

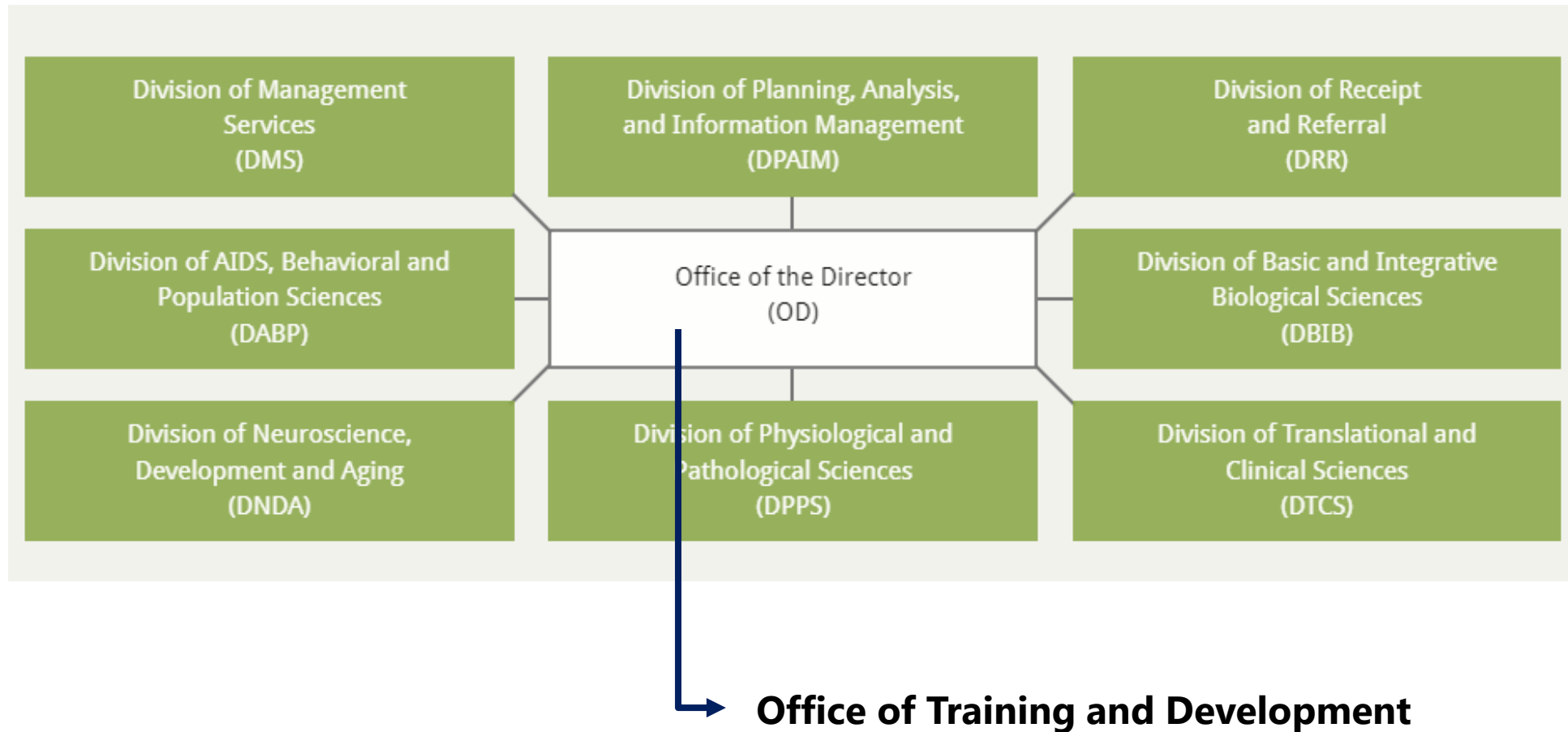


# **Strengthening Peer Review through Training**

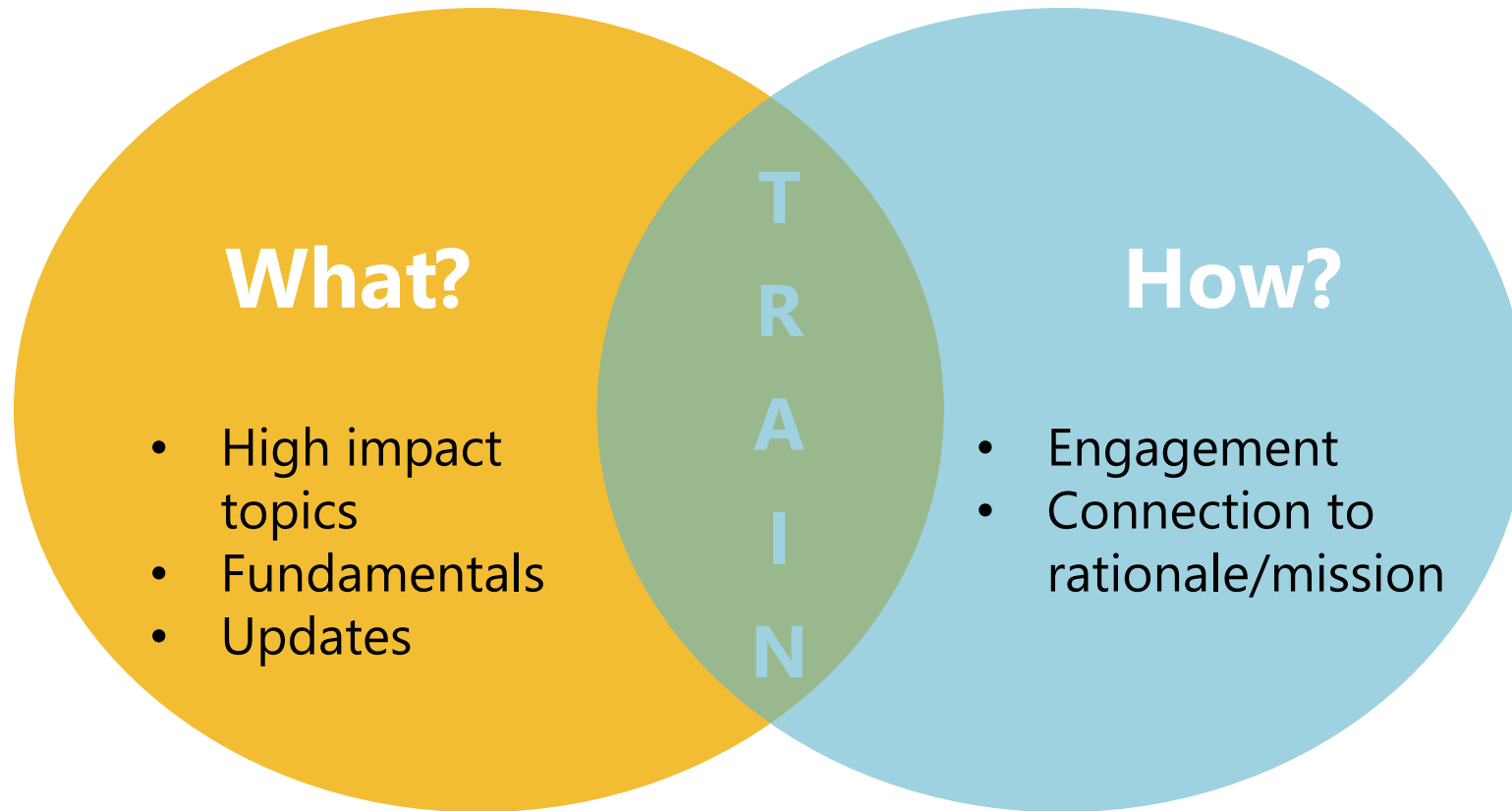
March 27, 2023

Miriam Mintzer, Ph.D.  
Director, CSR Office of Training and Development

# CSR is highly committed to training



# How do we strengthen peer review through training?



Integrate training development across participants

Consistency  Fairness

# Office of Training and Development scope

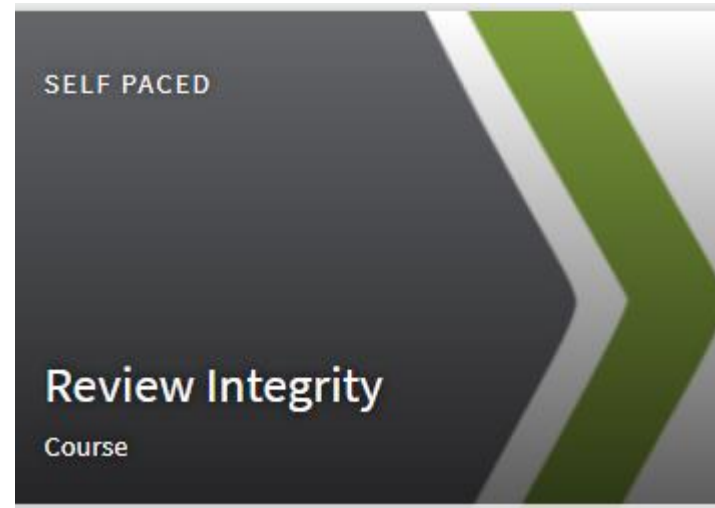
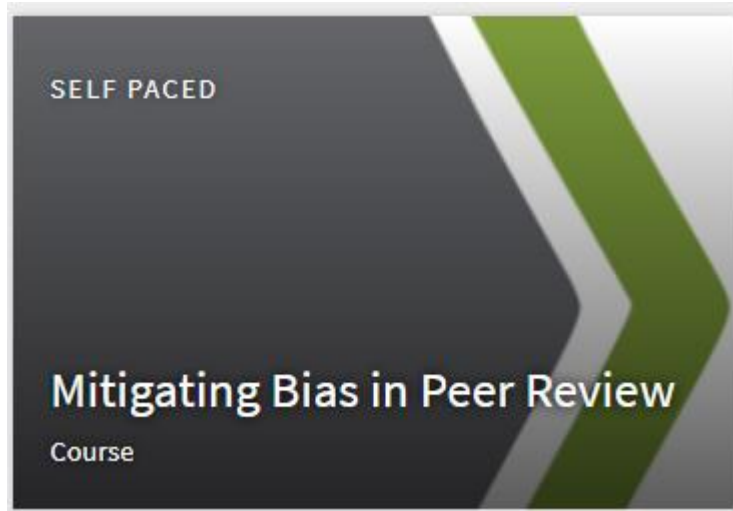


# CSR provides training to ~ 19,000 reviewers per year



# Reviewer training has two integrated components

## 1. **Centralized online modules** on high priority topics (30 min., every 3 yrs.)



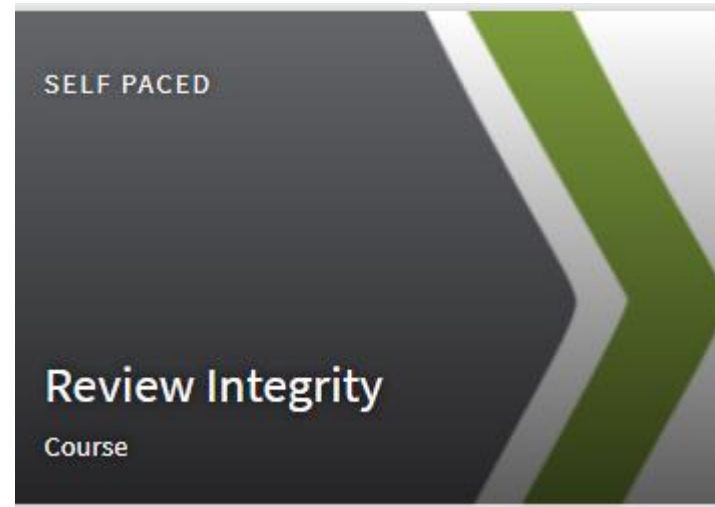
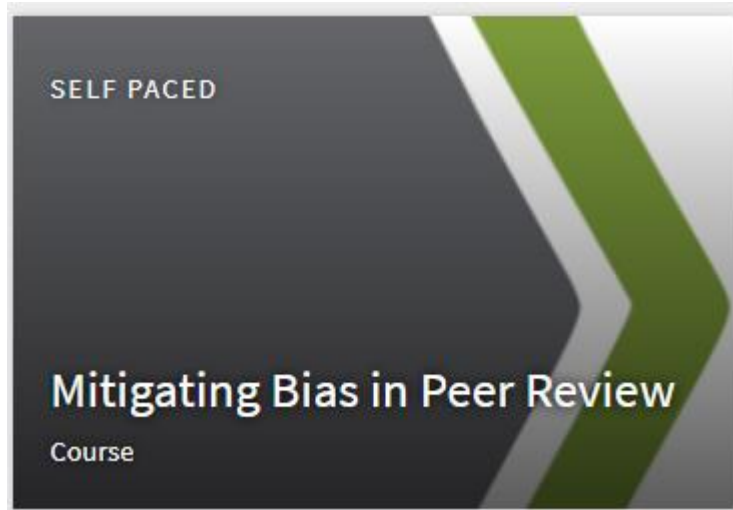
## 2. **Tailored, SRO-led** (every round)

- Messaging about centralized modules
- Flexible tools for fundamentals, updates

**\*\* Reviewer time commitment is carefully considered**

# Centralized online modules

## 1. **Centralized online modules** on high priority topics (30 min., every 3 yrs.)



## 2. **Tailored, SRO-led** (every round)

- Messaging about centralized modules
- Flexible tools for fundamentals, updates

# Bias awareness module launched in 2021

- Developed with significant input from CSRAC working group
- Raises awareness of bias in review and provides mitigation tools

Listen to testimonials from NIH applicants. These stories are told in their words and are real examples.

There are common words and phrases we use in peer review, each with their own connotations.

What do you think of when you hear or read the following phrase:

This is a young investigator.

Type your response here. Responses will be captured to improve future trainings.



Reviewing your fellow reviewers' critiques

You are reading the critiques of your fellow reviewer for an R01 application when you see the following critique under the investigator criterion.

Investigator(s):

Strengths

- Very strong team with ample experience.
- PI has participated in several projects on policy evaluation.
- Co-investigators have expertise in physical activity promotion, economics, and the policy impact of public health.
- An important aspect is the connectedness of the research team and entities at [redacted] and within the state.

Weaknesses

- Senior leadership is not present.

Study section meetings are busy and each application review only takes 10 to 15 minutes. It can go by fast.

Select the picture to watch this scenario. While watching, try to identify potential sources of bias.

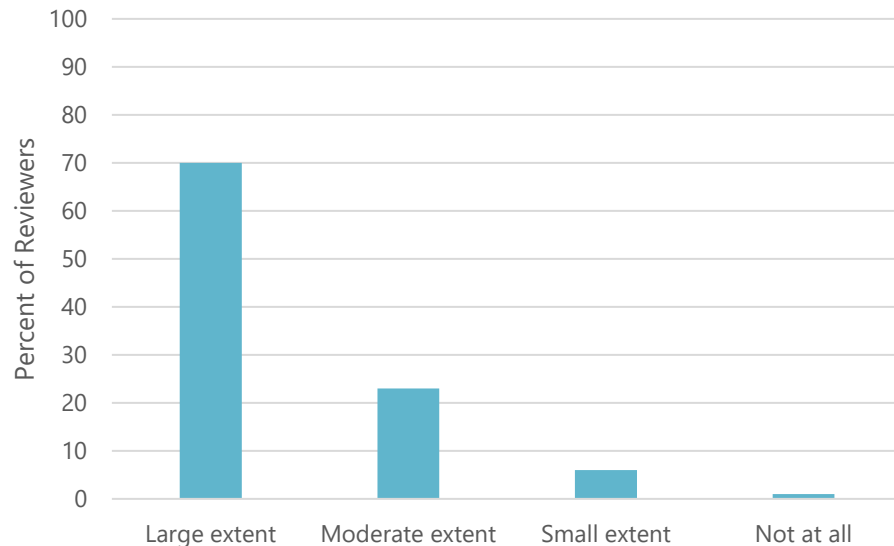




# Bias awareness training: Results

As of March 2023, 19,000 reviewers have completed the training.

93% of reviewers reported the training made them substantially more **comfortable intervening on bias.**



Data from January 2022 Council Round (N = 3,166)

## **Reviewers reported feeling empowered:**

“This training has given me the confidence to step up and say something when I believe I am seeing bias in the review process.”

## **Training has impacted behavior:**

Chiefs/SROs observe reviewers speaking up more at meetings, challenging each other, asking questions.

# Review integrity module launched in 2022 (v. 2.0)

Before the Meeting



Preventing inappropriate influence on review during a seminar visit with an applicant

At the Meeting

Identifying potential integrity breaches during the meeting



After the Meeting

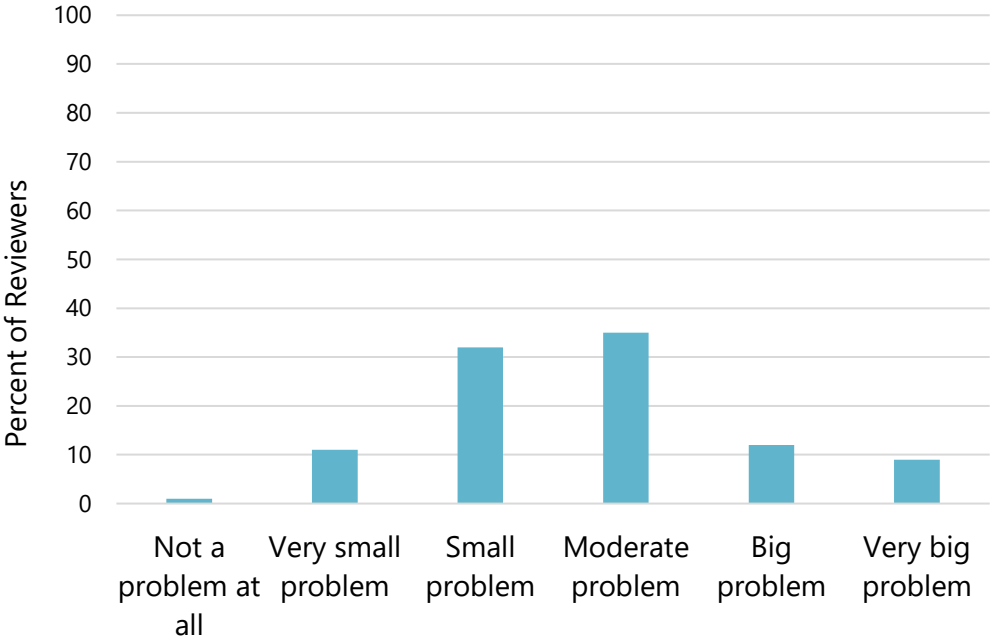


Protecting confidential information when interacting with an applicant

# Review integrity breaches: Prevalence/reporting (pre-training)

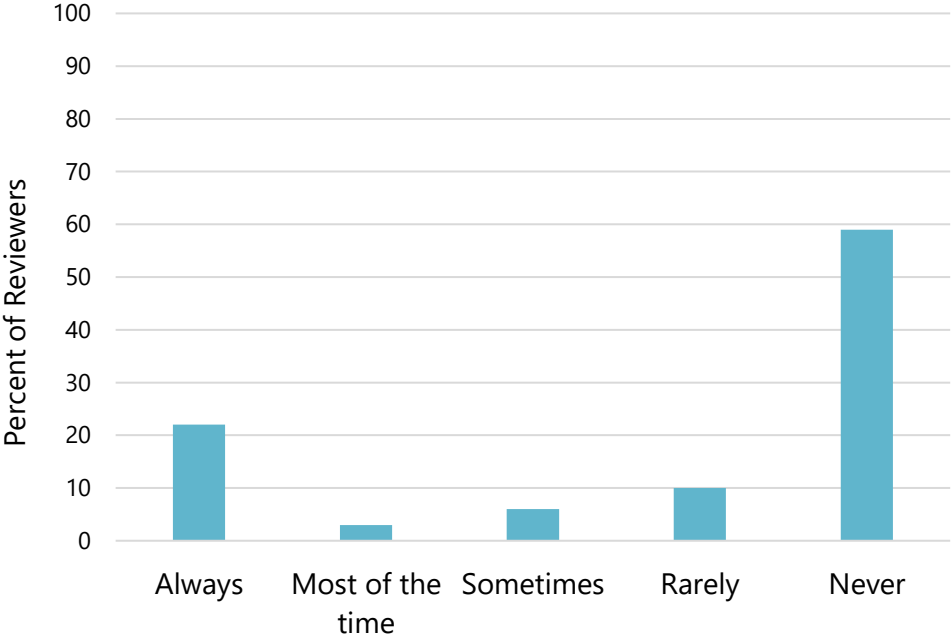
## Problem with integrity breaches

- Moderate problem = 35%
- Big or very big problem = 21%



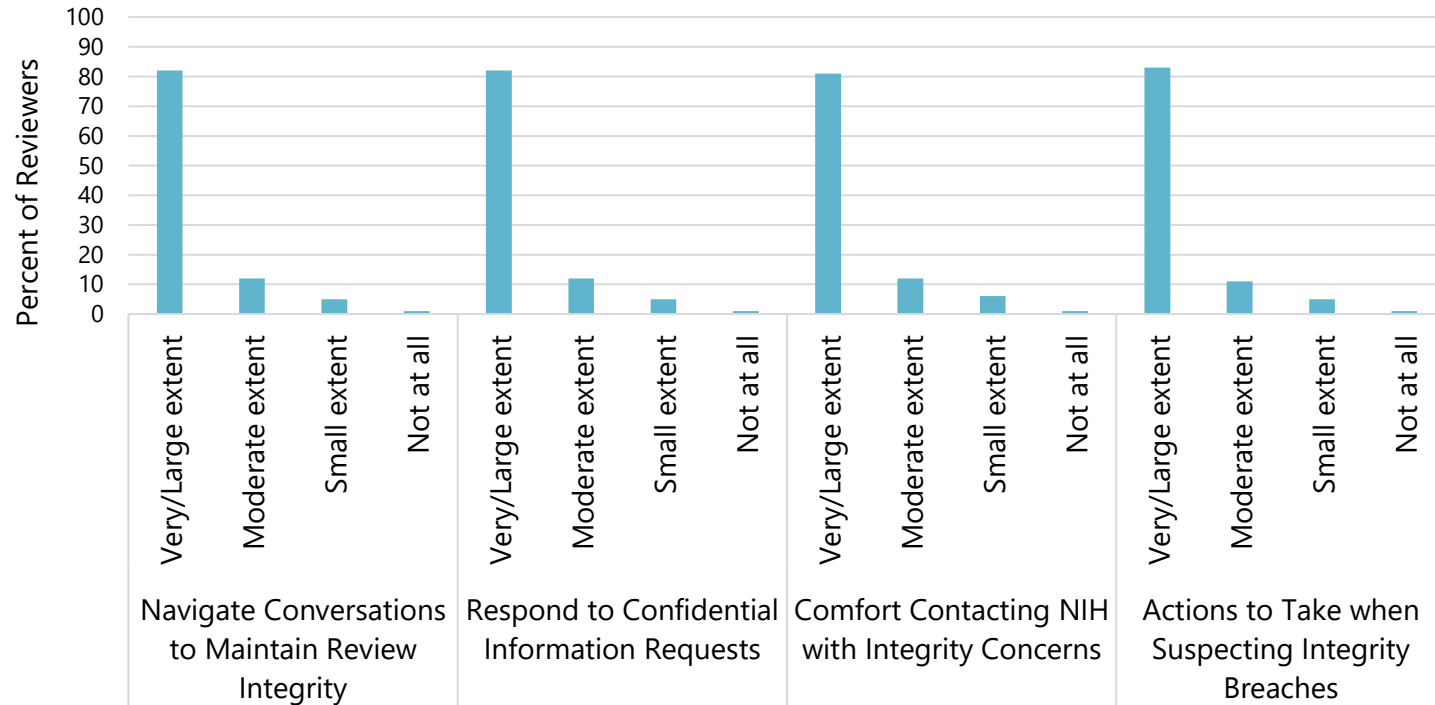
## Frequency of reporting

- 69% never or rarely reported a possible breach (last year)



1<sup>st</sup> round, 7,072 reviewers completed the training (77% response rate).  
(N = 6,206 for survey data). As of March 2023, 12,000 have completed it.

# Review integrity training: Results



- **Over 90%** of reviewers reported that the training **substantially increased** their knowledge of tools to prevent and report integrity breaches, and comfort contacting NIH with concerns.

“My favorite part was the examples of how to get out of those tough situations. I now have useful tools to use for any future problematic interactions. Thank you!”

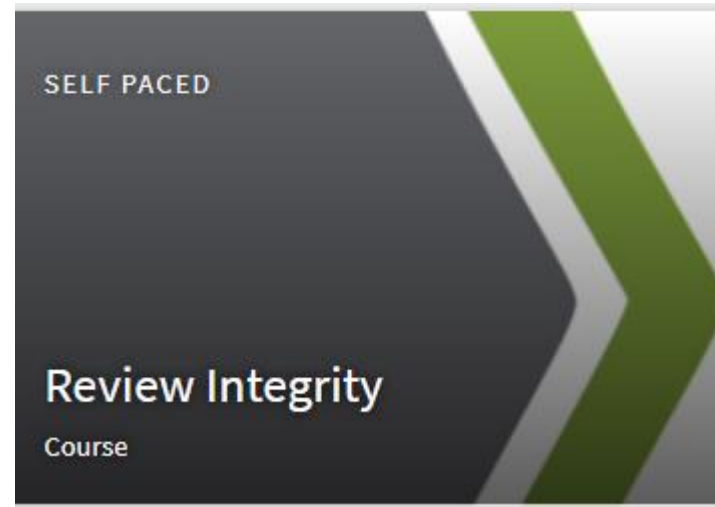
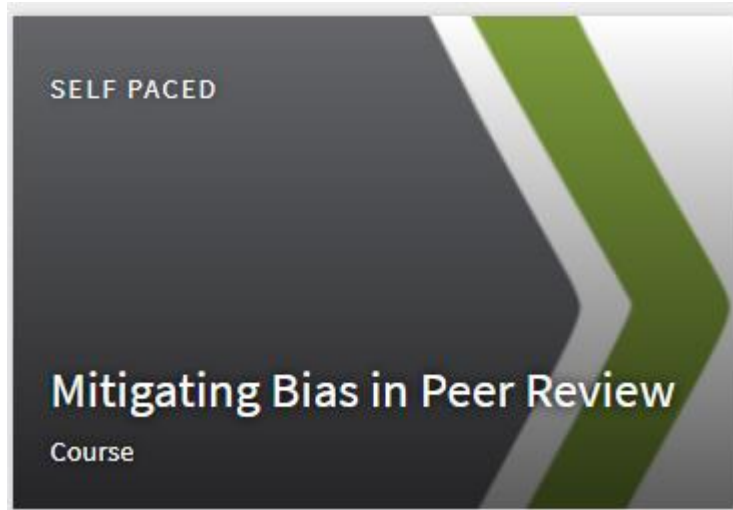


**Annika Barber**  
@Annika\_Barber

You don't expect it from government training videos, but the new(ish) CSR peer reviewer trainings on minimizing bias and preserving review integrity are surprisingly useful and practical! I learned some newnuances, and practical responses to potential issues.

# SRO-led training

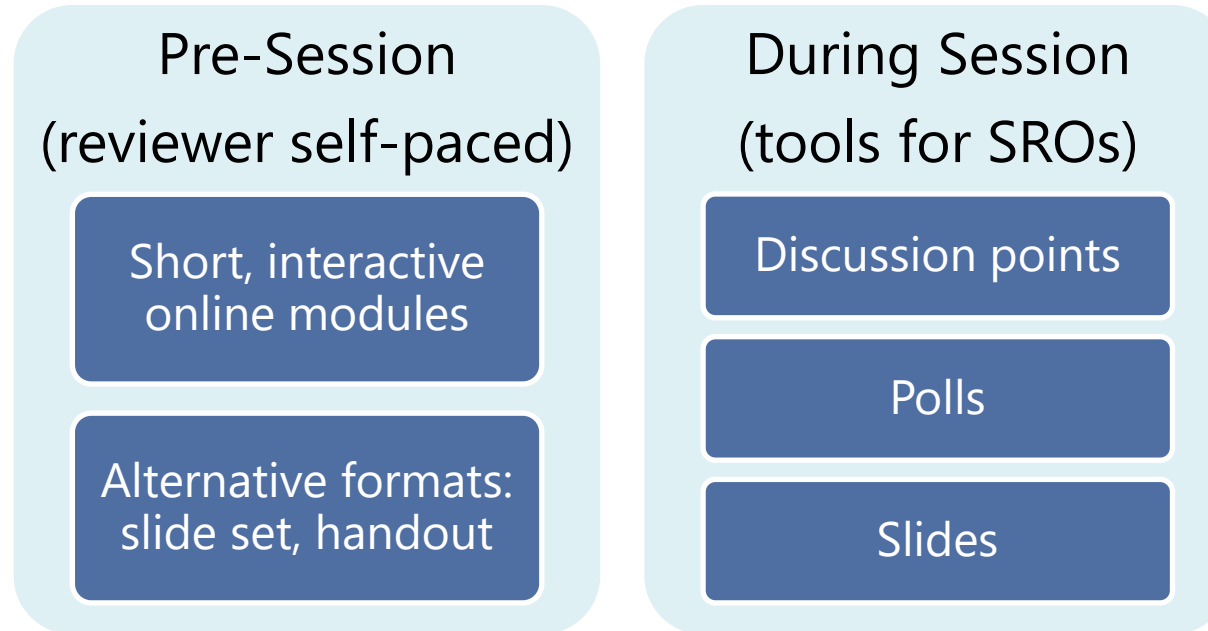
## 1. **Centralized online modules** on high priority topics (30 min., every 3 yrs.)



## 2. **Tailored, SRO-led** (every round)

- Messaging about centralized modules
- Flexible tools for fundamentals, updates

# We're developing flexible tools for SRO-led reviewer training



## Content:

- Priority: Peer review process, principles, roles (**Why?**)
- Later: Scoring, review criteria, writing/presenting critique, specialized topics

# New chair orientation



# CSR orients ~ 90 new chartered study section chairs annually

Small-group, facilitated, interactive discussion on high-level topics:

- Promoting good discussion
- Chair's role in intervening during discussion
- Chair summaries

SROs encouraged to view, use recording to train chairs

<https://public.csr.nih.gov/ForReviewers/MeetingOverview/NewChairOrientation2022>

## Orientation for New Study Section Chairs – 2022



### CSR provided orientation and guidance

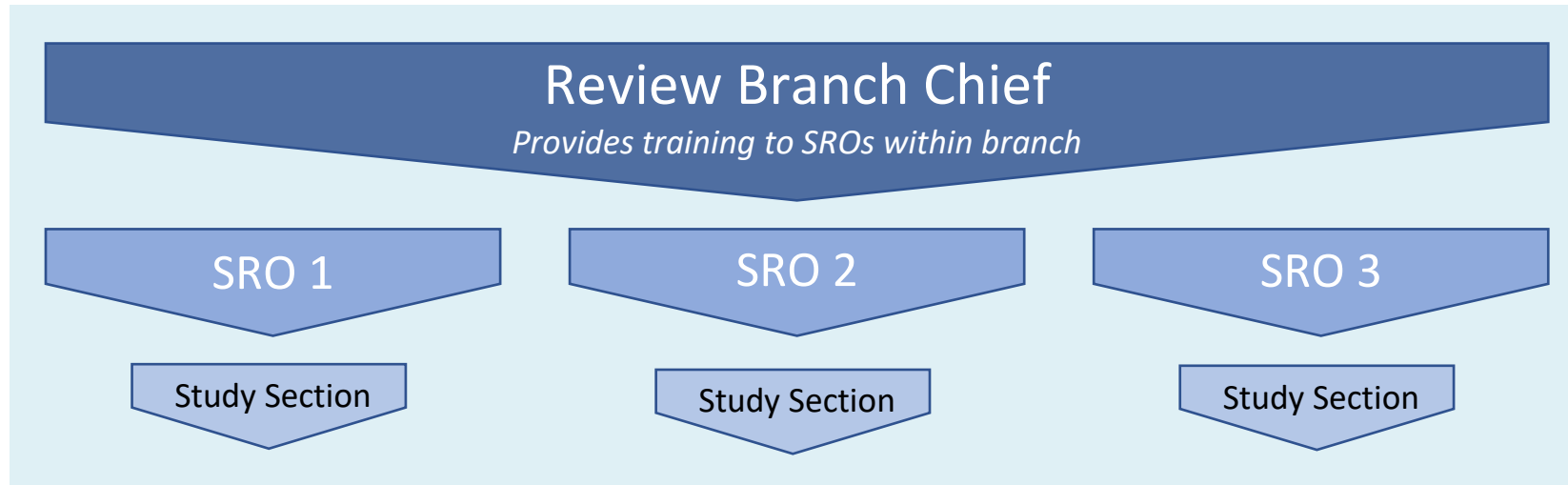
to incoming study section chairs. While the material is geared towards chairs, others in the community might find it useful in better understanding the review process and how meetings are conducted.



# SRO training has several integrated components



# Office of Training partners with review branch chiefs



Office of Training provides:

- **Consistency** across CSR
- **Efficiency** in resource development
- **Engagement** with diverse colleagues

# SRO role is complex, and development is progressive, iterative

	Becoming Operational	Strategic Improvements/Optimization	Full Integration of NIH Mission Goals
<b>SRG Structure</b>	<p>the scientific scope of the assigned SRG</p> <p><b>SRG expertise:</b> Assesses and evaluates the current balance of reviewer expertise</p> <p><b>Reviewer recruitment:</b> Understands the importance of diversity, including professional stature, gender, racial/ethnic/cultural backgrounds, scientific perspectives</p> <p><b>Reviewer integrity:</b> Appreciates concerns of undue influence and the potential for reviewer misconduct</p> <p><b>Customers and Key Stakeholders:</b> Understands NIH's 2 stage review process, responsibilities to stakeholders (including IC staff and external scientific community)</p>	<p>Understands the scope of related study sections and can identify those which may be a <i>best fit</i> for applications</p> <p><b>SRG expertise:</b> Ability to generate slates which align with SRG guidelines and current scientific trends</p> <p><b>Reviewer recruitment:</b> Able to expand the pool of qualified and effective reviewers</p> <p><b>Reviewer integrity:</b> Can generate and implement strategies to identify potential issues of reviewer misconduct</p> <p><b>Customers and Key Stakeholders:</b> Provides transparency through appropriate and effective communication with stakeholders, demonstrates a clear understanding of their role in <i>Peer Review</i></p>	<p>scientific trends evolve, will both consider and recommend updates to study section guidelines</p> <p><b>SRG expertise:</b> Engages in long-term planning for future slates; considers scientific trends (increasing / decreasing), strives to maintain even rotations (~25% retirement/yr)</p> <p><b>Reviewer recruitment:</b> Maintains consistent reviewer ratios, including consideration for optimal diversity</p> <p><b>Reviewer integrity:</b> Able to identify instances of potential reviewer misconduct; applies sound judgment through swift and defensible actions</p> <p><b>Customers and Key Stakeholders:</b> For network of stakeholders, proactively promotes ideas and practices that increase effectiveness, efficiency and integrity</p>
	<p><b>Scientific and Admin Review:</b> Evaluation of applications for <u>scientific goals</u> and <u>technical expertise</u> required to review</p> <p><b>Reviewer assignment:</b> Understands reviewer <i>balance</i>; the need for broad-</p>	<p><b>Scientific and Admin Rev:</b> Ability to identify non-compliant applications, as well as suggest that an application may not be a good fit for their study section</p> <p><b>Reviewer assignment:</b> Able to consider</p>	<p><b>Scientific and Admin Review:</b> Ability to evaluate appropriate study section assignments; has the ability to clearly communicate rationale regarding assignments to applicants and other</p>

# Training is tailored to different developmental stages

## New SRO

### Live 'bootcamp':

- 10 2-hr sessions (review concepts)
- 5 1-hr sessions (systems/how to)

Self-paced  
online modules

## Continuing Education

### Live ongoing:

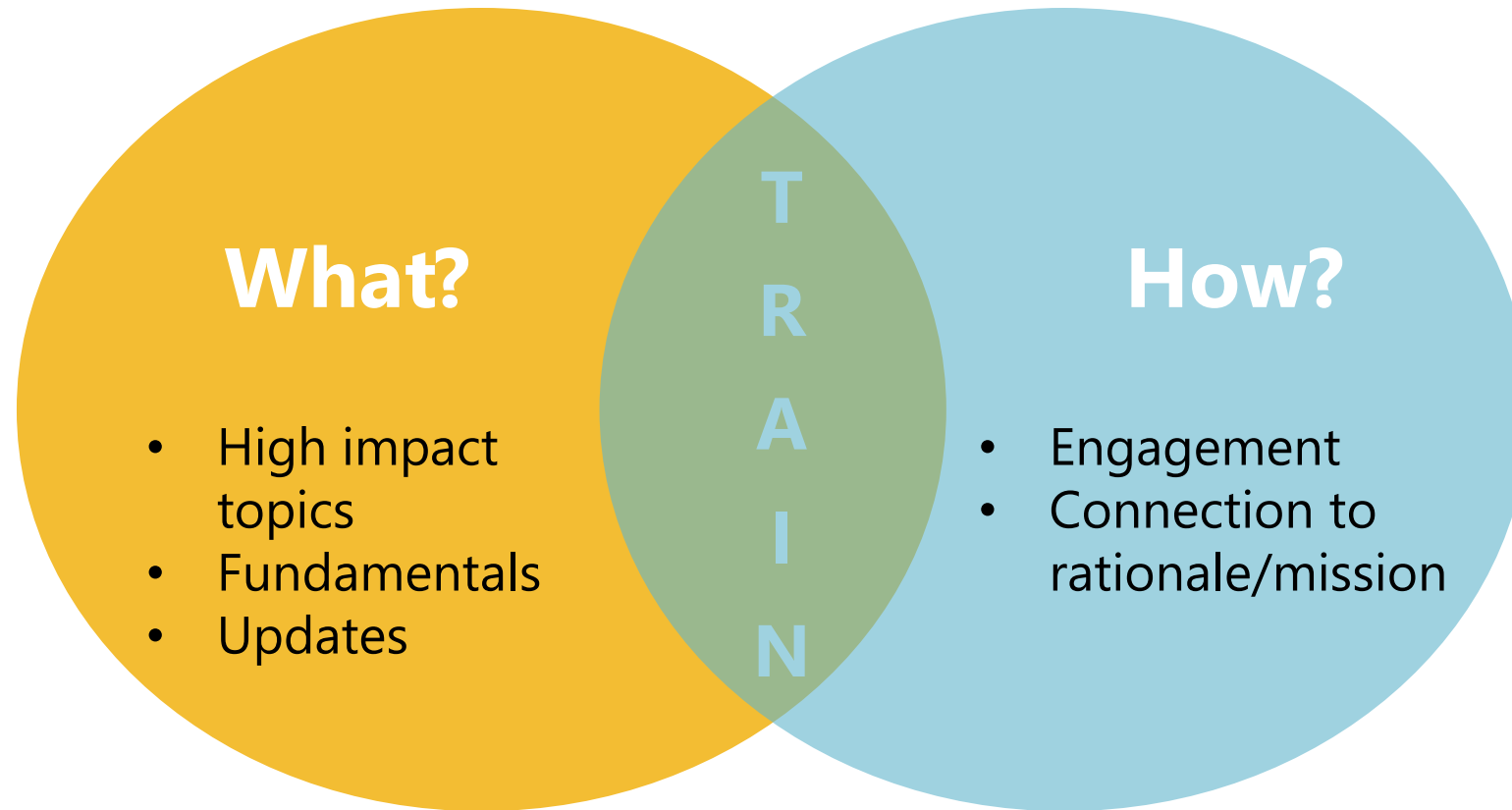
- Labs
- Group discussions
- Workshops

Self-learning  
materials

## Policy Resources

- Integrated throughout training
- Continually updated, curated to strengthen review

# How we strengthen peer review through training: SROs



# Examples of SRO training offered in 2022 (**What we train**)

## High priority areas

Active meeting presence/intervention

Review integrity

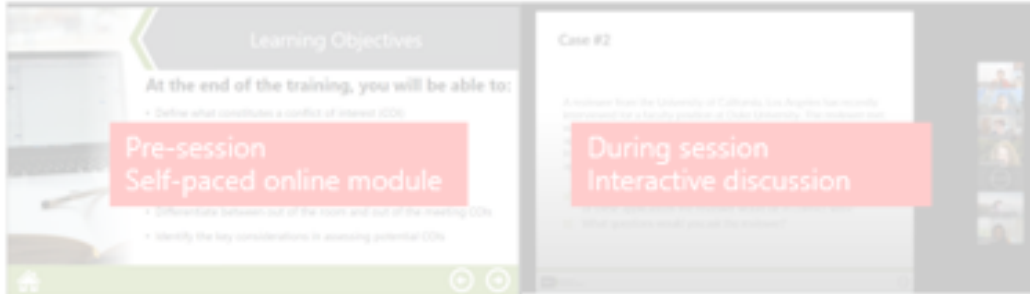
## Fundamentals

Summary statements

Conflict of interest

# Examples of approach (How we train)

Blended learning/flipped classroom  
Case study discussions (review integrity, COI)



Connection to mission



Hands-on labs  
(Summary Statements)



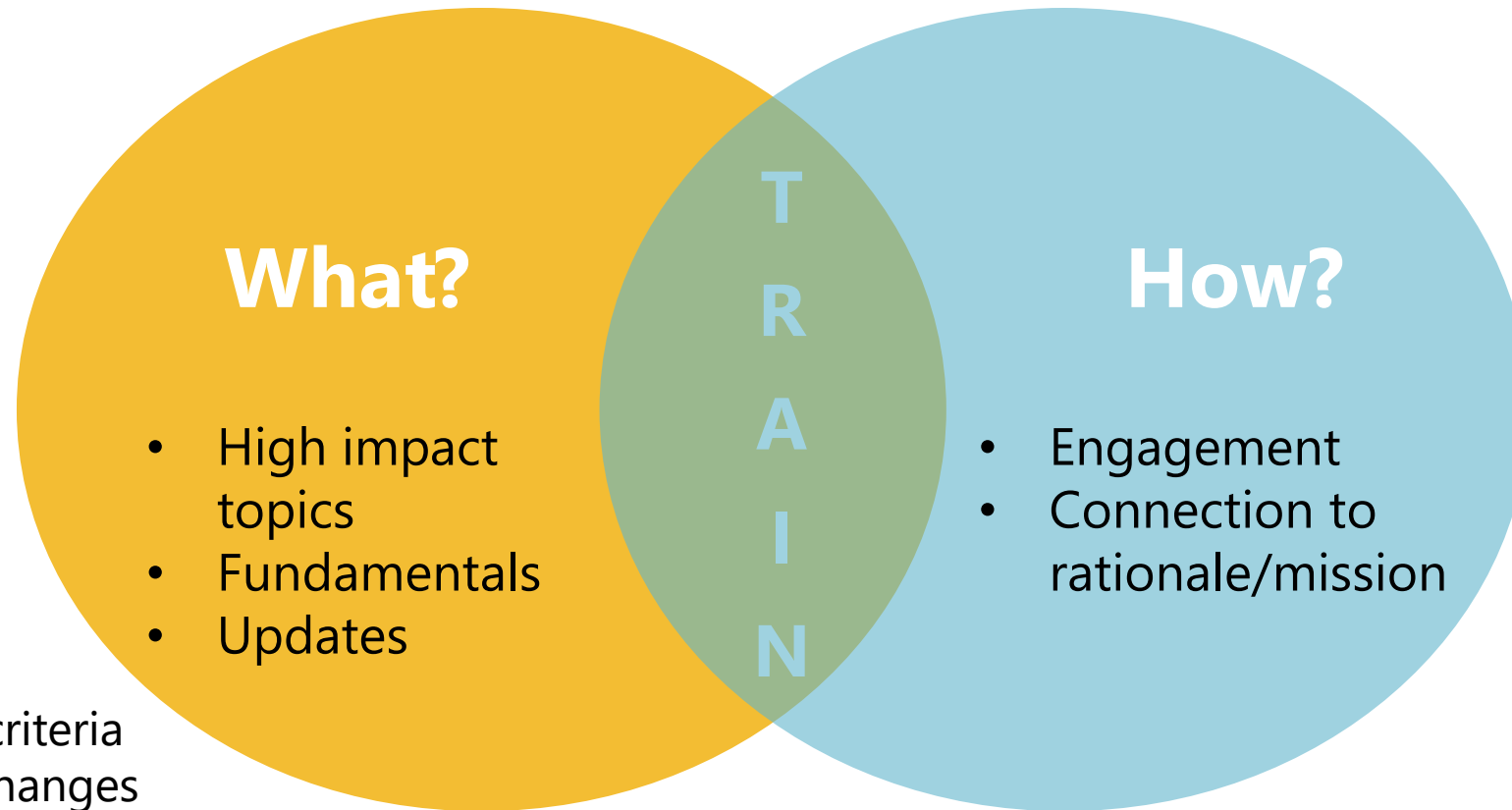
Active practice (mock study section)



Community  
engagement/collaboration



# How we strengthen peer review through training: Updates



## Upcoming updates:

- Simplifying review criteria
- Fellowship review changes

Integrate training development across participants

Consistency



Fairness



# Who makes the training possible?

## Office of Training and Development



**Christina Johnson**  
Program Analyst



**Vanessa Boyce, Ph.D.**  
New SRO Education and Development Coordinator



**Natalia Komissarova, Ph.D.**  
SRO Continuing Education and Development Coordinator



**Tatiana Cohen, Ph.D.**  
SRO Systems Training Coordinator



**Benjamin Shapero, Ph.D.**  
SRO Handbook and Policy Coordinator

## Division of Planning, Analysis and Information Management

**Shawn Cook, Rich Hibner, Rashid Shah, Dave Sweigert, Khalid Ullah, Leo Wu, Lin Yang, Chen Zhang**



**Maya Jones**  
Training Team Lead

## Just joined Office! Admin staff training

**Jennifer Peddicord, Lori Stoller-Cruz, Ishrat Uddin**



**Verzhiniya Tancheva**  
Training Manager

## Survey development/analysis



**Hope Cummings, Ph.D.**  
Senior Social Science Analyst

## Training development groups (Chiefs/SROs)

**New SRO Training:** Dolores Arjona Mayor, Laura Asnaghi, Sulagna Banerjee, Adem Can, David Chang, Tami Kingsbury, Jordan Moore, Angela Thrasher, Carmen Ufret-Vincenty, Wenjuan Wang

**Continuing Education:** Aruna Behera, Jessica Bellinger, Rebecca Burgess, Margaret Chandler, Martha Faraday, Heidi Friedman, Will Greenberg, Linda MacArthur, Pat Manos, Bidyottam Mittra, Kristen Prentice, Ken Ryan, Suzanne Ryan, Brian Scott, Denise Wiesch

**Reviewer Training:** Abu Abdullah, Aruna Behera, Pablo Blazquez Gamez, Gene Carstea, Thomas Cho, Emily Foley, Lauren Fordyce, Heidi Friedman, Pam Jeter, Sharon Low, Karobi Moitra, Kristen Prentice, Joonil Seog, Lisa Steele, Afia Sultana, Sarah Vidal

**Policy & Practice Resources:** Cristina Backman, Aurea de Sousa, Kate Fothergill, Steven Frenk, Pam Jeter, John Laity, Srikanth Ranganathan, Joonil Seog, Ian Thorpe, Guoqin Yu

100+ CSR staff for training implementation!

# And, thanks to CSRAC engagement

## Bias Awareness Training

### CSR Advisory Council Members



Scott Miller, Ph.D.,  
Yale University



Julie Price, Ph.D.,  
Harvard Medical  
School

### Working Group Ad Hoc



Doug Andres, Ph.D.,  
University of Kentucky



Markus Brauer, Ph.D.,  
University of  
Wisconsin Madison



Elizabeth Cosgriff-  
Hernandez, Ph.D.,  
University of Texas,  
Austin



Carlos Crespo, Ph.D.,  
Portland State  
University



Karine Gibbs, Ph.D.,  
University of  
California, Berkeley



Xuemei Huang, Ph.D.,  
Pennsylvania State  
University



Rakale Quarells,  
Ph.D.,  
Morehouse School of  
Medicine



Narasimhan Rajaram,  
Ph.D.,  
University of Arkansas  
at Fayetteville



Germán Rosas-Acosta,  
Ph.D.,  
University of Texas at  
El Paso



Steve Varga, Ph.D.,  
University of Iowa

### NIH Staff



Hope Cummings,  
Ph.D.,  
CSR



Kristin Kramer, Ph.D.,  
CSR



Charlene Le Fauve,  
Ph.D.,  
NIH Office of  
Scientific Workforce  
Diversity



Michael Sesma, Ph.D.,  
NIGMS



Tasmeen Weik, Ph.D.,  
Chair

## Review Integrity

### CSR Advisory Council Members



Scott Miller, Ph.D.,  
Yale University



Dr. Jinming Gao,  
Ph.D.,  
UT Southwestern  
Medical Center



Dr. Deanna Kroetz,  
Ph.D.,  
University of  
California San  
Francisco



Dr. Tonya Palermo,  
Ph.D.,  
University of  
Washington

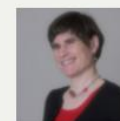


Dr. Denise Wilfley, Ph.D.,  
Washington University St. Louis

### NIH Staff



Dr. Kathryn Koeller,  
Ph.D.,  
CSR Research &  
Review Integrity  
Officer



Dr. Miriam Mintzer,  
Ph.D.,  
CSR



Dr. Raul Rojas, Ph.D.,  
CSR



## Discussion