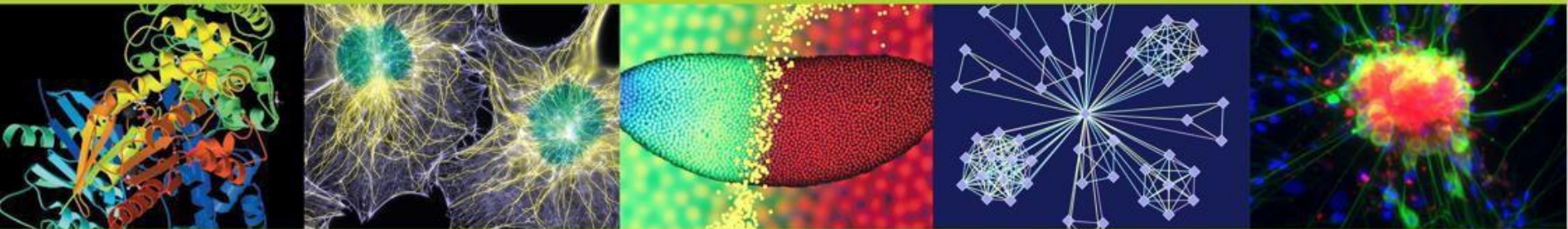
- Search projects by state, year of award, topic.
- Annual PI Conference reports
- Updates on:
 - SEPA and SEPA STEM Games SBIR/STTR funding opportunity announcements (FOAs)
 - 2020: Separate Webinars for SEPA formal/classroom and SEPA ISE/science center & museum proposals



**National
Institutes of
Health (NIH)**

**NIH SEPA Funding for ISE Exhibits—Program
Overview and Grant Writing Workshop**

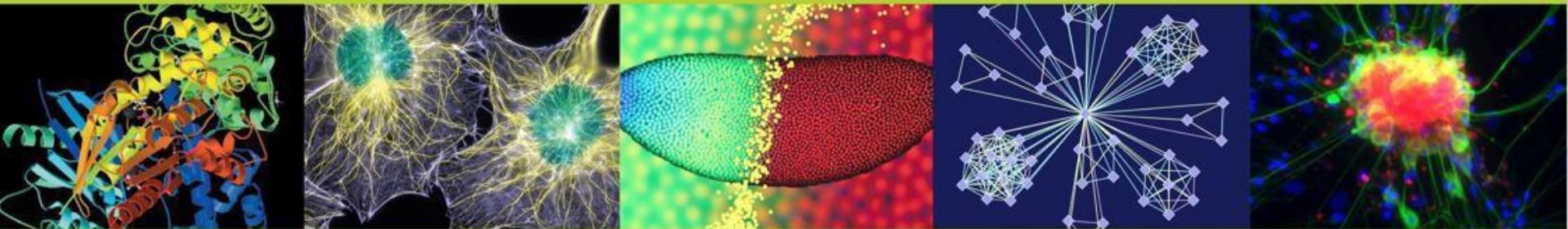
Tony Beck, National Institutes of Health
Greg DeFrancis, Montshire Museum
Timothy Hecox, Oregon Museum of Science & Industry
Anja Scholze, Tech Museum of Innovation
Martin Weiss, New York Hall of Science



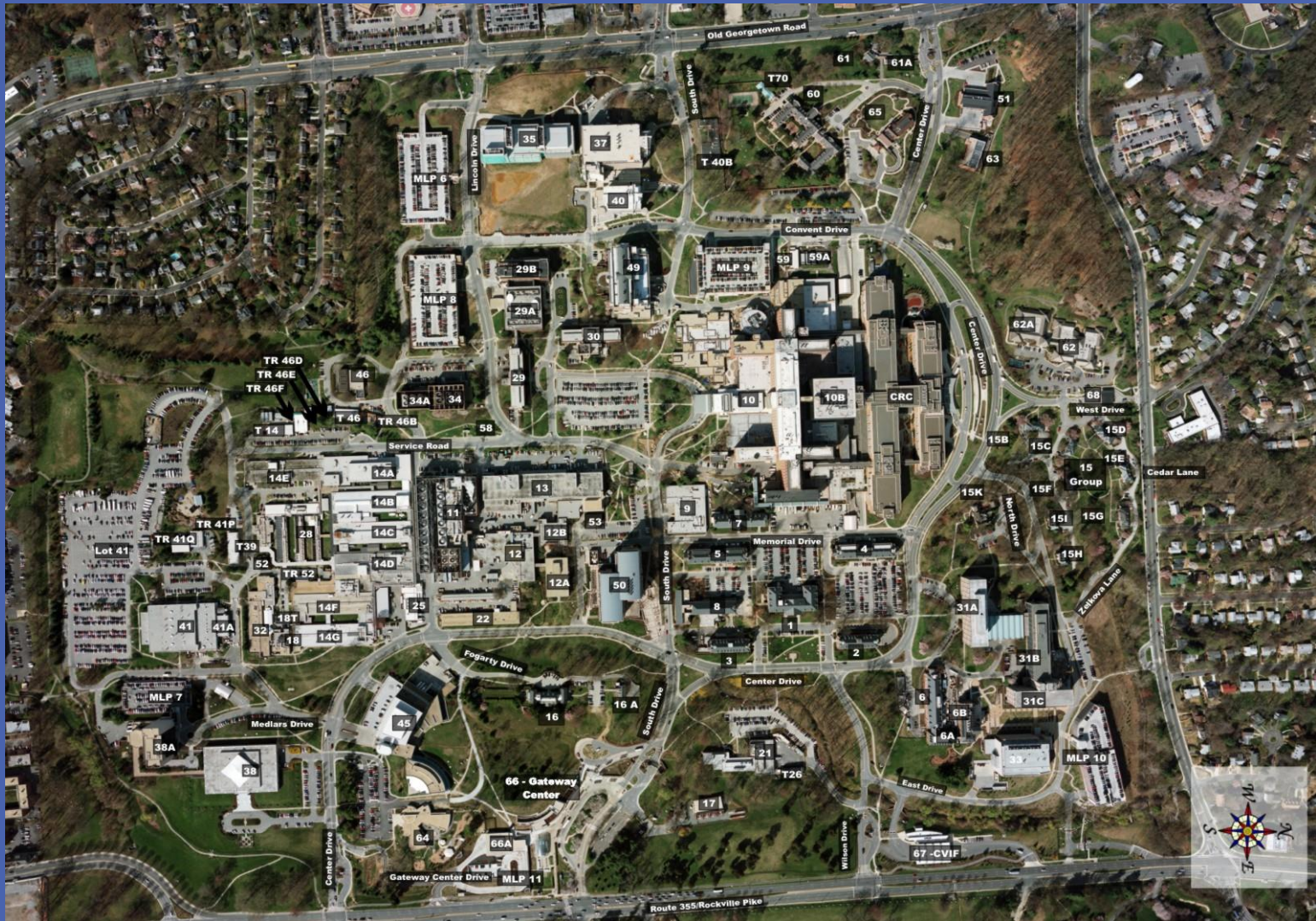
National
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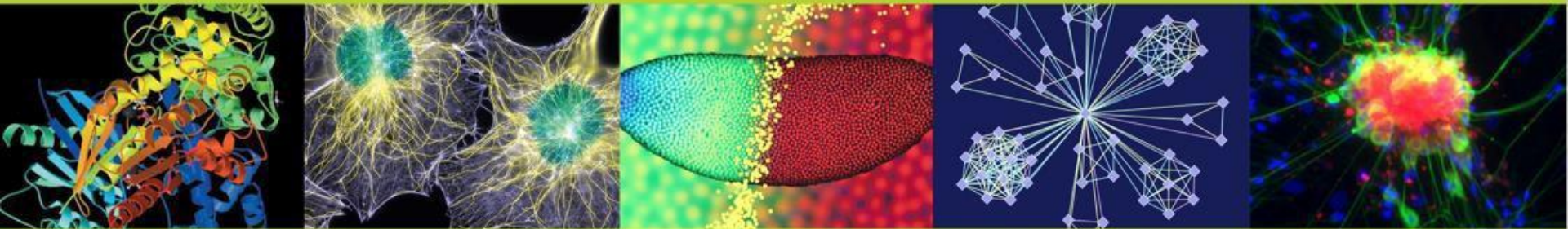
Overview



National Institutes of Health (NIH)

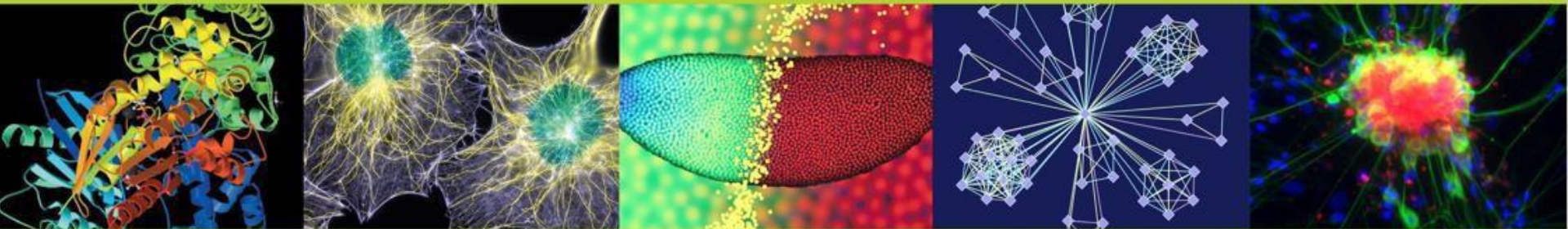


R25 Research Education



SEPA SCIENCE EDUCATION
PARTNERSHIP AWARD
SUPPORTED BY THE NATIONAL INSTITUTES OF HEALTH

R25 Research Education
5 years, \$1.35M

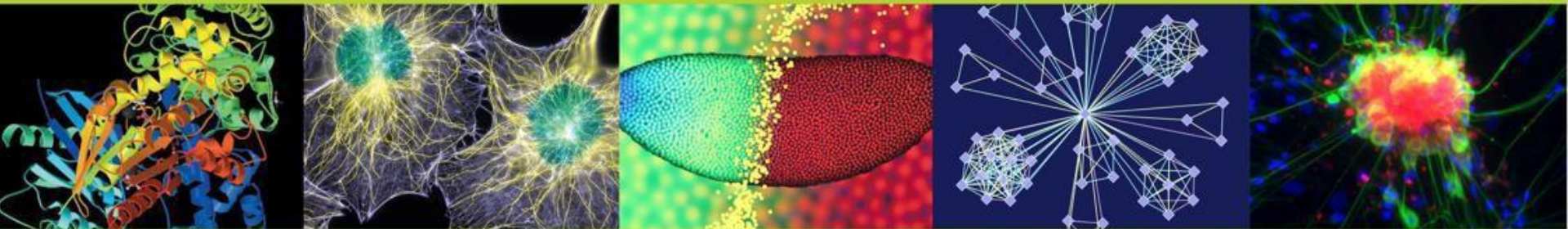


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R25 Research Education

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Any area of NIH basic or medical research



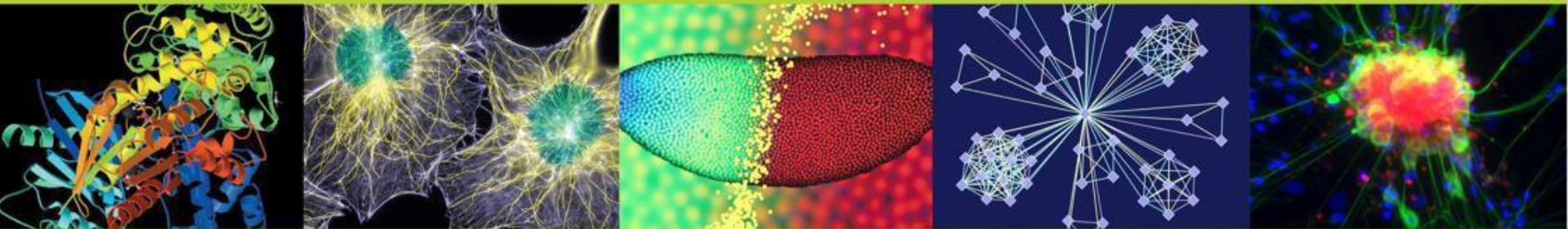
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Any area of NIH basic or medical research

Next receipt date June/July 2020



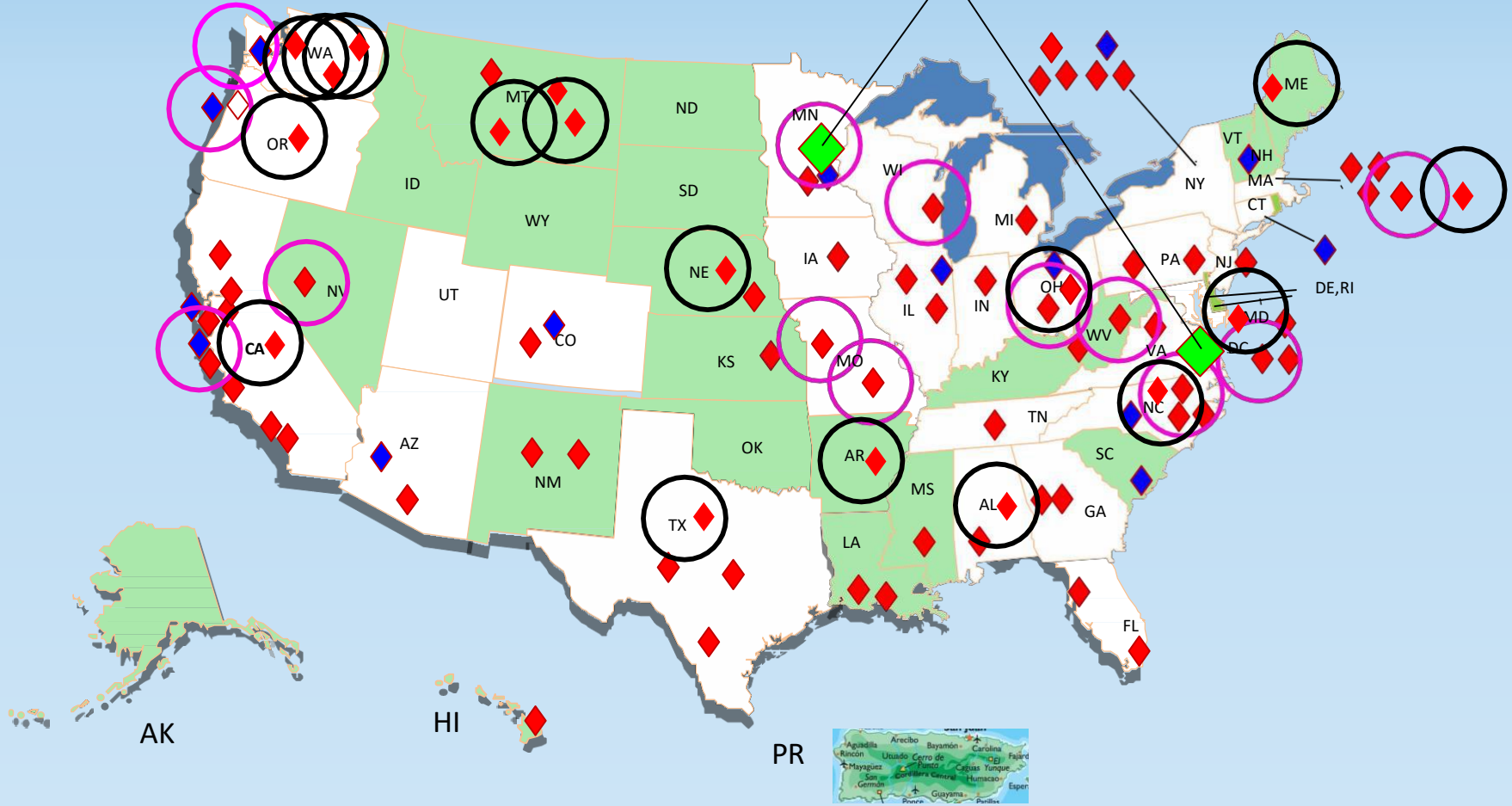
SEPA Distribution

◆ P-12 STEM Projects

◆ Museum Exhibits

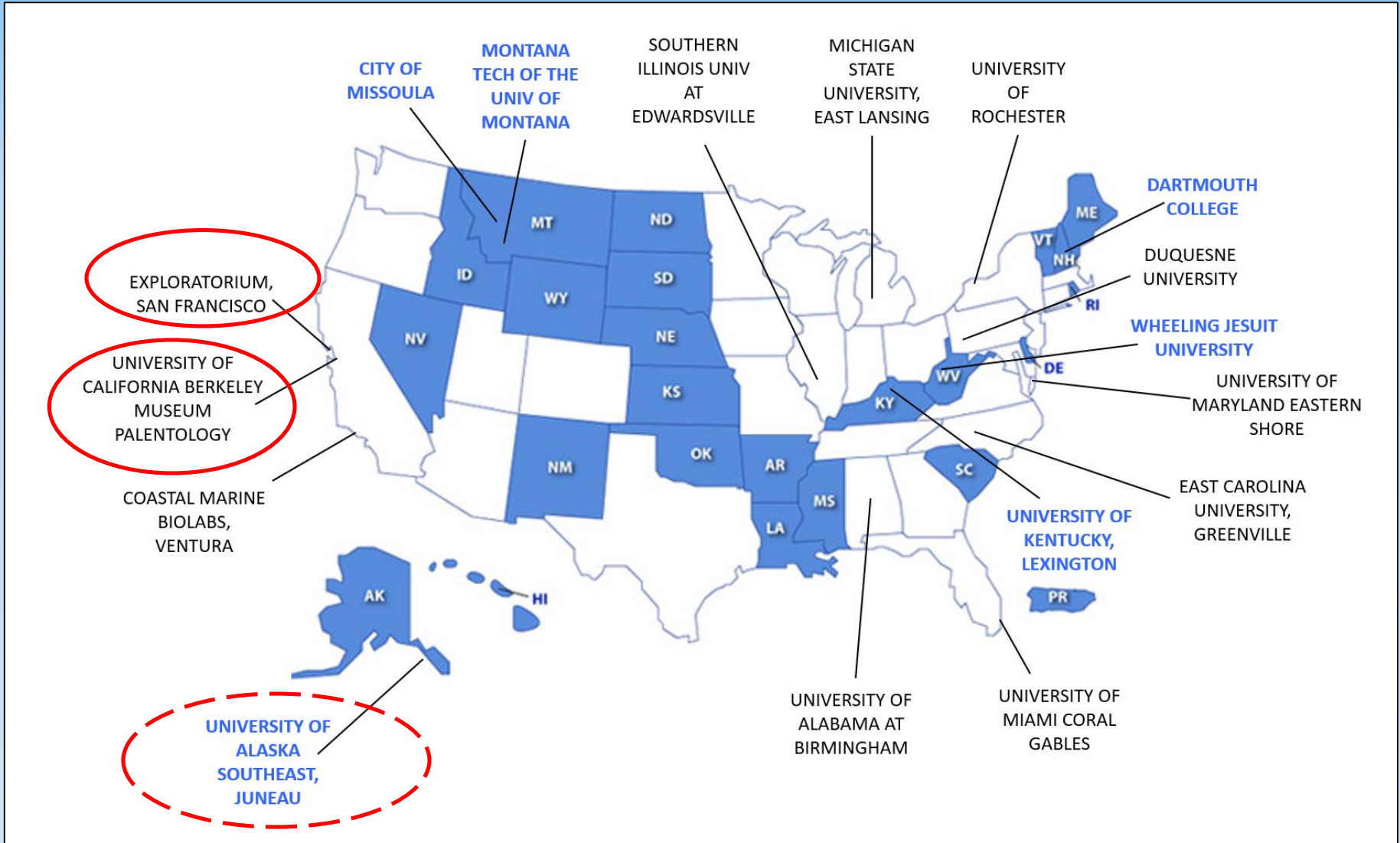
◆ SEPA Public Radio Stations

○ FY18 AWARDS



SEPA Class of 2019

 Science Center or Museum



SEPA

SCIENCE EDUCATION PARTNERSHIP AWARD
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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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Search by topic

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SEPA

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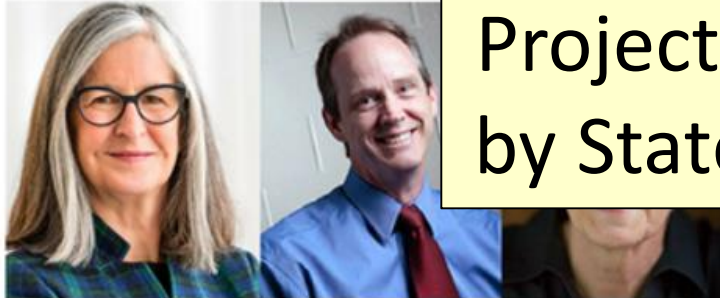


PRESIDENTIAL AWARDS FOR EXCELLENCE IN SCIENCE, MATH, ENGINEERING M

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West Virginia University

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by State

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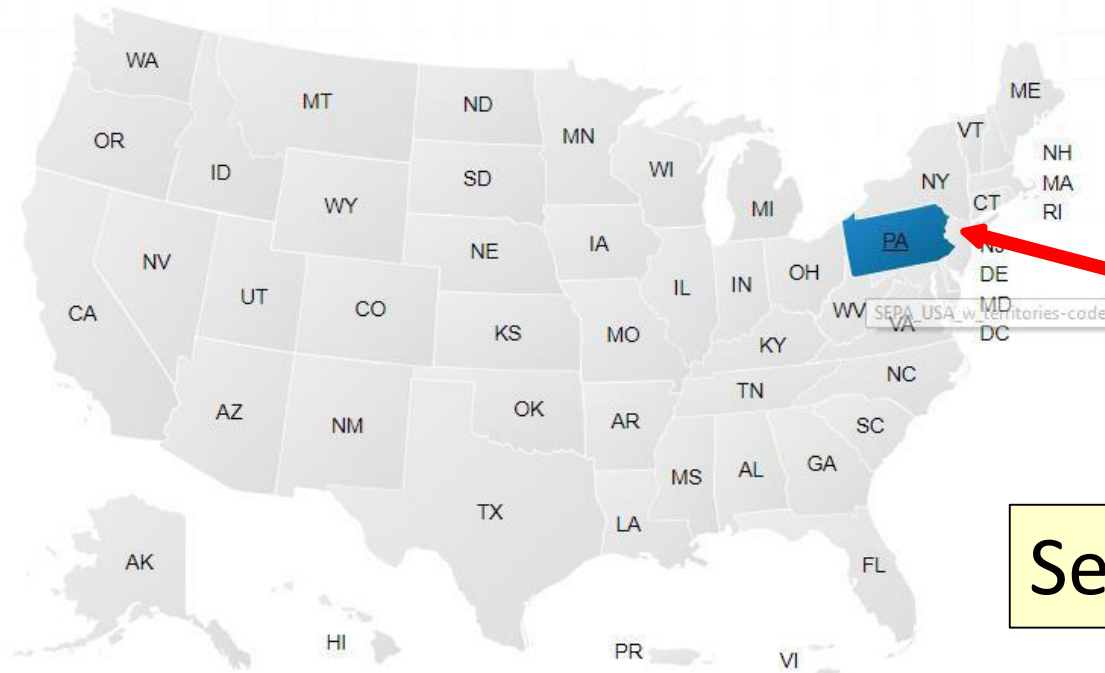
Search Programs by State

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

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

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 : 04/01/2006 - 08/31/2010

Partnership in Biomedical Discovery

University of Pittsburgh, Pittsburgh PA
R25RR020463 : 04/01/2006 - 03/31/2011

Heart of the Matter

Franklin Institute, Philadelphia PA
R25RR018562 : 09/30/2003 - 09/29/2006

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 Webmaster
View FAQ

Findings
From bench to bedside
General #1
FindIt Online

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



Pennsylvania

Pennsylvania

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

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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R25OD010521-01 : 08/27/2012 - 07/31/2017



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?

Winner of two Emmy® Awards!



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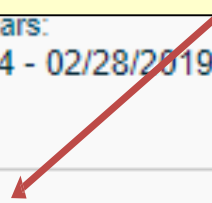
Pollock, John, PhD

Role: PI / Project Leader

Phone: 412-855-4043

Email: pollock@duq.edu

Institution



Help and Support



A Partnership in Neuroscience Education

Scientastic! Are You Sleeping?

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Scientastic: Are You Sleeping? | Preview



PI Contact Information

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Project Description

Abstract

Dissemination

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Help and Support



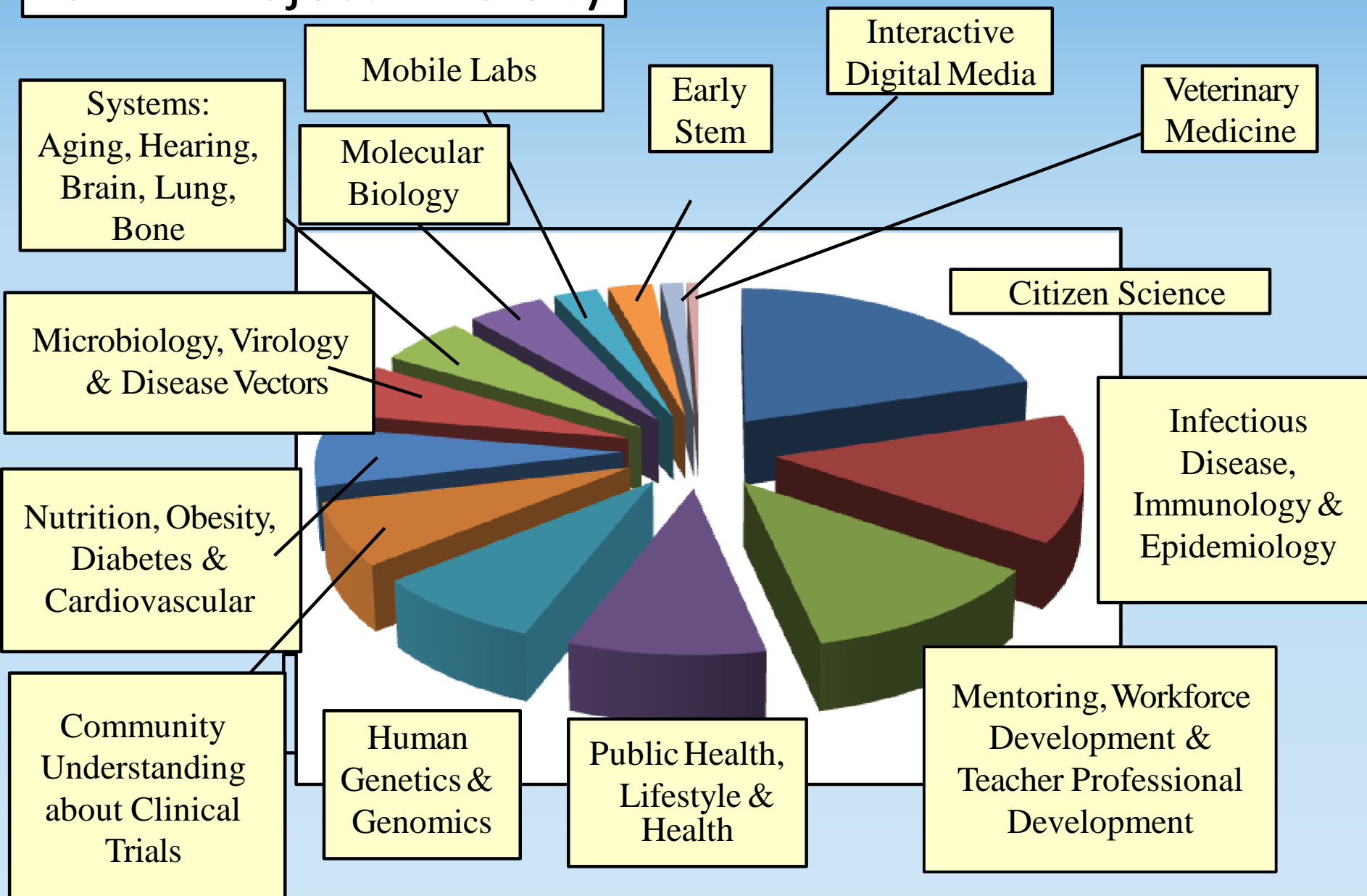
What does SEPA fund?

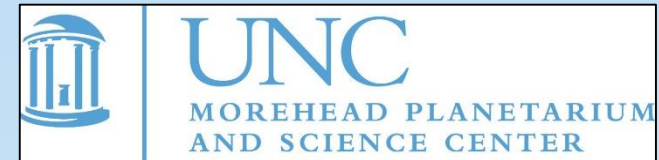
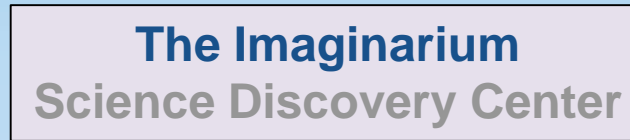
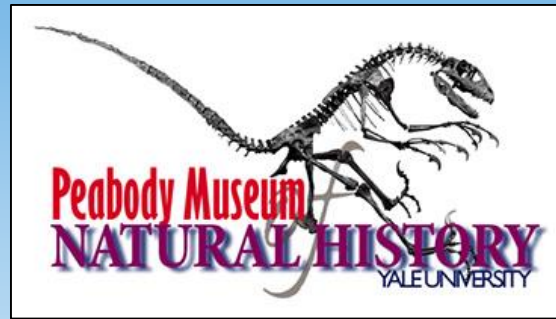
Duration reported	1991 – 2019
Awards issued	51
Estimated total funding	\$67M

SEPA-funded museum projects are listed on the SEPA website, <https://nihsepa.org/>



SEPA Project Diversity





More Than Just a Taste of Citizen Science

Denver Museum of Nature & Science

<http://www.dmns.org/genetics>

PI: Nicole Garneau



The Genetics of Taste Lab is the first community scientist-driven human genetics lab in the country.



- **GENES AND GRAINS** (2018-2019)
- **SAVORY AND SOUR STUDY** (2017-2018)
- **THE SCIENCE OF SOUR STUDY** (2016-2017)
- **A SWEET-TASTING STUDY** (2015-2016)
- **FATTY ACID TASTE STUDY** (2013-2015)
- **BITTER TASTE STUDY** (2009-2013)

More Than Just a Taste of Citizen Science

Denver Museum of Nature & Science

<http://www.dmnsc.org/citizen-science>

PI: Nicole

The G
comm
genet



GRAINS (2018-
D SOUR STUDY
E OF SOUR STUDY
STING STUDY
TASTE STUDY

- BITTER TASTE STUDY (2009-2013)

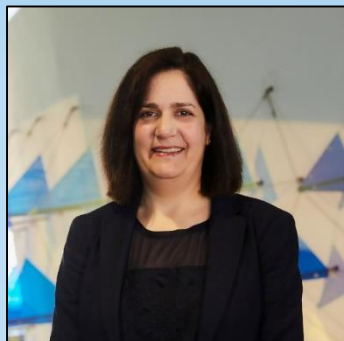


Weighing the Evidence: Making Informed Health Care Decisions

Science Museum of Minnesota

<https://nihsepa.org/project/weighing-the-evidence-making-informed-health-care-decisions-a-traveling-exhibit/>

PI: Laurie Fink



- Unique collection of historical and contemporary quack medical devices donated to the Science Museum of Minnesota when the Museum of Questionable Medical Devices closed in 2002.
- Improve visitors' critical analysis skills and ability to review evidence so that they can make informed health care decisions.



Weighing the Evidence: Making Informed Health Care Decisions

Science

<https://makingmakingmaking.com/exhibit/>

PI: L



- Unique content donated by Minnesota State University, Mankato, 2002
- Improbable ability to make



**Weighing the Evidence
Informed Health Care**
Science Museum of Minnesota
<https://nihsepa.org/project/weighing-evidence-making-informed-health-care-exhibit/>

PI: Laurie Fink



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Battle Creek EQUIPMENT CO.
Battle Creek 54, Mich.

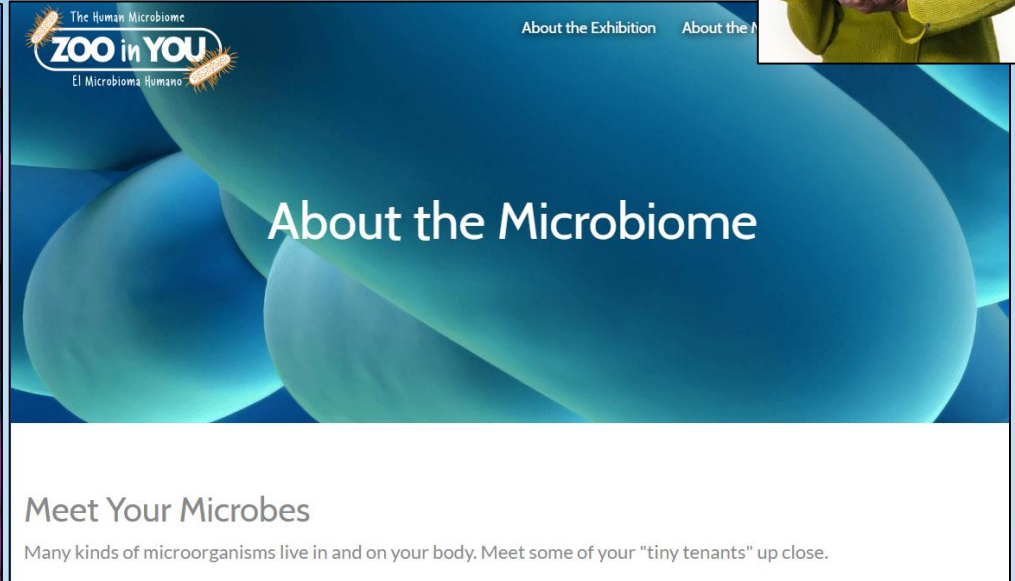
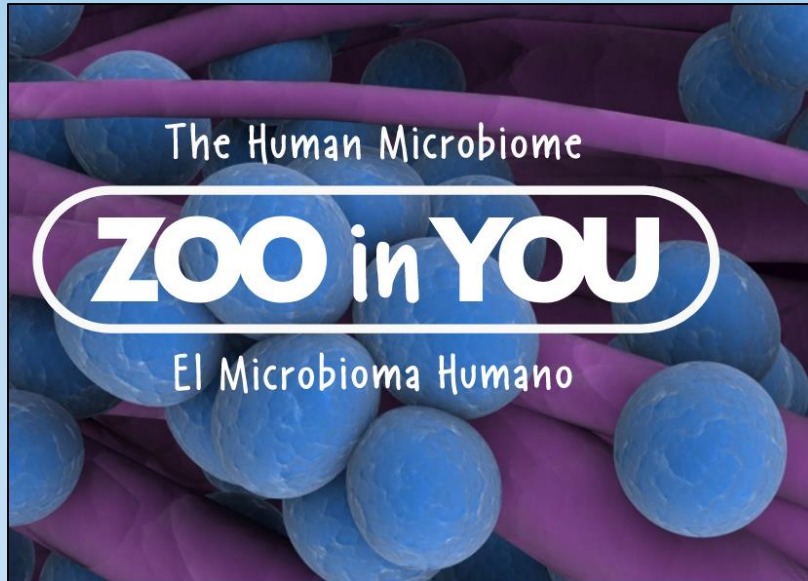


The Zoo in You: Exploring the Human Microbiome

Oregon Museum of Science and Industry

<https://omsi.edu/exhibitions/zoo-in-you/>

PI:
Vicki
Coats



Your body is home to trillions and trillions of microbes. Explore the "zoo" inside of you in this traveling exhibit, produced by the Oregon Museum of Science and Industry (OMSI) and funded by NIH SEPA.

OMSI

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

NIH National Institute of
General Medical Sciences

Microscope Imaging Station

Exploratorium

<http://www.exploratorium.edu/imaging-station/>

PI: Charlie Carlson

PI:
Charlie
Carlson



Zebrafish
A model for heart development



Blood:
The body's vital defense force
Cut your finger? Out flows a superb
infection-fighting, wound-healing stream.

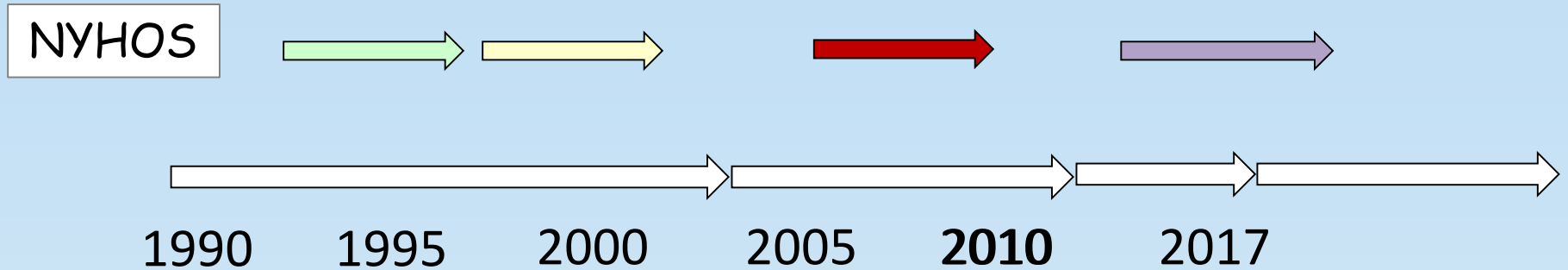


SEPA ISE – Case Studies

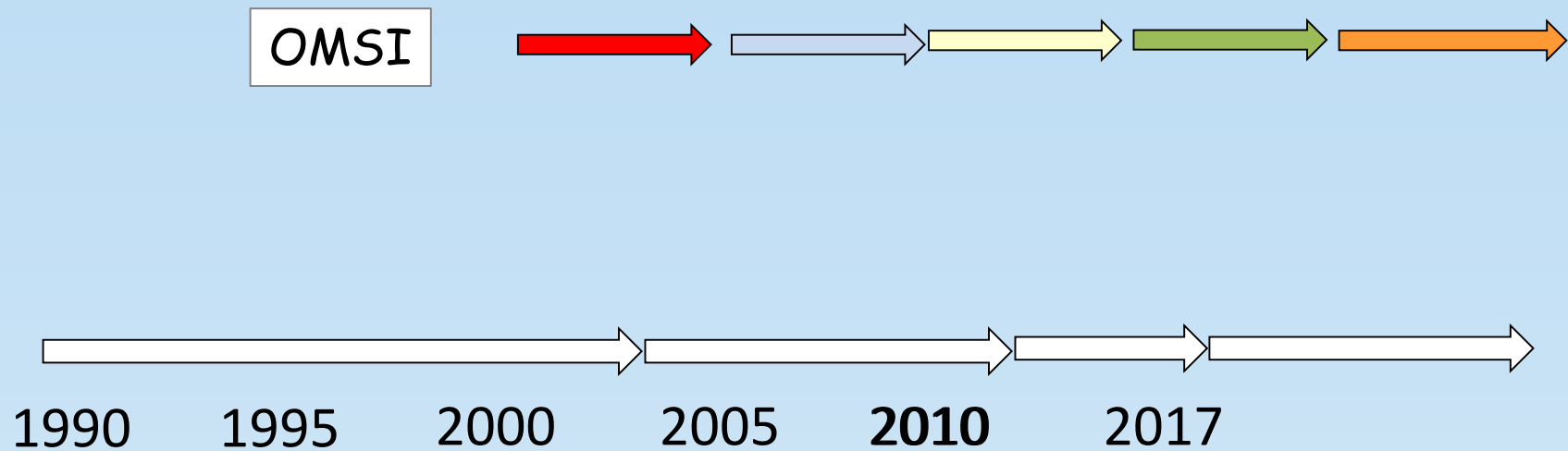
<https://www.investors-trust.com/products/product-family/evolution/>



SEPA ISE – Case Studies

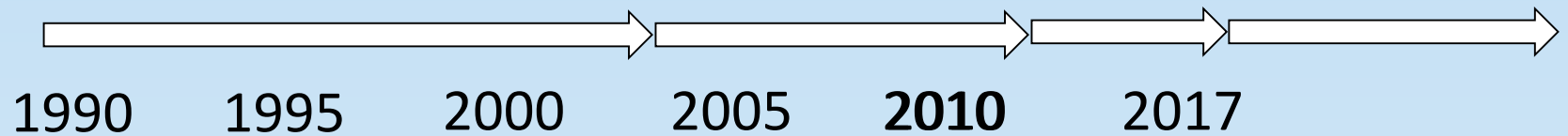


SEPA ISE – Case Studies



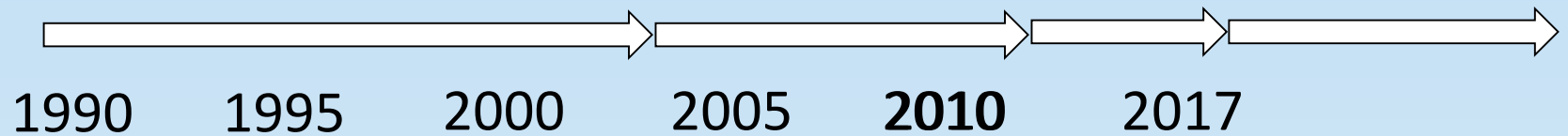
SEPA ISE – Case Studies

Montshire

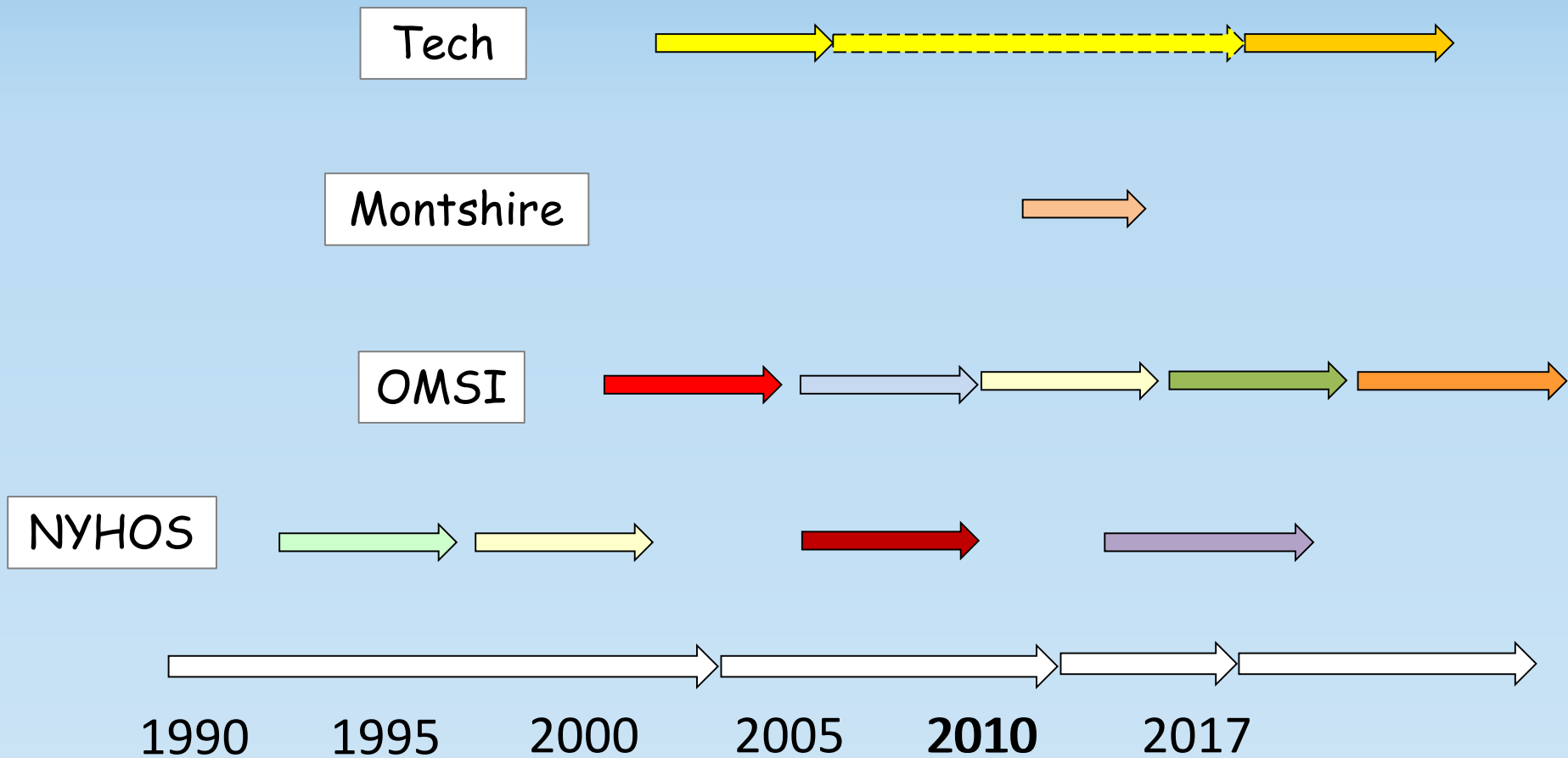


SEPA ISE – Case Studies

Tech



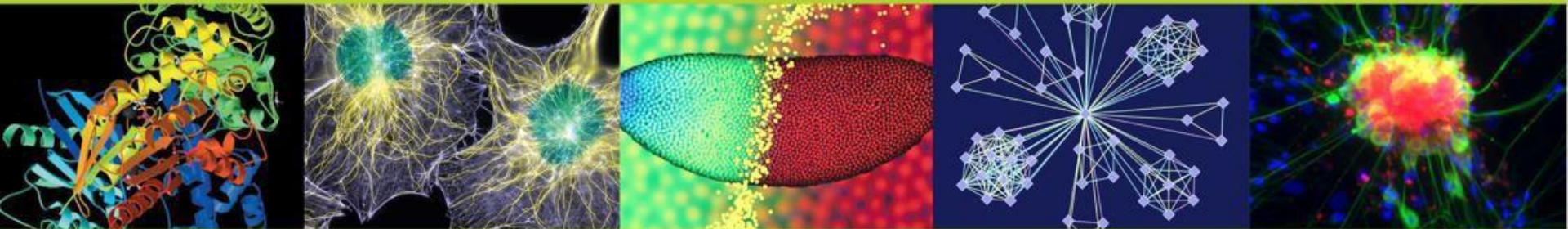
SEPA ISE – Case Studies



National
Institutes of
Health (NIH)

NIH SEPA Funding for ISE Exhibits—Program
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An inside look - NIH Grant Application and Review Process

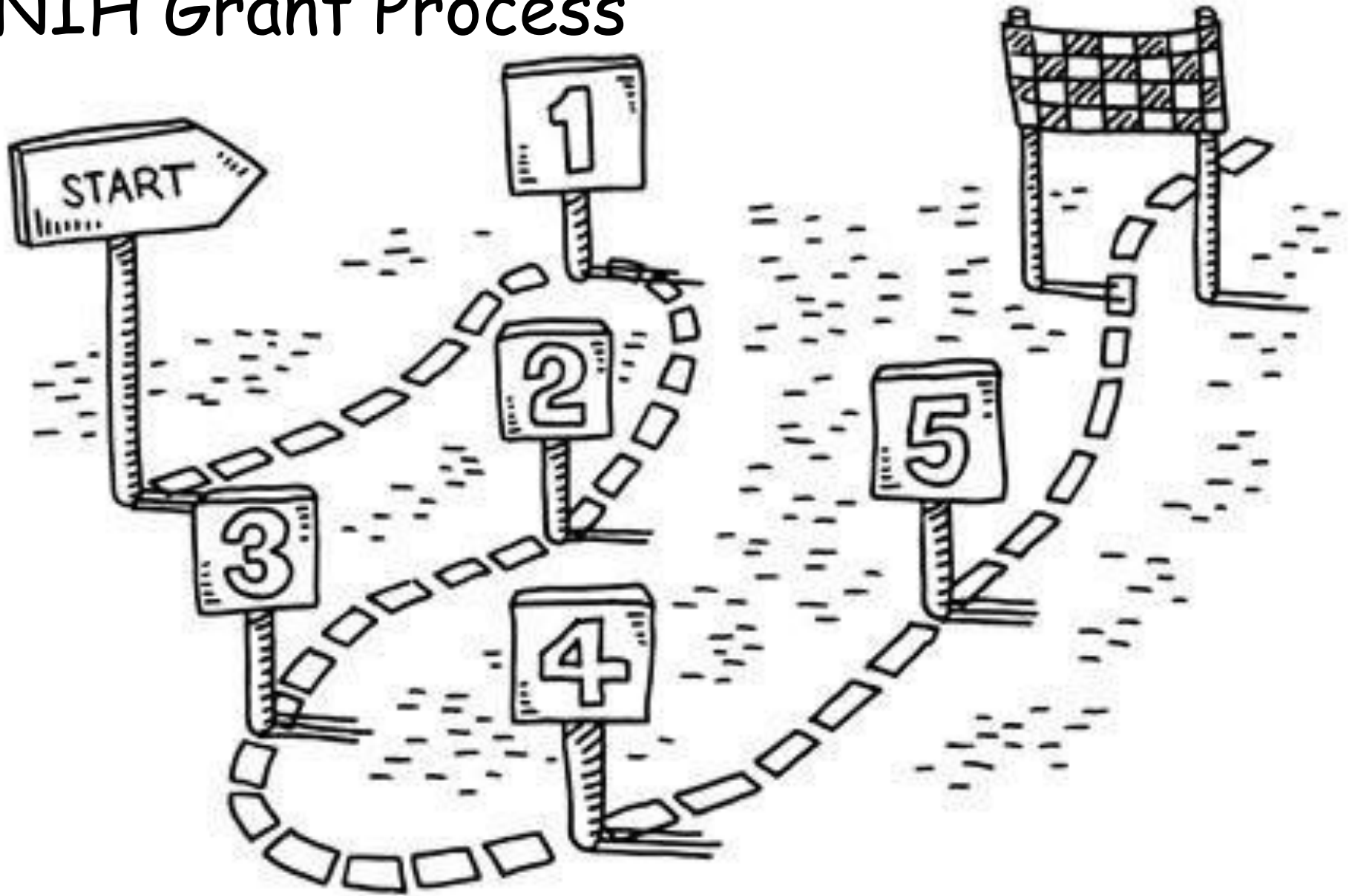




NAVIGATING NIH PEER REVIEW



NIH Grant Process



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



SEPA Funding Opportunity Announcement (FOA)

Department of Health and Human Services

Part 1. Overview Information

Participating Organization(s)

National Institutes of Health ([NIH \(http://www.nih.gov\)](http://www.nih.gov))

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-20-XXX



SEPA Funding Opportunity Announcement (FOA)

Department of Health and Human Services

Part 1. Overview Information

Participating Organization(s)

National Institutes of Health (NIH)

Key Dates

Components of

National Institute

Agency Contacts

Funding Opportunity Title

NIH Science Education Partnership Award (SEPA)(R25)

Funding Opportunity Announcement (FOA) Number

PAR-20-XXX



Key Dates

Posted Date	September 18, 2017
Open Date (Earliest Submission Date)	October 20, 2017
Letter of Intent Due Date(s)	30 days prior to the application due date
Application Due Date(s)	November 20, 2017; July 9, 2018; July 9, 2019 , by 5:00 PM local time. Applications received after the deadline are not allowed for this funding opportunity announcement are due on the date specified. Applicants are encouraged to apply early to allow adequate time for review during the submission process by the due date.
AIDS Application Due Date(s)	Not Applicable
Scientific Merit Review	January/February 2018, October/November 2018, October/November 2019
Advisory Council Review	May 2018, January 2019, January 2020
Earliest Start Date	July 2018, April 2019, April 2020
Expiration Date	July 10, 2019

Agency Contacts

GrantsInfo (Questions regarding application instructions and process, finding NIH grant resources)

Email: GrantsInfo@nih.gov (preferred method of contact)

Telephone: 301-945-7573

Scientific/Research Contact(s)

Tony Beck, Ph.D.

National Institute of General Medical Sciences (NIGMS)

Telephone: 301-480-4623

Email: beckt@mail.nih.gov

Program Officer (PO)

Peer Review Contact(s)

Jonathan Arias, Ph.D.

Center for Scientific Review (CSR)

Telephone: 301-435-2406

Email: ariasj@csr.nih.gov

Scientific Review Officer (SRO)

Financial/Grants Management Contact(s)

Christy Leake

National Institute of General Medical Sciences (NIGMS)

Telephone: 301-594-7706

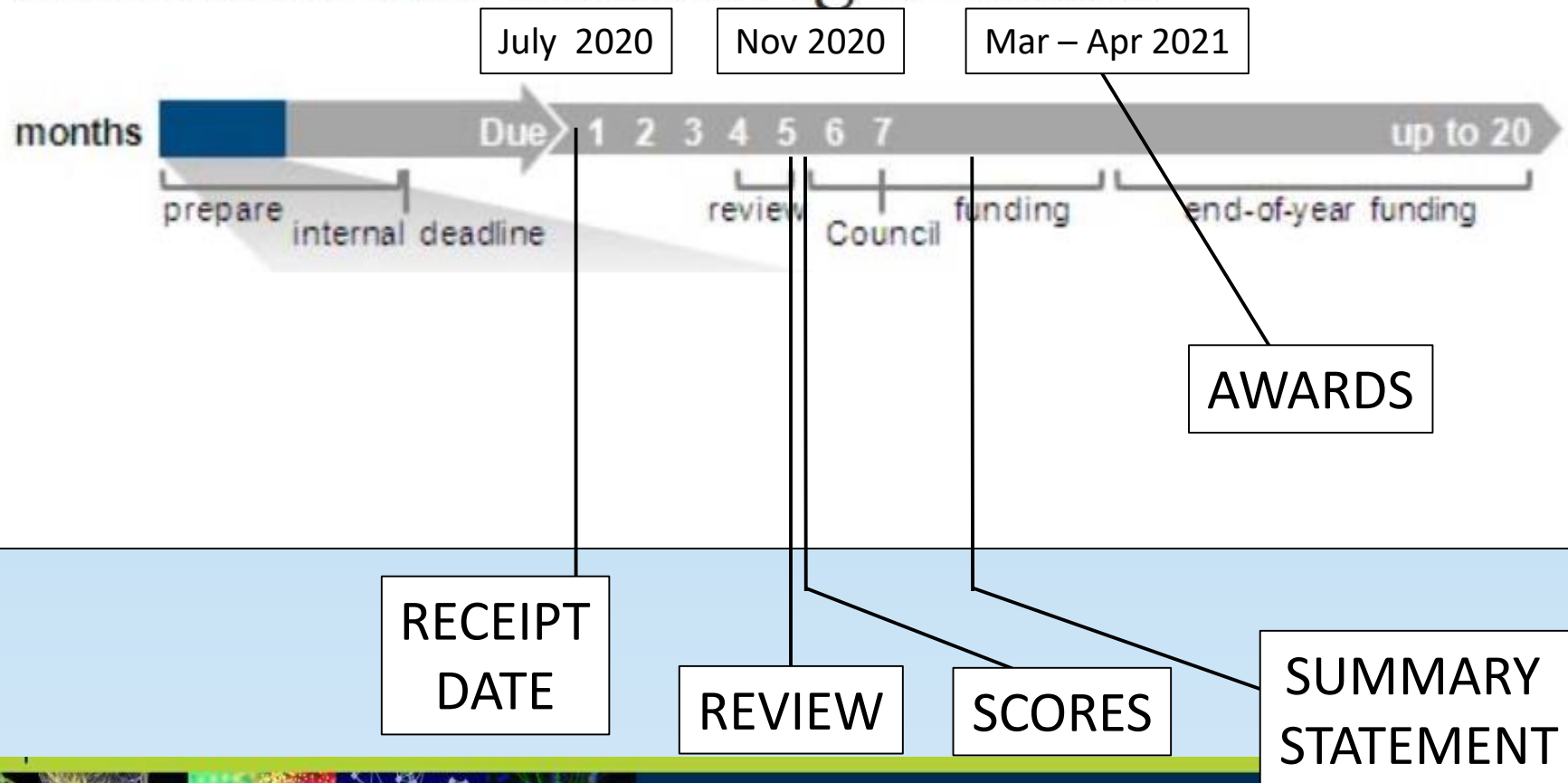
Email: Christy.leake@nih.gov

Grants Management
Specialist (GMS)



FY20 SEPA REVIEW & AWARD CYCLE

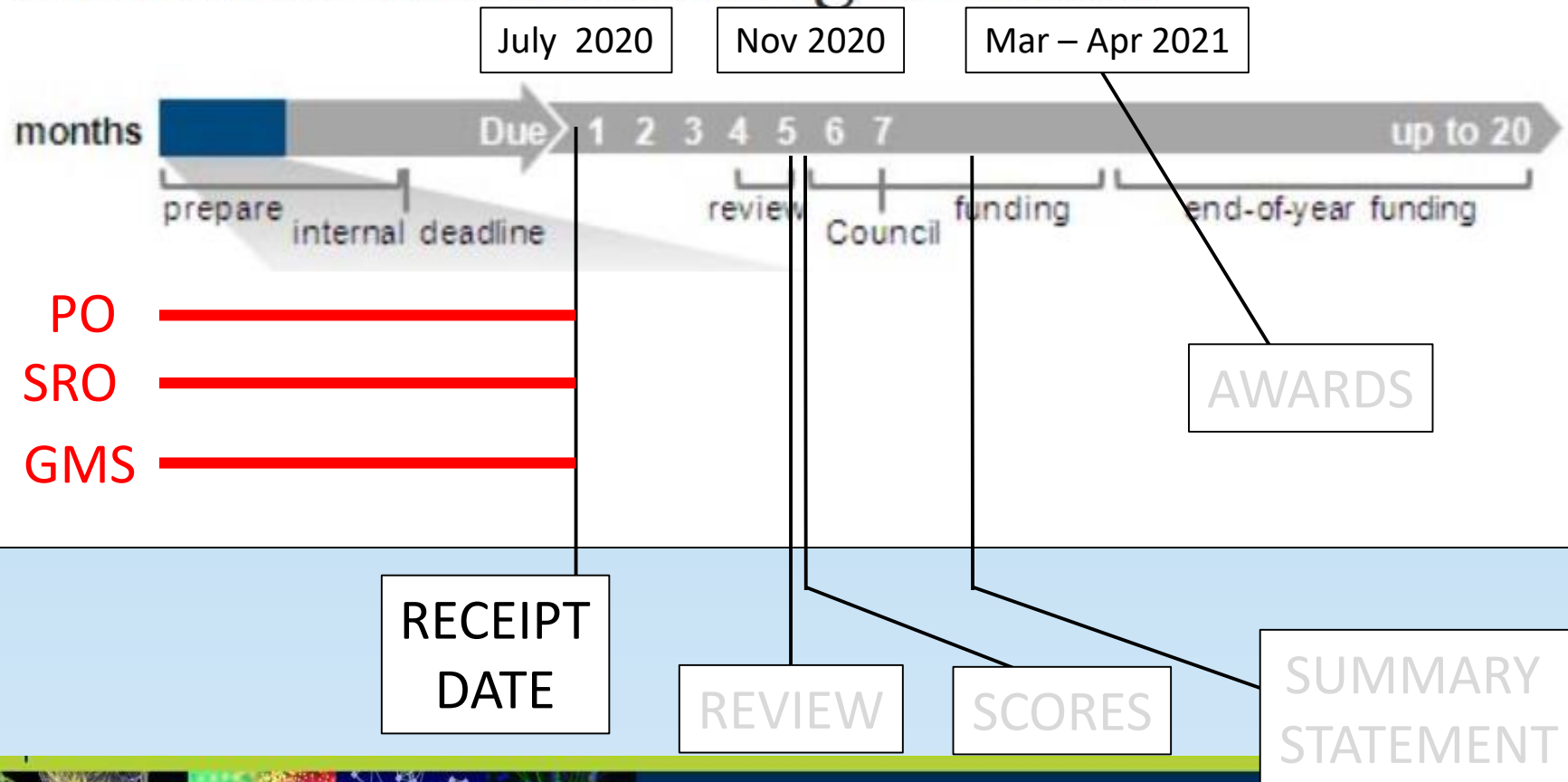
Timeline for Planning a Grant



FY20 SEPA REVIEW & AWARD CYCLE

Agency Contacts

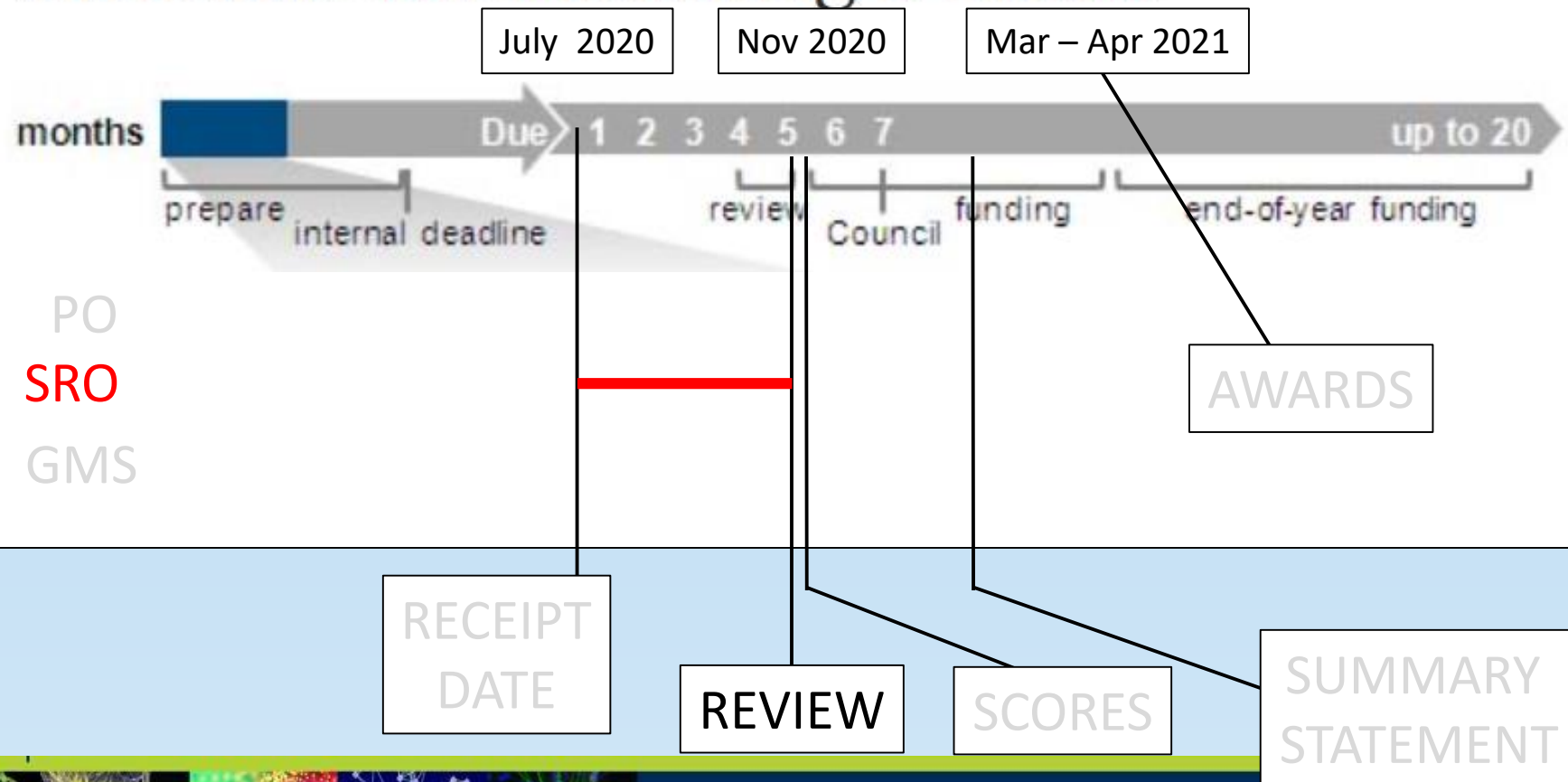
Timeline for Planning a Grant



FY20 SEPA REVIEW & AWARD CYCLE

Agency Contacts

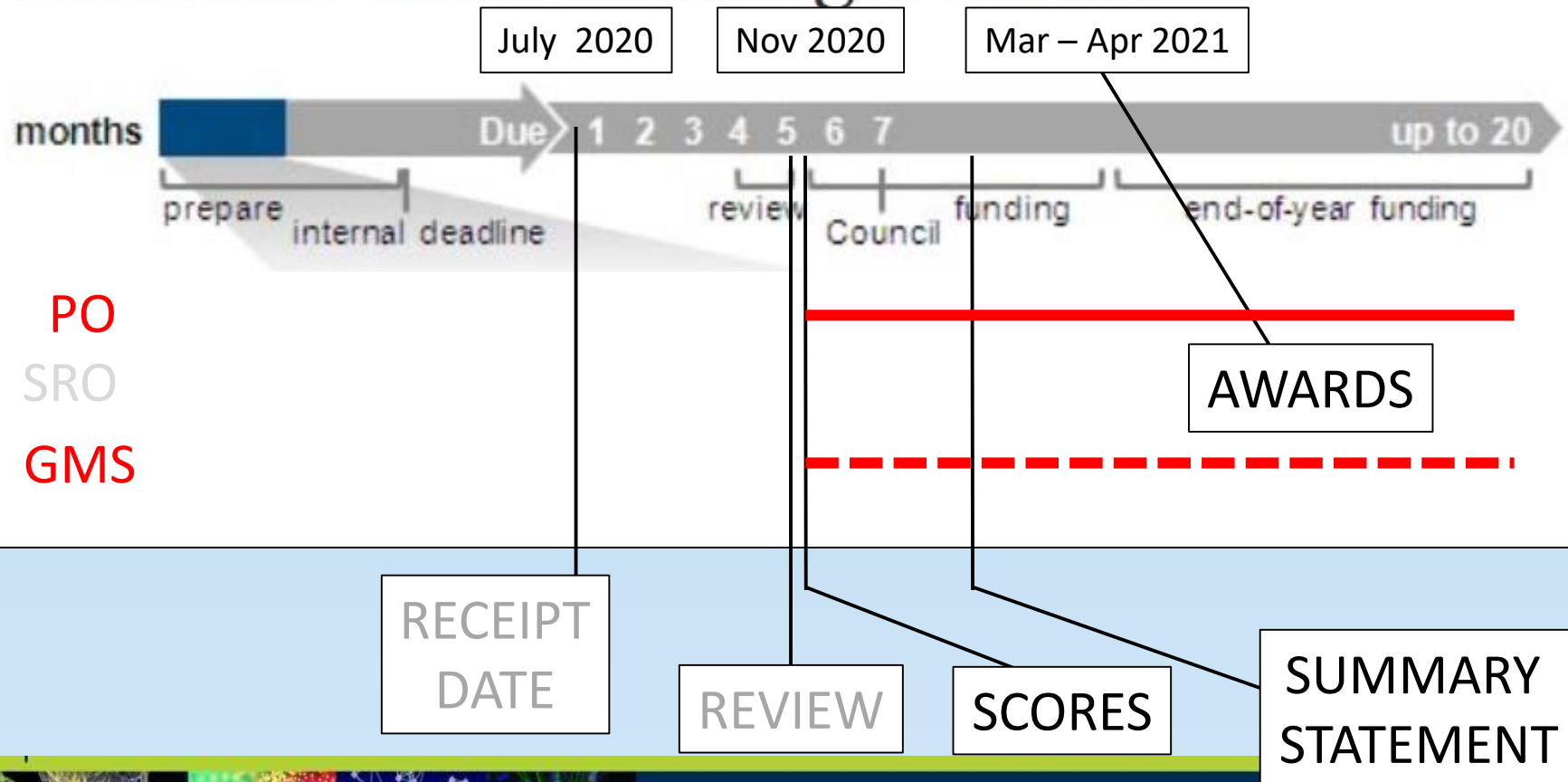
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FY20 SEPA REVIEW & AWARD CYCLE

Agency Contacts

Timeline for Planning a Grant



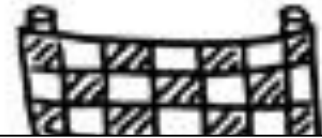
PREPARATION - PART I

- Study FOA
- Assemble team
- Identify partners
- Draft research plan
- Email PO to schedule a call

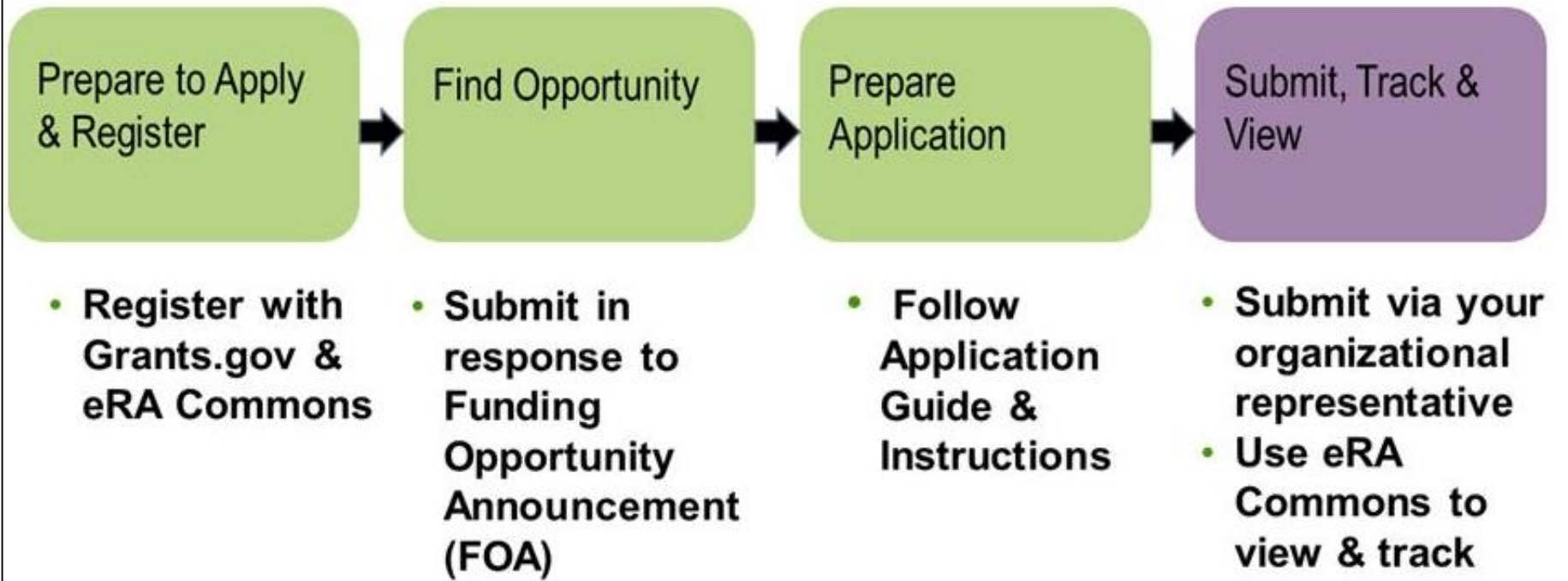
<http://www.nih.gov/researchers/how-to-develop-a-research-proposal/foia>



PREPARATION - PART II

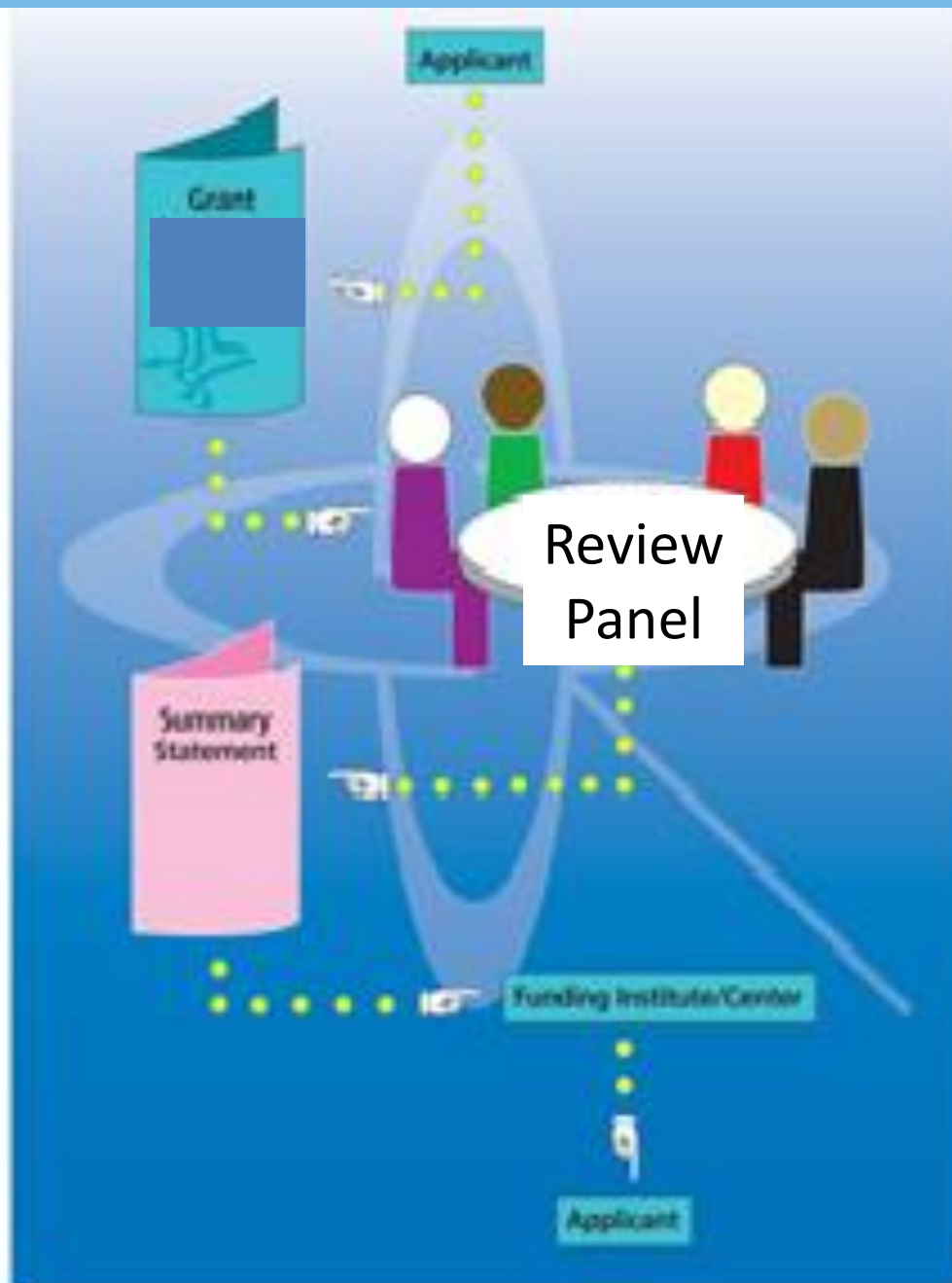


Electronic Application Process



<http://slideplayer.com/slide/5288203/>







NIH Scoring System

Scored Review Criteria

- Significance
- Investigator(s)
- Innovation
- Approach
- Environment



NIH Scoring System

Scored Review Criteria

- Significance

- What we know now
- Prior funding
- Publications
- Outcomes



NIH Scoring System

Scored Review Criteria

- Investigator(s)

- Multi PI plan (MPI)
- Content expertise
- Learning stage
- Cultural relevance
- Evaluator



NIH Scoring System

Scored Review Criteria

- Innovation

- Hypothesis Driven
- Move the field forward



NIH Scoring System

Scored Review Criteria

- Approach

- 3 Specific Aims
- Tightly organized
- Flow/Gantt charts
- Images & figures



Significance:

- Strengths
 - **A well-organized proposal**
 - Scientific premise is sound.
 - **Proposed pedagogical plan for student learning is well supported by research**
 - **Past company and key personnel successes**
- Weaknesses
 - No discussion of the **competition**
 - The applicants claim that the product will positively impact teachers' effectiveness and content knowledge but **does not offer evidence**
 - **No explicit link to NGSS**, the relevant state science standards, or the national health education standards.
 - **Gender differences** do not appear to be considered.



Innovation:

- Strengths
 - The game as presented **draws on previous successes of the team** members.
 - Using **real world examples and scientific data** to engage students in STEM learning.
 - **Including students and teachers – the end users – in the development of the game**
 - **While specific elements of application are not completely innovative, the entire package of materials is an innovative way to teach**
- Weaknesses
 - It is not clear **what differentiates this simulation game from others** or how it will contribute uniquely to the market/student audiences
 - It seems the **teacher is not part of the process** during game play
 - The proposed product may not provide sufficient **flexibility for use** by many teachers and/or district curricula



Approach:

- Strengths
 - The application is **clearly written**.
 - The **specific aims are clearly articulated**
 - **NGSS** science standards will be incorporated.
 - **Teacher feedback** is planned.
 - Comparisons between groups will include the **biological (sex and age)** and **social (poverty and learning skills)**.
- Weaknesses
 - The approach seems **overly ambitious**
 - Educational **goals are not articulated in a measurable way**
 - **Assessment plan is a marketing and usability study**. It will not provide information for design and implementation
 - **No control** is mentioned against which to evaluate the game.
 - The **end user group that is informing the development of the product lacks diversity**



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Use plain, simple language, short words and brief sentences. Don't let fluff and flowers and verbosity creep in.

Mark Twain





*“This application
was a pleasure
to read”*



QUESTIONS?





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

Our goal - a diverse pipeline