

Supporting Diverse and Inclusive Science Teams: New Tools from the CREDITS Community of Practice



Center for Research, Excellence, and Diversity in
TEAMSCIENCE

Today's Agenda

- Introduction (15 minutes)
- Presentation of Interventions and Tools (7 minutes each)
 - Group 1 – Seed Grants
 - Group 2 – Identity and Intersectionality - Barbara Endemaño Walker
 - Group 3 – Climate - Jenn Joy Wilson
 - Group 4 – Plans, Contract, and Artifacts - Kendra Mingo
 - Group 5 – Decolonizing Metrics - Jennifer Lyon Gardner
- Stand Your Ground (20 minutes)
- Questions and Discussion (20 minutes)

CREDITS OVERVIEW

Center for Research, Excellence, and Diversity in Team
Science

Center for Research, Excellence, and Diversity in Team Science - CREDITS

- <https://oru.research.ucsb.edu/teamscience/>
- NSF ADVANCE funding – 2014-2022
- UC - CSU collaboration
- Communicates to university leaders the value of diverse science teams for innovation, productivity, and research funding;
- Provides university research leaders with tools to broaden participation and institutional transformation through the research enterprise;
- Influences the design of tenure and promotion policies to recognize and reward teaming and co-authorship;
- Prepares diverse scholars to lead, manage, and participate in scientific teams



THE ELSEVIER
FOUNDATION

Faculty and Administrative Leader Retreats, 2016, 2017, 2018

- Statistically significant increases in participants' knowledge of
- how to help their university encourage gender and racial/ethnic diversity in TS,
- encourage faculty participation in TS,
- provide support and resources for faculty to engage in TS, and
- reward TS in the promotion and tenure process.
- how to ensure TS participation is rewarded in promotion and tenure,
- confidence in ability to find collaborators, write TS proposals, lead a TS project and manage teamwork
- In the six months following each retreat, most faculty had participated in diverse TS projects and initiated new collaborations.

Table 4. Faculty Confidence in TS Skills / Knowledge, Total Years 1-3

Confidence / knowledge of how to ...	(n)	% Agree / Strongly Agree		Mean rating (1-5)		Change Pre-Post	Profiles with more outstanding gains (mean change pre-post)
		Pre	Post	Pre	Post		
Work with diverse people (e.g. gender, ethnicity, etc.) on TS projects.	(68)	88%	94%	4.49	4.46	-0.03	
Promote gender and racial/ethnic diversity on my scientific teams.	(68)	49%	78%	3.46	4.12	0.66 ↑	▪ Women (0.82*)
Participate in TS.	(68)	34%	87%	3.16	4.10	0.94 ↑	
Network for the purpose of finding collaborators for TS.	(68)	48%	78%	3.40	4.00	0.60 ↑	
Ensure that my participation in TS is rewarded in the P&T process.	(67)	27%	68%	2.82	4.00	1.18 ↑	
Lead a TS project.	(68)	51%	83%	3.49	3.96	0.47 ↑	▪ Women (0.62**), ▪ TS experience (0.55*)
Find collaborators in other disciplines.	(68)	48%	81%	3.47	3.96	0.49 ↑	

CREDITS Community of Practice

- 2021-2022
- 26 participants from among NORDP members and UC and CSU faculty
- The CREDITS RD Community of Practice works collaboratively to design new
 - materials,
 - tools, and
 - training workshops/modules
- to help research development professionals develop and support diverse and inclusive science teams at their institutions.



CREDITS CoP Group 1: Seed Grants

John Crockett

Partners

- Nathan Meier, University of Nebraska Lincoln
- Maria Teresa Napoli, UC Santa Barbara
- Kim Patten, University of Arizona
- Trevor Hirst, University of California Merced
- John Crockett, San Diego State University



Seed Grants

Intentional reflection on the framework and purpose for seed grants is critical to avoid maintaining the status-quo, where traditional normative approaches systemically benefit majority (both demographically and by discipline) participants, and may under-serve or wholly exclude under-represented minority participants.

Seed Grants

This formal interrogation of seed grants is generally motivated by documented inequity, especially related to post-submission review, including inequities introduced by bias, ethical considerations, conflict of interest, portfolio balance, review committee composition, and JEDI-related language in internal competitions.

Seed Grants

As a counter-measure to the biased design of Seed Grant programs, we have developed tools to explicitly interrogate, and engage in the intentional design of four distinct, but linked, components of seed grants:

- What is a Seed Grant good for?
- How do you design a Seed Grant program that is inclusive and equitable?
- How do you manage outreach in a way that is inclusive and equitable?
- How do you Ensure Review and Selection Process is Inclusive and Equitable, and Counters Implicit Biases

Seed Grants

Our project asserts that if participants feel that the seed grant process is biased against them or their discipline from the outset, you will still end up with the same outcomes no matter how well designed your solicitation, outreach, and review processes.

*The key is therefore **intentionally** engaging a more diverse set of participants at each stage of the process, and ensuring that those participants feel that their scholarly contributions will be valued throughout the process.*

CREDITS CoP Group 2: Identity and Intersectionality

Barbara Endemaño Walker

Identity & Identification: Leveraging Diversity by Building Trust

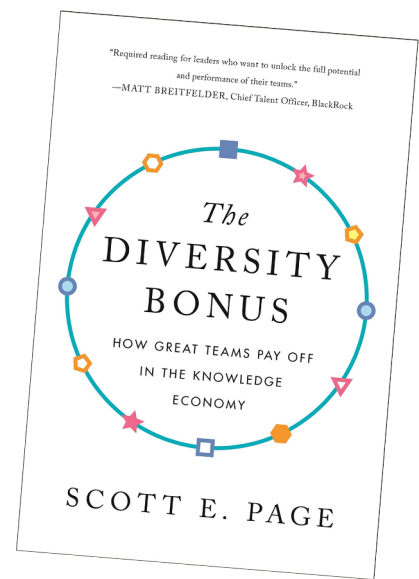
- Katy Christiansen, Lawrence Berkeley National Laboratory
- Kyle Lewis, UC Santa Barbara
- Rebecca Lewison, San Diego State University
- Sue Rosser, San Francisco State University
- Erica Severan-Webb, The Louisiana State University Health Sciences Center
- Barbara Endemaño Walker, UC Santa Barbara



Diverse Teams = Innovation

Individual *identities* can be diverse...

Identification with a team has many benefits



Toolkit for RD Professionals to Help Teams Leverage Diversity and Mitigate Low Psychological Safety Associated with Difference

- Concepts defined
- Tools and measures for detecting, mitigating, and strengthening
- Practitioner articles on topics (e.g., Harvard Business Review, Sloan Management Review ...)
- Annotated Bibliography of Foundational Scholarly Research

Tools and Measures Across the Team Lifecycle

Team Formation

Who Do You trust?

Team Diversity Inventory

Proposal Development & Writing

Collaboration Agreements + Goals + Values

Identity Wheel
Identification with Team

Psychological Safety

Knowledge / Expertise Use

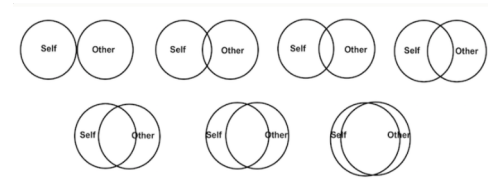
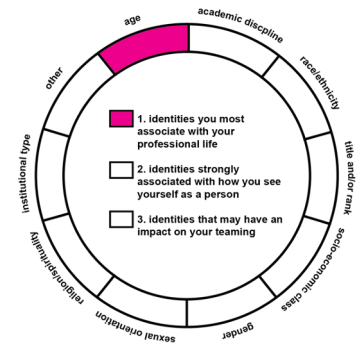
Active Research Team

Identification with Team

Psychological Safety

Knowledge Expertise Use

TEAMSCIENCE
Team Identity Wheel
Adapted from "Values of Diversity" - InterGroup Relations Center, Arizona State University



Who do you most trust?	Gender	Age	Ethnicity	Education	Sexual Orientation	Disability
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

CREDITS CoP Group 3: Climate

Jenn Joy Wilson

CLIMATE:

Creating and Leveraging Inclusive Models in Academic Team Environments



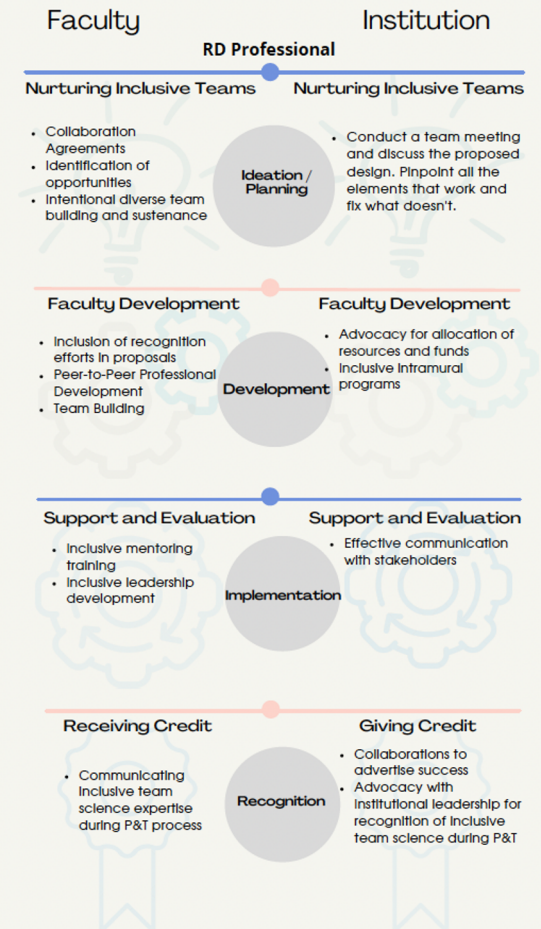
Camille Coley
Valerie Leppert
Edel Minogue
Samarpita Sengupta
Jenn Joy Wilson

Framework:

- The RD Professional as a Change Agent for Inclusive Team Science
- Menu of Action and Advocacy for Application within Institutional Contexts
- Working with Faculty and Institutional Leadership
- Four Areas
 - Nurturing Inclusive Teams
 - Faculty Development
 - Support and Evaluation
 - Receiving and Giving Credit

Inclusive Team Science and Institutional Climate: Actions and Advocacy

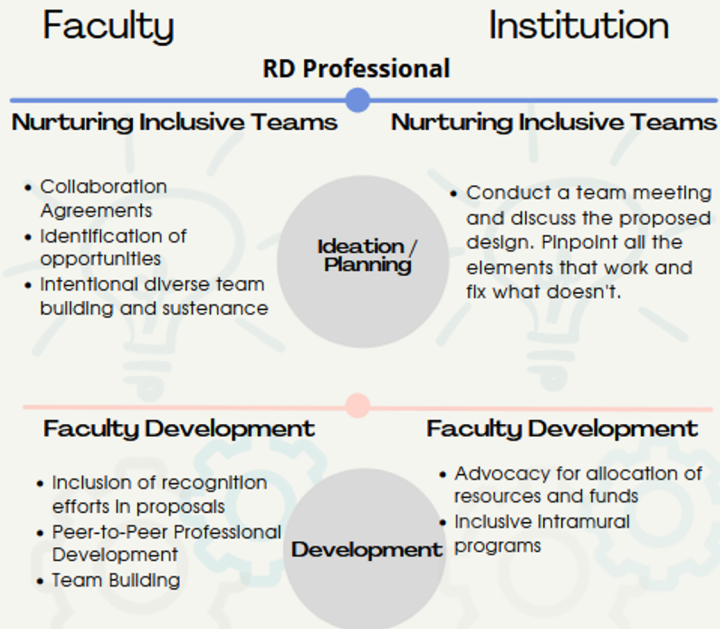
What can you do as an RD Professional at YOUR Institution?



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Inclusive Team Science and Institutional Climate: Actions and Advocacy

What can you do as an RD Professional at YOUR Institution?



Support and Evaluation

- Inclusive mentoring training
- Inclusive leadership development

Implementation

Support and Evaluation

- Effective communication with stakeholders

Receiving Credit

- Communicating inclusive team science expertise during P&T process

Recognition

Giving Credit

- Collaborations to advertise success
- Advocacy with Institutional leadership for recognition of inclusive team science during P&T



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CREDITS CoP Group 4: Plans, Contracts, and Artifacts

Kendra Mingo

CREDITS CoP Group 4: Artifacts Working Group



Wendy Groves
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UC San Diego



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University of Idaho



Crystal Botham
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Stanford University



Beth Mitchneck
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University of Arizona



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Texas A&M

PROBLEM:

RD professionals have an important leadership role in enhancing inclusive research practice through the strategic services and resources we provide. As RD professionals, **we need knowledge, resources, and understanding to operationalize and adopt meaningful JEDI activities and mindsets within our own RD practice.**

- There is a growing set of RD-JEDI tools out there.
- However, finding evidence-based JEDI strategies for specific RD contexts can be challenging.

MOTIVATION:

Goals for the Artifacts Pilot Project:

- Identify **strategies** to enhance inclusive research practice
- Build a **framework** to organize RD JEDI resources
- Create JEDI resource **repository** for RD professionals
- **Share** JEDI resources with NORDP members
- Encourage NORDP members to **add** to collective knowledge

Intervention

The **Plans, Contracts, Artifacts WG** researched examples of JEDI effective practices, examples, and supporting literature for use by RD professionals, organized into four types of **NORDP Activities/Pillars:**

NORDP Pillars



Strategic Research Advancement

- Identify research priorities
- Strategic planning support
- Manage internal grants
- Seed funding programs
- Awards nominations
- Limited submissions
- Sponsor site visits
- Program Officer contact
- Liaison to funding agencies
- Liaison w federal relations



Communication of Research and Research Priorities

- Raise univ. research profile
- Improve visibility with external sponsors
- Manage research marketing
- Annual report creation
- Web page development
- Proposal/Award Analytics
- Disseminate Funding Info
- Conduct grant writing workshops



Enhancement of Collaboration & Team Science

- Catalyze cross-disciplinary initiatives & groups
- Research networking events
- Resources and tools to promote collaboration
- Team science guidance
- Faculty expertise database
- Web-based collab. tools
- Facilitating collaborations w/in & among institutions



Proposal Support Functions

- Finding funding opps
- Funding opps newsletters
- Maintain files of successful proposals
- Proposal develop. support
- Grant writing & editing
- Coordinating ancillary docs
- Developing diversity sections
- Coord. institutional support
- Providing strategic advice on competitive proposals
- Color team review mgmt.

Relevance Areas

Framework



Framework includes:

- 1. RD-specific ideas/strategies/tools** - *brief description of JEDI focused intervention*
- 2. Examples** – *e.g., workshops, webinars, articles, etc.*
- 3. Evidence base** – *peer-reviewed studies, synthesis articles, etc. that demonstrate efficacy of the idea, strategy, or tool.*
- 4. Areas of Relevance** – *by NORDP Pillar*

Deliverables

1. Framework – *strategies, examples, evidence base*
2. Examples of evidence-based JEDI strategies ([link](#))
3. Resource Repository – [Tableau Resource](#)

The screenshot shows a Tableau resource repository interface. At the top, there are four search filters: 'Areas of Relevance' (set to '(All)'), 'NORDP Pillar' (set to '(All)'), 'Resource Type' (set to '(All)'), and a 'Search' input field. Below the filters, there is a prompt 'Click on card for links'. The first card is titled 'Include diversity and inclusion goals within Performance Reviews' and includes a description: 'Include specific goals within annual performance reviews to enhance inclusion, diversity, equity, and accountability.' It also lists 'EXAMPLES & MODELS' as 'IDEA@Berkeley Lab: IDEA@Berkeley Lab provides a menu of possible diversity and inclusion goals that can be included within performance reviews as well as resources for employees and supervisors.' The second card is titled 'Adopt anti-racist/ gender-equity praxis in peer review' and includes a description: 'Evaluate language and review criteria for internal funding to adopt an anti-racism and gender-equity praxis in peer review.' It also lists 'EXAMPLES & MODELS' as 'University of Michigan: University of Michigan launched a resource for mitigating bias and improving practices in peer review, nominations processes, etc.'

1. Outreach & Dissemination

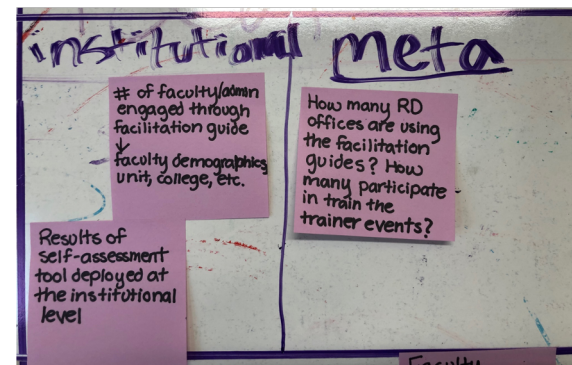
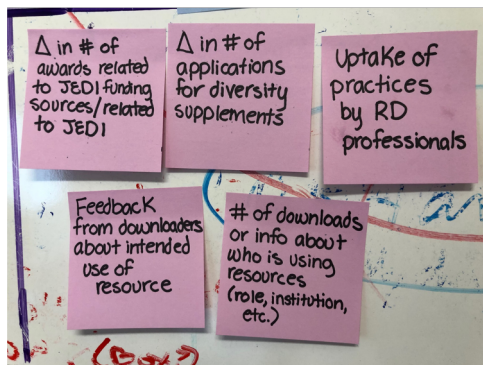
- [Google form](#) where NORDP members **add** to RD JEDI knowledge base
- Share JEDI resources with NORDP members - [CREDITS website](#)

CREDITS CoP Group 5: Decolonizing Metrics

Jennifer Lyon Gardner

Decolonizing Metrics Working Group

- Susan Carter, Santa Fe Institute
- Jennifer Lyon Gardner, The University of Texas at Austin
- Feion Villodas, San Diego state University
- Kelsey Hassevoort, University of Illinois – Urbana-Champaign
- Jamie Burns, Arizona State University



[View our full list of metrics for all CREDITS CoP Working Groups here!](#)

Goal: Define “decolonized metrics” (i.e., move away from conventional “ROI-based” or “scholarly productivity” counts) for the RD strategies/interventions developed by other CREDITS CoP Working Groups.

- **Why?** Conventional research success metrics are biased against marginalized groups because they fail to accurately capture the breadth of individuals’ meaningful scholarly contributions and efforts invested.
- **What’s the benefit?** Defining success metrics for the interventions proposed by the CREDITS CoP empowers RD professionals by:
 - Ensuring they’re selecting the right intervention to address their current challenge at hand
 - Justifying to leadership why the intervention is worthy of initial or continued investment (faculty time, support staff time, \$\$, space, attention)
 - Identifying areas for improvement (formative assessment) and taking action to improve delivery of RD services/interventions
 - Providing proof of concept that there are metrics other than external dollars that are worth counting as successes

One Example: Seed Grant Programs

Short-Term Metrics (1-2 years)

- Baseline analysis conducted at a programmatic level
- Applicants' perceptions of clarity and transparency of review criteria/guidelines
- Diversity of applicant pool
 - Program-specific
 - Related to pre-specified goals of the seed grant
- Conversion of outreach efforts to submitted applications
 - Mapping of applicants to specific outreach efforts

Mid-Term Metrics (2-5 years)

- Awardees' and rejected applicants' perception of:
 - Fairness in evaluation/award decisions
 - Usefulness of reviewer feedback (if specific feedback is provided)
- Change in diversity of applicant pool over multiple program cycles
 - Reflection of continued iterative improvement of processes
- Reviewers' perception of:
 - Usefulness of reviewer onboarding and calibration process
 - Benefits of service
- Change in number of unique individuals participating as reviewers, as well as overall diversity of the reviewer pool

Long-Term Metrics (>5 years)

- Improvement relative to baseline analysis data
- Adoption/uptake of seed grant program design elements by other campus units within the same institution
- Outcomes/next steps for awarded applicants
 - Tied to programmatic goals
 - Metrics here shouldn't just reflect subsequent procurement of external funding

HOW to measure these things: some general advice

- Choose what you want to measure
 - Is your leadership interested in collecting that information?
 - Do you have the ability/authority to take action on what you learn?
- Decide what the least burdensome, most enjoyable way is to collect that information (both for your participants and for you)
 - Example: a thank-you luncheon for your review panel where you ask them for feedback on their experience could be more enjoyable, more feasible, less time-consuming, and more sustainable/scalable in the long term than scheduling multiple one-hour 1:1 debriefs with each reviewer
 - Super-long surveys and in-depth interviews can discourage participation from historically marginalized groups who are already overcommitted and don't have the time
- Get help from your campus experts in evaluation/assessment, if it's available
- Reminder: If you intend to eventually publish your findings (and we hope you will when feasible), get the required IRB approvals before you begin

Stand Your Ground Exercise

Facilitated by John Crockett

Seed-Grants, Strategic Use of RD Offices

Start-up packages, seed grants, teaching release, nominations, and other institutional investments can make a big impact on faculty development, and therefore are critical to evaluate for equity and inclusion. For example, it is well-documented that lower starting salaries for women and people from historically disadvantaged communities have a long-term impact over an individual's career earnings. Similarly, white men are more frequently nominated for prestigious committees and prizes. These ideas focus on JEDI initiatives around strategic, tangible investments driven from (or influenced by) Research Development offices, and their potential impact on early participation on science teams for individuals from historically disadvantaged populations.

Plans Contracts and Artifacts

Written plans and systematic planning tools are a critical ingredient in processes of transparent institutional transformation, program development, and program evaluation. These ideas focus on processes, strategies, resources, and models to develop, implement and evaluate plans and processes as one foundation for launching JEDI organizational change and improving team formation and function.

Identity and Intersectionality

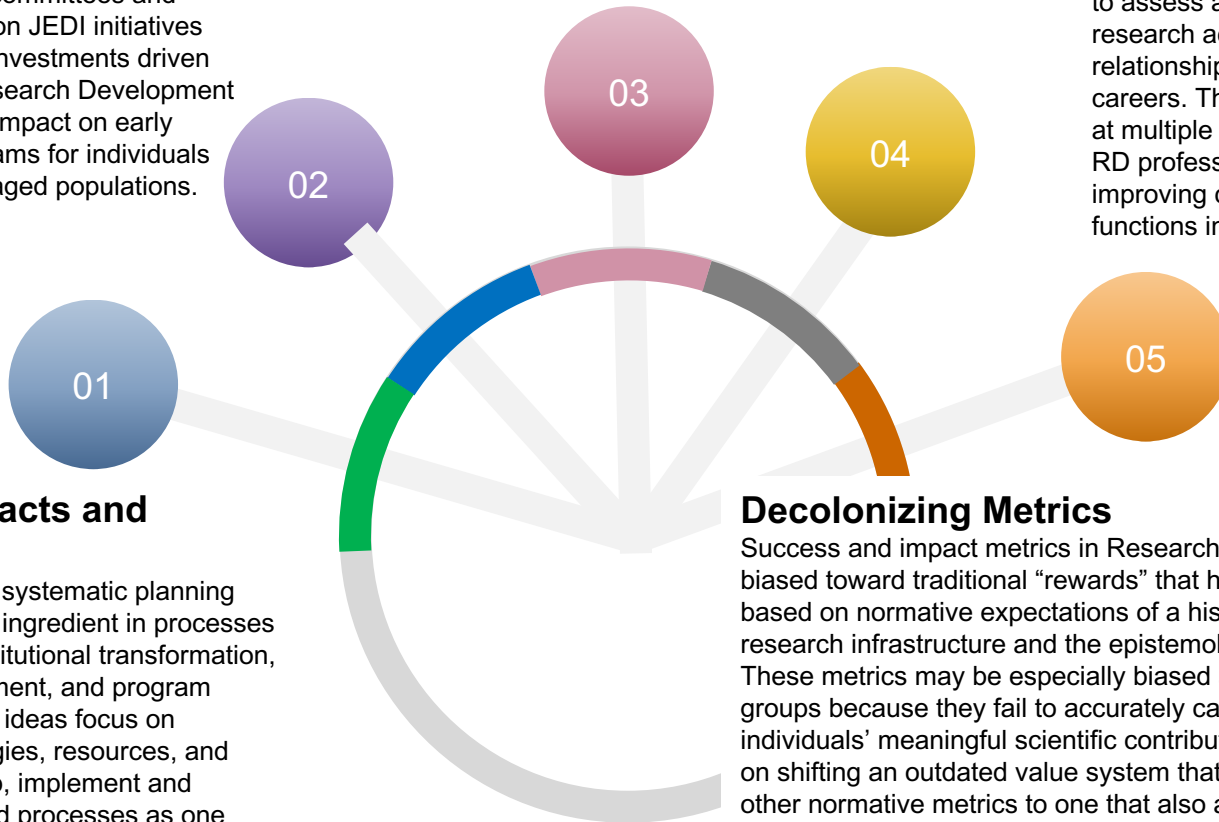
Social identity can play a critical role in team formation and function. Being explicit around identity and how it shapes team participation can help in creating trust, building effective communication pathways, and mitigating the negative impacts of conflict in ways that maintain team function. More recently, intersectional approaches in the design of systemic change strategies recognize that gender, race, and ethnicity do not exist in isolation from each other and from other categories of social identity. These ideas focus on methods to allow social identity and the benefits of diverse perspectives to become an explicit part of team function and formation of research teams.

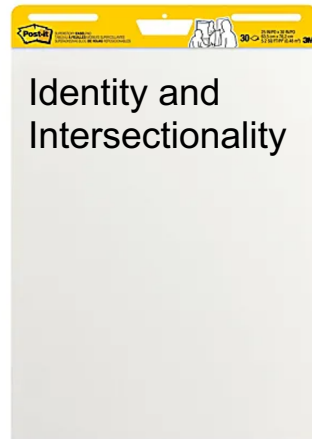
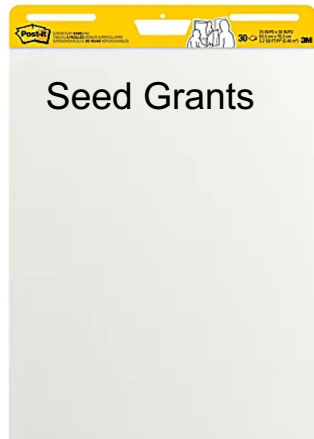
Climate

Improving institutional climate for underrepresented and historically marginalized people has been a persistent challenge in academic communities (and perhaps no less so within the field of Research Development). The academic realm of research is not always considered a natural environment through which to assess and improve climate, but research activities, spaces, and relationships are central in faculty careers. These ideas focus on ways, at multiple organizational levels, that RD professionals can contribute to improving campus climate through functions in the research enterprise.

Decolonizing Metrics

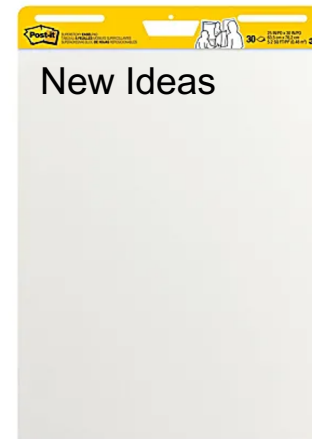
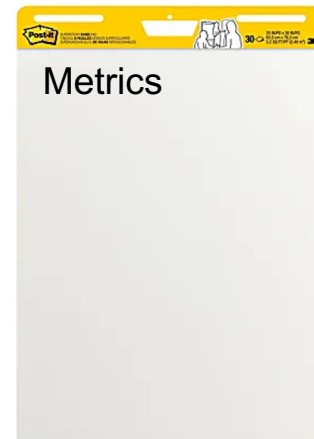
Success and impact metrics in Research Development may be biased toward traditional "rewards" that have been developed based on normative expectations of a historically racist and sexist research infrastructure and the epistemology of "basic research." These metrics may be especially biased against marginalized groups because they fail to accurately capture the breadth of individuals' meaningful scientific contributions. These ideas focus on shifting an outdated value system that prioritizes financial or other normative metrics to one that also accounts for multidimensional, collective, communal, and well-being contributions that are foundational to effective team science, innovation, and discovery.





Stand your ground exercise:
Outline opportunities and risks/concerns

Share out
(if you choose New Ideas... list what other things Seed Grants can be good for)



Process:

Random Room Assignments

First... decide on a topic

Second... please identify a reporter

Next... please outline what you think might be some approaches, opportunities, or risks for integrated JEDI principles into these topics – AS THEY RELATE TO TEAMS

Finally, reconvene and share your thoughts



The NORDP Climate Survey is Coming!

NORDP is partnering with Kanarys to launch the 2022 NORDP climate survey next month! The results of this survey will drive decision-making, policies, and programming within NORDP, and **we want to hear from you.**

Be on the lookout for this survey to arrive in your inbox during the month of May. The first 30 respondents will be eligible for a variety of prizes!



Questions and Discussion

Moderated by Susan Carter