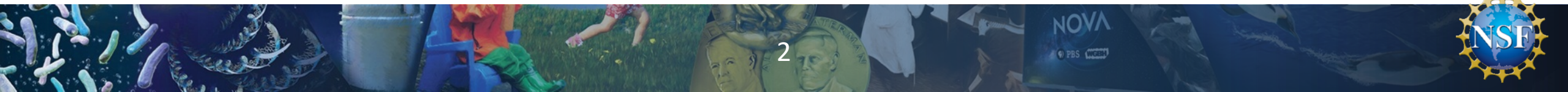Lori Takeuchi & Leilah Lyons
EDU/DRL

1

Webinar Overview

- Share important logistical reminders

- Provide an overview of project types 4 and 5

- Discuss their unique requirements

- Discuss AISL goals as they pertain to these project types

- Offer suggestions on how to decide between the two

Reminders for AISL Solicitation 22-626

- Read the **AISL solicitation** ([NSF 22-626](#)) closely!

- Proposals should follow the ***NSF Proposal & Award Policies & Procedures Guide* (PAPPG)** ([NSF 23-1](#))

- The annual AISL deadline is the second Wednesday of January at 5pm local time of the submitting institution

- Submit through [Research.gov](#) or [Grants.gov](#)

- Apply for a **Unique Entity ID** (UEI) from [SAM.gov](#) right away. It may take a while for new organizations to receive it.

- More resources are provided on [https://www.informalscience.org/about-nsf-aisl-program](#)
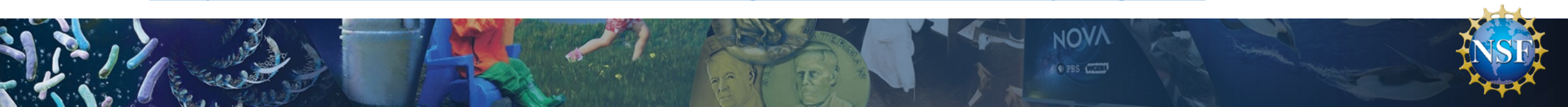
AISL Project Types

- Type 1 – Synthesis
- Type 2 – Conferences
- Type 3 – Partnership Development & Planning
- **Type 4 – Integrating Research & Practice**
- **Type 5 – Research in Support of Wide-Reaching Public Engagement in STEM**
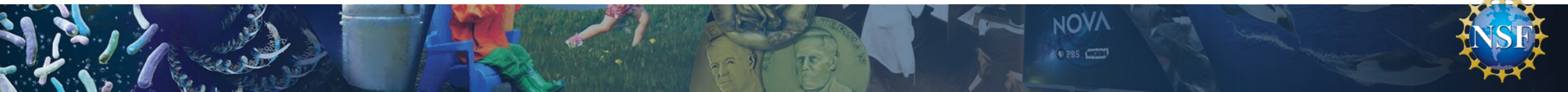
AISL Proposal Goals

1. **Learning STEM in Informal Experiences and Environments**
2. **Advancing the Knowledge Base of Informal STEM Learning**
3. **Equity, Belonging, and Broadening Participation**

    Goals 1, 2, & 3 are required for ALL proposals.

4. Intentionally Community/Practitioner Driven
5. Professional Capacity Building & Informal STEM Infrastructure
6. Support Learners' Participation in and Understanding of STEM practices

   *Goals 4, 5, & 6 depend on project type and focus.*

All AISL Project Types MUST

- Address AISL goals 1, 2, and 3

- Address explicit requirements and goals for that project type

- Include project evaluation plans that support iterative improvement and/or promote accountability

    Note: *this is different from research for the purpose of advancing knowledge base (Goal 2)*

   *See the recorded webinar on* *Evaluation and Project Oversight*
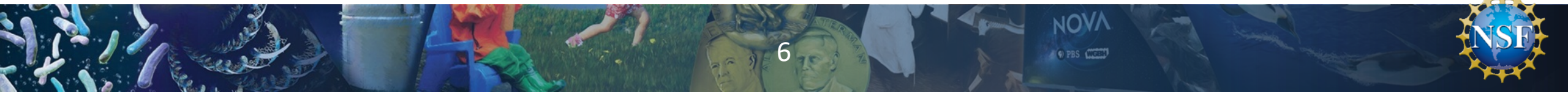
Research Requirement for Project Types 4 & 5

- AISL project types 4 and 5 must include an empirical research component that will advance the knowledge base on informal STEM learning → AISL Goal #2

- This is *in addition to* the required project evaluation plans that support iterative improvement and/or promote accountability.
  - It will not suffice simply to demonstrate that the thing you create (e.g., exhibit, curriculum, game) works. Research plans must address broader questions about informal STEM learning.

- Articulate knowledge-building research questions in the proposal.

- To learn more about the differences between various types of "research," see [Common Guidelines for Educational Research and Development](#)
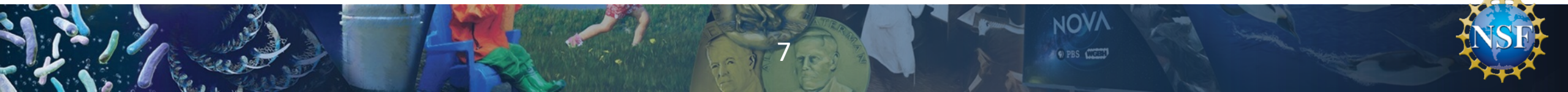
#4. Integrating Research & Practice Projects
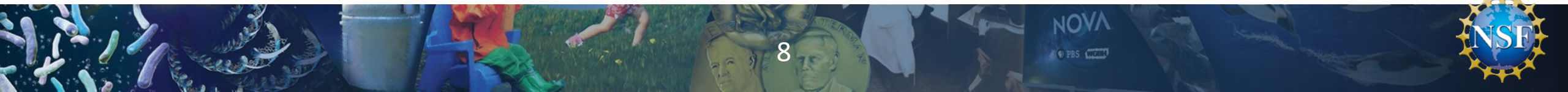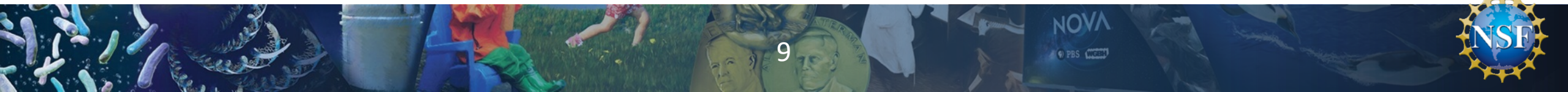
Project Type 4 – Integrating Research & Practice

Project Type	Required AISL Goals	Budget Range	Duration, in Years	Anticipated Number Funded (per year)
Type 4 – Integrating Research & Practice	1, 2, 3 & 4	$250,000-$2 Million	2 to 5	12-16

Intent:

- Research-practice integration to advance informal STEM learning

How:

- Research that yield findings that may be applied to practice OR research on innovations in practice

- Genuine partnerships are required

- Small or medium investigations commensurate with research questions and design components

Project Type 4 – Integrating Research & Practice

Project Type	Required AISL Goals	Budget Range	Duration, in Years	Anticipated Number Funded (per year)
Type 4 – Integrating Research & Practice	1, 2, 3 & 4	$250,000-$2 Million	2 to 5	12-16

Deliverables:

- Research that contributes to a deeper understanding of informal STEM learning
- Innovative experiences that may transform informal STEM learning
  - E.g., game, exhibition, app, maker space, social media campaign, etc.
  - Products produced endure beyond the life of the grant

Examples:

- [Designing and studying a mixed-reality water sustainability game and museum exhibit for drought-affected Indigenous communities in the Desert Southwest](#)
- [Developing and studying an ecosystem designed support formerly incarcerated women transition into technology-based careers](#)

10

Project Type 4 – Integrating Research & Practice

- Required components:
  - Goal 1 – Learning STEM in Informal Experiences & Environments
  - Goal 2 – Advancing the Knowledge Base of Informal STEM Learning
  - Goal 3 – Equity, Belonging, and Broadening Participation
  - Goal 4 – Intentionally Community/Practitioner Driven
    - Identify practitioners, learners and/or community partners involved in the work
    - How will practitioners, learners and/or community partners meaningfully lead or contribute to proposed activities?
    - How is the project relevant to practitioners, learners and/or community partners?

Project Type 4 – Integrating Research & Practice

- Recommended components:
  - Goal 6 – Support Learners' Participation in & Understanding of STEM Practices
    - Describe how the work supports the development of STEM-informed and STEM-engaged individuals and communities
  - Make a case for how existing concepts, framings, or approaches may be limiting the field, and how the project might expand what is possible

#5. Wide-reaching Public Engagement with STEM Projects
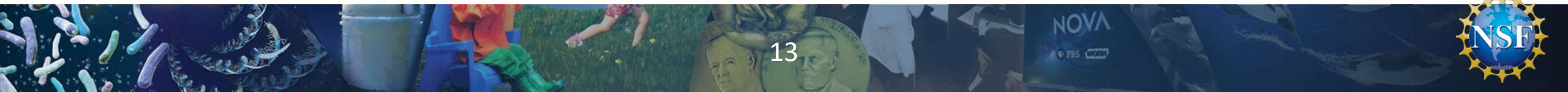
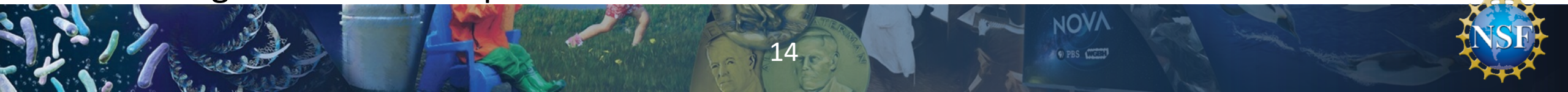# Project Type 5 – Research in Support of Wide-Reaching Public Engagement with STEM

Project Type	Required AISL Goals	Budget Range	Duration, in Years	Anticipated Number Funded (per year)
Type 5 – Research in Support of Wide-Reaching Public Engagement with STEM	1, 2, 3, 4 & 6	$1 Million - $3.5 Million	2 to 5	5-8

Intent:

- Large-scale informal STEM learning projects that reach 100,000's
- Research into design and learning for wide-reaching public engagement

How:

- Media & exhibitions
- Genuine partnerships
- Integrate research & practice

Project Type 5 – Research in Support of Wide-Reaching Public Engagement with STEM

Project Type	Required AISL Goals	Budget Range	Duration, in Years	Anticipated Number Funded (per year)
Type 5 – Research in Support of Wide-Reaching Public Engagement with STEM	1, 2, 3, 4 & 6	$1 Million - $3.5 Million	2 to 5	5-8

Deliverables

- Public engagement in Informal STEM education for hundreds of thousands of people per project
  - New approaches to expanding reach
- Knowledge and understanding about how learning happens in wide-reaching public engagement in STEM experiences
  - Increased knowledge about scaling learning opportunities
  - Evidence that the designed experience has the desired effect on the target audience(s)

Example

- [Creating and studying a kids' TV show and game to improve boys' and girls' perceptions of female scientists and engineers](#)

Project Type 5 – Research in Support of Wide-Reaching Public Engagement with STEM

Required components

- Goal 1 – Learning STEM in Informal Experiences & Environments
- Goal 2 – Advancing the Knowledge Base of Informal STEM Learning
- Goal 3 – Equity, Belonging, and Broadening Participation
- Goal 4 – Intentionally Community/Practitioner Driven
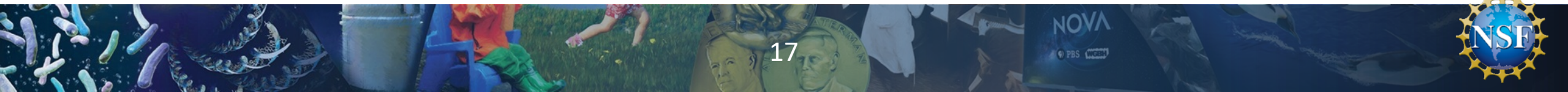- Goal 6 – Support Learners' Participation in & Understanding of STEM Practices

Project Type 5 – Research in Support of Wide-Reaching Public Engagement with STEM

Required components

- Articulate plans for design, iterative/formative development, implementation and evaluation
- Detailed outreach plans

Recommended components

- Describe of processes for collaboration between researchers, exhibit & media practitioners
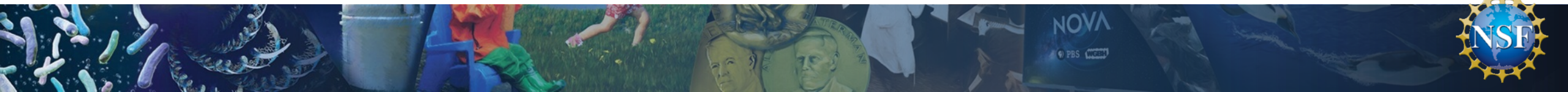
Which project type is best for your project?

	#4. IRP Projects	#5. RWRPES Projects
Knowledge-building research emphasis	How research-practice integration advances STEM learning	How STEM learning happens through wide-reaching public engagement experiences
Evaluation research emphasis	• Support iterative improvement and/or promote accountability	• Support iterative improvement and/or promote accountability • Whether the designed experience has the desired effect on learners
# of learners reached	Dozens to 10,000s+	100,000s+
Sample products/ interventions	• Afterschool programs • Community workshops • Social media campaigns (including online video) • Exhibits in one or a few local museums • Podcasts • Apps/games	• Wide-screen films • Nationally-broadcast or streamed TV programs • Exhibits at large or multiple museums nationwide • Online video games that reach hundreds of thousands

Final Reminders

- Proposers may send a 1-2-page concept paper to DRLAISL@nsf.gov.

- Concept papers should clearly describe the project activities and align with the solicitation. AISL Proposal Goals and Project Type should be addressed.

- We will try our best to have a program officer provide feedback.

- We will not accept concept papers less than one month before deadline, as there is too little time to get through the queue and meaningfully fold feedback into the project design.

Advancing Informal STEM Learning (AISL) Solicitation NSF #22-626

https://www.nsf.gov/pubs/2022/nsf22626/nsf22626.htm

https://new.nsf.gov/policies/pappg/23-1