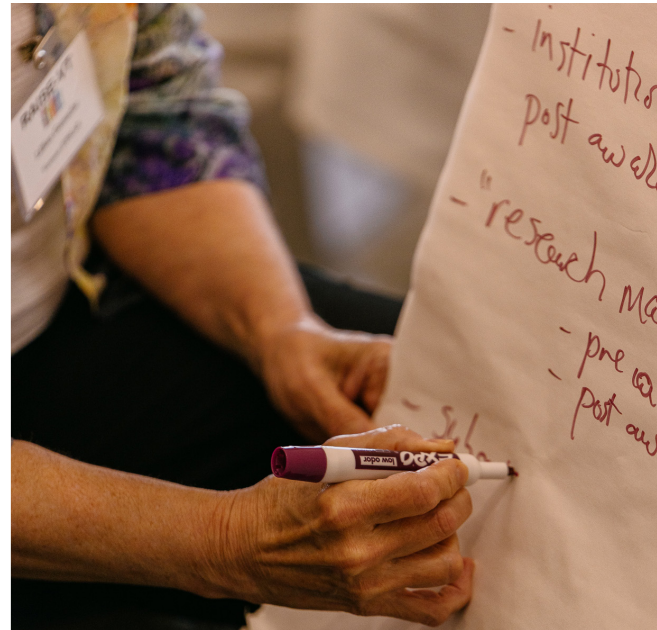


RAISE-VT



Research Administration
Infrastructure to Support EPSCoR



AUGUST 2024

Research Administration Infrastructure to Support EPSCoR - Vermont (RAISE-VT):

Assessing Statewide Needs, Interests, and Goals to Grow
Research & Research Infrastructure Across Vermont



teaching load

small institutions

teaching and time

faculty time

state support

research skills

institution mission

access

time

soils

small

institutional support

value of research

student interest

limited resources

teaching colleges

Vermont's Research Enterprise

Nationally competitive research is happening across the state of Vermont, particularly in the areas of renewable energy, regenerative and sustainable agriculture, advanced manufacturing, biotechnology, and cybersecurity (1). The majority of researchers reside at the University of Vermont (UVM), with others at one of about a dozen primarily undergraduate institutions (PUIs) across the state. To enable research and the downstream economic benefits that result from its findings, there needs to be a robust, trained workforce to support the administrative, regulatory compliance, and development needs of this work. This workforce, which can be broadly defined as the “research administration profession”, is critical to the continued success and growth of research nationally. Vermont, which is a federally-designated EPSCoR¹ and IDeA² state, is eligible for programs and funding to build Science, Technology, Engineering and Mathematics (STEM) capacity to stimulate statewide research competitiveness. In EPSCoR jurisdictions, like Vermont, there is a concurrent need, or perhaps a vulnerability, to sustaining and expanding upon the existing research administration workforce in service to Vermont’s envisioned research growth trajectory. While UVM, the state’s single PhD-granting institution, has over 100 research administration positions encompassing a variety of specialties, one or two administrators at each PUI have responsibility for all facets of grant-related pre- and post-award processes. Funding opportunities that aim to have regional and statewide research and economic impact, and thereby necessitate robust collaboration, are becoming more frequent from federal agencies (2), and have begun to include targeted language for inclusion of rural areas, EPSCoR/IDeA jurisdictions, and geographic areas that have not benefited equally from federal research investments. These opportunities could greatly benefit Vermont. However, the research administration infrastructure of our higher education institutions is not currently well poised to take full advantage of these opportunities given the frequency and scale of the funding

mechanisms. In addition, with the lack of a clear career path and limited ability to train new personnel at many of our institutions, Vermont’s research administration profession, particularly at PUIs, is at risk. This could hinder the state’s research enterprise, for example, if one or two key administrators decide to move on.

Further, Vermont, like many other rural states and EPSCoR jurisdictions, has also historically experienced challenges in attracting and retaining talented researchers (3) and has the 2nd lowest retention rate of college graduates in the nation (4). Graduates from STEM disciplines often move to larger metropolitan areas to pursue jobs, rather than considering jobs within Vermont. Each year, UVM also loses rising, “rockstar” faculty members to better-resourced institutions, not just in terms of physical resources but also in the skilled, professional administrative support that enables them to successfully navigate the complexities of competing for research funding. PUIs face these same challenges.

Given these challenges, there is a critical need for the institutions of higher education across the state to collaboratively identify ways to increase statewide research capacity, while, at the same time, creating well-paying jobs within the research enterprise that entice talented graduates to remain in Vermont, appeal to our currently available workforce, motivate upskilling or reskilling, and tap into a national pool of remote workers. The RAISE Vermont (Research Administrative Infrastructure to Support EPSCoR - Vermont) project, funded by an NSF GRANTED conference award (5), explored these challenges through a year-long, collaborative process to identify and brainstorm growth opportunities for research administrative support to meet the expanding research efforts and interest in Vermont. Led by a Steering Committee composed of VT research administrators, we conducted a gap analysis that integrated perspectives from a variety of administrative

¹ The Established Program to Stimulate Competitive Research (EPSCoR) was created by NSF in 1979 to provide deliberate investments in science and engineering research and capacity building in U.S. states and territories receiving a disproportionate share of NSF funds. In the 1990s the program expanded and has now been implemented by five federal agencies (NSF, DOE, USDA, NASA, DOD).

² The NIH Institutional Development Award (IDeA) program is similar to EPSCoR, and was established in 1993 to broaden the geographic distribution of NIH funding for biomedical research.

roles that are often siloed within institutions of higher education, and represented by separate professional organizations (e.g., NORDP, NCURA, CLASP), as well as faculty researchers and institutional leaders from Vermont's higher education institutions. The RAISE-VT project culminated in a Capstone Workshop in June 2024, bringing together Vermont's research administrators, faculty researchers, and institutional leaders for vital, interdisciplinary conversations on strategies to

expand the research enterprise, provide more research opportunities for students and faculty in Vermont, and increase the diversity of the research field. Recognizing that Vermont is not the only state facing these challenges, we included representatives from national professional organizations and other EPSCoR jurisdictions in our Workshop, ensuring that Vermont, other EPSCoR jurisdictions, and similar regions could contribute their experiences as well.

Project Goals

The main goals of the RAISE-VT Project were to:

- 1 Determine the state of research administrative (RA) support across Vermont's institutes of higher education.

In order to better support research growth across Vermont, we assessed the current state of the research administration (RA) field. What positions are filled or vacant? How many are likely to turnover? What is the background of the current workforce? Recognizing that roles and responsibilities within research support jobs can be diverse and tailored to institutional needs, we define "research administration" in our assessments as encompassing the functions/roles/departments of grants management, sponsored project administration, research development, pre-award support, post-award support, and regulatory compliance.

- 2 Determine the level of interest in better collaborating or sharing resources across Vermont.

Recognizing that research activity and research administration support will need to grow together in order to take advantage of regional growth opportunities, we also assessed the level of interest among faculty researchers and institutional leaders for state-wide collaborations.

- 3 Brainstorm ideas and solutions on how to create robust RA infrastructure.

Beginning with our needs assessment and continuing at the Capstone Workshop, we collectively brainstormed and distilled recommendations for strengthening Vermont's RA infrastructure. The top challenges identified and recommendations for solutions are discussed in detail below.

Steering Committee

The RAISE-VT project was guided by a volunteer Steering Committee composed of research administrative personnel from Champlain College, Vermont State University, Saint Michael's College, Landmark College, and the University of Vermont. This geographically dispersed and functionally diverse Committee provided input on assessment structures and results, as well as significantly contributing to the capstone workshop goals and agenda. All Steering Committee meetings were facilitated by Stephanie Lahar, of Stephanie Lahar and Associates.



From left to right: Betsy Ward, Lisa Tiffin, Lillian Gamache, Stephanie Lahar, Jeralyn Haraldsen, Julie Macy, Erin McConnell, Lana Metayer, Angela Irvine, Heidi Malaby, Lisa Nye Chabot

RA Infrastructure Needs Assessment

Our research support needs assessment consisted of 1) an online Qualtrics survey, designed and analyzed in collaboration with Northbound Ventures Consulting, that was open from December 2023 - January 2024; 2) focus groups with key interested parties (research administrators, faculty researchers, and institutional leaders), facilitated by Stephanie Lahar & Associates in the winter and spring 2024; and 3) peer institution interviews conducted and summarized by Stephanie Lahar & Associates. Key findings are summarized below, and full findings are available upon request.

Survey and Focus Groups

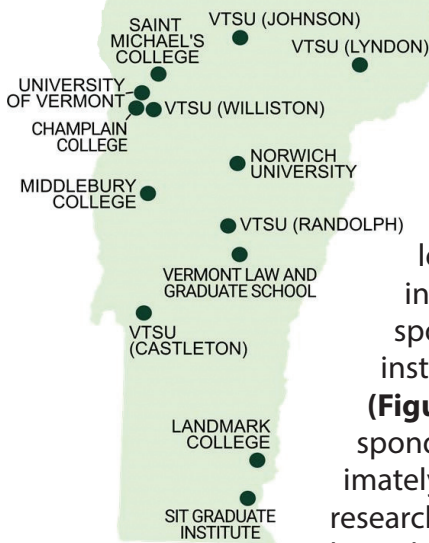


Figure 1. Map of survey respondents.

We curated an email list of Vermont research administrators, faculty researchers, and institutional leaders using public-facing websites. Survey respondents spanned nine institutions across the state (Figure 1), with 32 total respondents. Of those, approximately half self-identified as research administrators, with the other half evenly divided between faculty researchers and institutional leaders (Figure 2).

Regardless of role, the majority of respondents indicated they highly (37.5%) or moderately (34.4%) value the role of research administration at their institution.

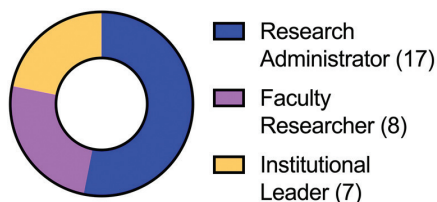


Figure 2. Respondent self-identified roles.

RESEARCH ADMINISTRATORS

We asked research administrators the type of degree they hold and how long they have been tenured in their current role (Figure 3). The overwhelming majority of current research administrators (> 90%) indicated that they hold advanced degrees, with the majority holding masters or doctoral degrees. 44% of respondents have held their current position for lon-

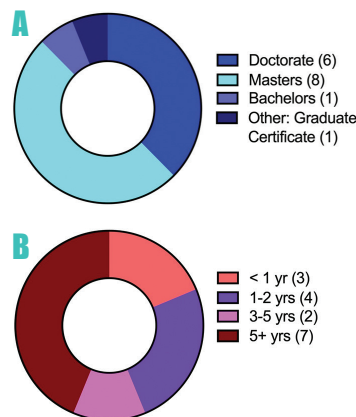


Figure 3. VT research administrators' terminal degree (A) and length of tenure in current position (B).

ger than 5 years. We also asked research administrators what attracted them to their current position, with top responses being convenient/desirable work location, department culture, hybrid/remote work options, and positive perception/prestige of the role. The least popular attributes were salary and availability of professional development opportunities. Somewhat surprisingly,

the University of Vermont was the only institution within the state whose respondents indicated they had currently funded, unfilled research administrator positions. Since this is not in line with national trends (see peer institution analysis below), we followed up on this finding in our focus group with research administrators.

The research administrator focus group was held virtually on January 30th, 2024, with 26 participants spanning 10 Vermont institutions. When asked how long participants anticipated being in their current position, almost 60% indicated they plan to leave within the next five years (Figure 4).

This finding is critical and indicates a high risk for institutional knowledge loss across the state if steps are not taken soon to mitigate these high turnover effects.

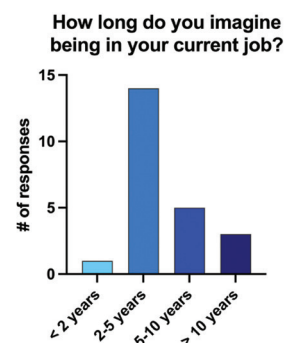


Figure 4. Research administrator focus group.

FACULTY RESEARCHERS

Questions posed to faculty researchers focused on available research administrative support at their institution, interest in collaborating across the state, and identifying barriers to increasing research activity. Through the survey, respondents indicated they had high or moderate administrative support for most activities that fall within research administration, including: submitting applications, writing budget narratives and creating application budgets, writing funding applications, filling out application forms, building/maintaining funder relationships, identifying funding opportunities, tracking and reporting expenses, maintaining records per funder requirements, funder reporting, compliance management, sub-award management, audit coordination, and grant close out. Support activities that ranked low included strategic planning, grantsmanship review, and copyediting of funding applications. These activities are often within the scope of Research Development, of which only the University of Vermont currently maintains services.

In our faculty research focus group, held virtually on March 18th, 2024 and attended by 13 participants spanning 4 institutions, we asked participants

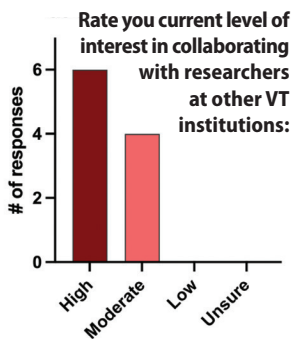


Figure 5. Faculty researcher focus group.

to rate their current level of interest in collaborating with researchers at other Vermont institutions. All participants rated their interest in collaborating at high or moderate (Figure 5). However, significant barriers to collaborating and otherwise increasing research outputs were also identified, with faculty time constraints and institutional

support being top challenges (Figure 6). Overall though, enthusiasm remained high among participants for diversifying individual and institutional research portfolios.

INSTITUTIONAL LEADERS

Questions posed to institutional leaders also focused on available research administrative support at their institution, interest in collaborating across the state, and identifying barriers to increasing research activity, with the additional lens of viewing these areas with respect to institutional priorities. In the survey, institutional leaders identified limited resources, particularly in regard to salary competition for

From your perspective as a researcher what are the largest barriers or constraints to growing research at VT institutions?



Figure 6. Word cloud from faculty researcher focus group.

research support staff (Figure 7), as a key barrier to recruiting additional administrators, researchers, and dollars to the state, as well as a need for better communication and coordination among Vermont's higher education institutions. Varying institutional priorities, also acknowledged as a key barrier by research administrators and faculty researchers, was a similar concern. The differences in scale among institutions and administrative expertise gaps would need to be addressed in order to effectively collaborate across the state.

In the institutional leaders focus group, held across three sessions in late April and early May to accommodate schedules with 11 collective participants from 4 institutions, we asked participants to rate their agreement or disagreement with two questions: 1) Understanding that many of our missions have

teaching as a first priority, would your institution like more faculty and students engaged in research?; and 2) It would benefit my institution to regionally collaborate on research infrastructure. On a scale of 1-5 with 5 indicating strong agreement, participants rated the questions at 4.7 and 4.6 respectively. Collectively, these findings reaffirm interest and momentum in growing Vermont's research enterprise and research administrative support through inter-institutional collaboration.

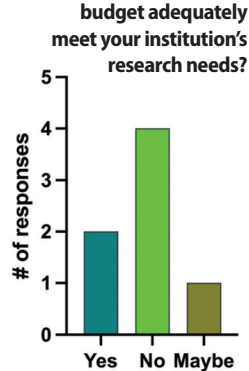


Figure 7. Institutional leader survey question. Respondents represent four institutions.

We identified seven institutions or networks to have more in-depth conversations about how institutions in similar and neighboring smaller, rural states, and some larger states and networks were building out and managing their research support systems. We asked interviewees across these institutions or networks to describe their models, the challenges they faced, what was working well, and their insights on workforce trends.

PEER INSTITUTIONS INCLUDED:

- ▶ **SUNY Research Foundation**
- ▶ **Emory University, running a National Organization of Research Development Professionals (NORDP) shared consultancy program**
- ▶ **Rochester Institute of Technology**
- ▶ **University of Montana/Montana EPSCoR**
- ▶ **University of Wyoming/Wyoming EPSCoR**
- ▶ **University of Maine/Maine EPSCoR**
- ▶ **University of New Hampshire/NH EPSCoR**

A notable theme was that all of the institutions and networks we spoke with reported very significant workforce challenges, more vexing and urgent than Vermont has seen to date. This was true in neighboring states (New Hampshire, Maine and New York), as well as more geographically distant institutions and networks. The largest entities of those who were contacted (SUNY Research Foundation and Emory University) have worked consistently to increase retention of research administrators (RAs) over the last five years, in a national job market where demand for RAs has outpaced new people entering the field, and national competition for those employees among private as well as public institutions is intense. Remote work options have become more common, even the norm, and this factor has had mixed results for more rural states. On the one hand remote work allows access

to a national workforce, and on the other, retention is often harder when people are not necessarily connected through a deep institutional affiliation or attachment to place.

In response to challenges of recruiting and retaining qualified research administrators, a primary strategy has been to grow the workforce through making learning and training a central investment and activity. Examples included: Recognizing that RAs come to their work not only through academic research programs but also through other professional backgrounds. Knowledge and skills required are very dynamic. Most institutions and networks are building learning and development resources and processes that often include on-demand learning modules focused on specific skills or areas of application. Finally, establishing work groups and cohorts to facilitate both peer learning, and mentoring. Some of the larger institutions and entities we spoke with such as SUNY-RF, and Emory/NORDP have very well-developed learning resources and models, including many in specific application areas that they have made shareable.

The other major challenge that all of these interviewees faced was in establishing meaningful collaborations and overcoming logistical challenges across institutions. Every institution had a stake in expanding research collaborations beyond the confines of their own walls. Collaborations are increasingly becoming an important feature or requirement of larger research awards. Larger institutions need the outreach that smaller institutions can provide, and at smaller institutions data, research methods, and financial systems requirements are becoming more complex and compliance harder to manage in isolation. At the same time, different types of colleges and systems vary greatly in their research missions and also present logistical challenges in their business structures and handling of information.

Interviewees reported a greater variety of strategies, some of which were early pilots, in addressing how to establish collaborations across institutions that had various sizes, missions (primarily research or teaching-focused, for example), public and private

structures and accountabilities, student populations, business systems, and even support from the home state. Although, in most states there is a mix of public and private, larger and smaller institutions, characteristics of each state's higher education ecosystem are unique. This means, for instance, that the high degree of centralized services in the large integrated SUNY system may not be nearly as easy to implement, or to

figure out how to pay for, in a state with fewer institutions with differing missions, structures and business systems. However, there is strong interest in fostering research collaborations and sharing services and resources to achieve efficiencies, short of whole-system integrations.

Capstone Workshop

Our Capstone workshop was a full day, hybrid event held June 11, 2024 and attended by 57 in-person, and 14 remote participants. Those invited included all Vermont research administrators, faculty researchers, and institutional leaders and faculty who participated in our needs assessment, in addition to national peer research administrators, such as New York, New Hampshire, Nebraska, Rhode Island, and Maine; and one Officer from the National Science Foundation's Office of Integrative Activities.

of challenges, small group work, short plenary discussions to identify and discuss solutions and strategies. Ample networking time was provided over lunch, and at an after-workshop reception.

SPEAKERS, TOPICS AND KEY TALKING POINTS INCLUDED:

Co-PI's **Jeralyn Haraldsen**, UVM Director of Research Development and **Lillian Gamache**, Assistant Director for VT EPSCoR offered an opening overview of the RAISE-VT project in Vermont, and reflections at the end of the day.

Alicia Knoedler, Head of Office of Integrative Activities, NSF framed a national context for the goals of the GRANTED Program and Vermont's work.

Lisa Tiffin, Assistant Vice-President of Government, Corporate and Foundation Relations at Champlain College; **Betsy Ward**, Grant Compliance Officer at VT State University; **Angela Irvine**, Director for Sponsored Programs and Foundation Relations at St. Michael's College; and **Lisa Nye Chabot**, Director of Grants and Sponsored Programs at Landmark College. These four Steering Committee members representing PUI's discussed the approach taken by the Steering Committee to achieve a shared language and expand the concept of research to be accessible and useful across institutions, and with other state and industry partners. They also shared insights to strengthen and grow the research ecosystem in Vermont through meaningful inclusion of smaller institutions, attracting

The workshop objectives, developed by our Steering Committee, were closely mirrored by goals participants shared at the workshop.

THEY INCLUDED:

- ▶ **Review and discuss the state-wide needs assessment data and summaries**
- ▶ **Share information and promising models for research administration, infrastructure, resources, and collaboration from Vermont, and from other states**
- ▶ **Collectively prioritize challenges and develop ideas and strategies to grow research administration capacity, state-wide**
- ▶ **Build relationships across institutions and regionally**

To accomplish these objectives, we planned an information-rich, highly participatory agenda that included interactive presentations, real-time ranking

more support and students, strengthening workforce learning and infrastructure, and implementing strategic collaborations.

Heidi Malaby, Grant Proposal Developer at UVM, presented data and key takeaways from the needs assessment (detailed above).

Kirk Dombrowski, VP for Research and Economic Development at UVM, discussed UVM's strategies for re-organizing research administration to streamline support services and meet the needs of a growing research enterprise at the university.

Kathleen Caggiano-Siino, VP for Human Resources at the State University of New York (SUNY) Research Foundation, (RF) presented strategies, investments and actions that the SUNY-RF has undertaken to meet the NY Governor's recent charge to double research and innovation across its state university system. Concepts and data focused on centralized RA structures and services that have enabled SUNY to rapidly scale research support in their large system, and the essential role and intensive development of their learning and professional development programs and resources to grow, develop, and plan for succession in their workforce. Many of SUNY-RF's education resources are publicly available.

Mark Milutinovich, Executive Director, Research and Large Center Development at the University of New Hampshire (UNH), provided insights into the NH research ecosystem and its similarities and differences from Vermont's; and described the state's work to build capacity in research infrastructure through their recently awarded NSF E-CORE Program. He shared goals and approaches of the E-CORE work in NH and challenges and strategies they have identified to address them. Similar to Vermont and other states, their challenges included varying research missions at institutions, and isolation and limited support for research administrators at smaller institutions. Workforce recruitment and retention has been a bigger issue in NH than in VT.

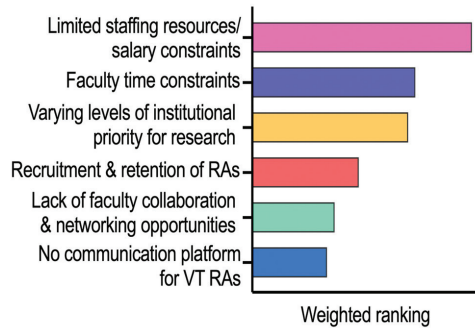
Two speakers addressed workforce issues; one specific to the research administration workforce, and one about engaging students to integrate their educational and professional development pathways with state workforce needs.

Lana Metayer, Director of Sponsored Programs at UVM, described a new centralized model of RA at UVM (SPA 2.0), that has enabled Research Administration and Sponsored Projects within the University and across institutions to operate with standardized processes and systems, and shared training and support. This has helped scale RA capacity in light of expected challenges, including a high proportion of the current RA workforce approaching retirement, and a trend of a softening job market going forward.

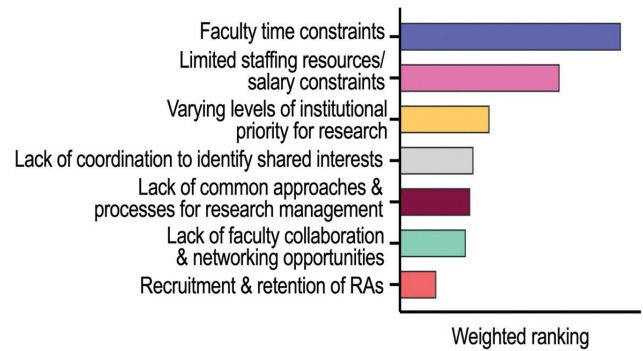
Jarod Waite, Associate Academic Dean at Community College of VT described the Career Pathways Entry Program PLUS (CPEP+) developed to implement CCV's strong mission to strengthen VT's overall workforce. The program, geared to career seekers and changers, includes career exploration through CCV's partnering with businesses, and a supported pathway of entry-level employment and registered apprenticeships.

Attendees participated in real-time ranking of challenges to strengthen research development infrastructure, first in accordance with their primary identity as a research administrator (21 responses), faculty researcher (7 responses) or institutional leader (9 responses), and then across all groups (33 responses). Perhaps not surprisingly, challenges ranked by these groups each had a unique top challenge. For RA's, that was limited staffing resources and salary constraints. For faculty researchers, it was faculty time constraints. For institutional leaders, there were varying levels of institutional priority for research. When the whole group subsequently ranked a longer list of challenges, these three also emerged as the top ones overall. Along with the fourth-ranking overall challenge, lack of common approaches and processes for research management, these became the topics for breakout groups to have solution-oriented discussions.

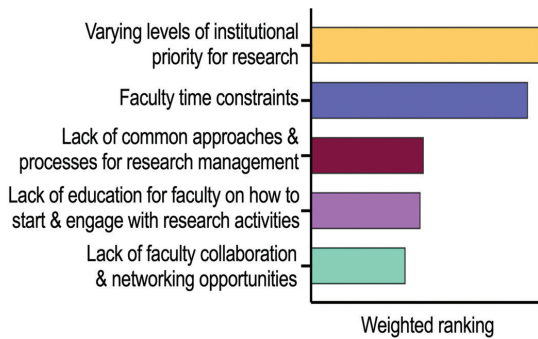
RESEARCH ADMINISTRATORS: TOP CHALLENGES



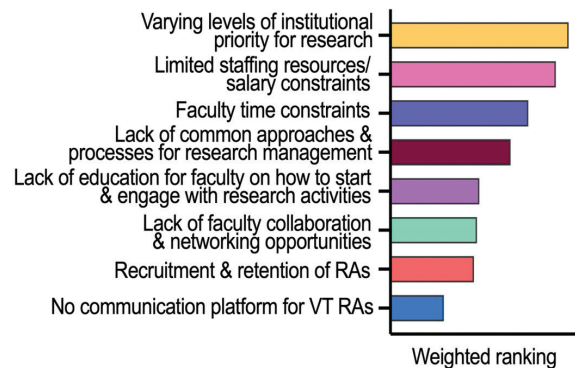
FACULTY RESEARCHERS: TOP CHALLENGES



INSTITUTIONAL LEADERS: TOP CHALLENGES



WHOLE GROUP: TOP CHALLENGES



Self-selected breakout groups then brainstormed strategies and solutions to the top four challenges, including:

1 CHALLENGE: Varying Levels of Institutional Priorities

- ▶ Implement ongoing institutional leadership networking around research
- ▶ Bring collaborators from PUIs in early as full partners, not just to achieve broader impacts
- ▶ Identify workload alternate models at PUI's and consider shared faculty development
- ▶ Establish opt-in systems to incentivize research activity

2 CHALLENGE: Limited Staffing / Salary Constraints

- ▶ Pool human and physical resources to meet the regulatory needs of institutions across Vermont
- ▶ Explore potential co-funding to support additional regulatory positions shared across multiple institutions
- ▶ Engage emeritus faculty to mentor early career researchers and support faculty research development

3 CHALLENGE: Faculty Time Constraints

- ▶ Create a multi-institutional pool of grad students and postdocs to cover course releases, enabling increased faculty time for research
- ▶ Test creative financial incentives that remove barriers and frustrations, for example, parking or gym memberships
- ▶ Explore other ways to connect teaching to research, for example, by creating and aligning faculty incentives, extending information and outreach to faculty who have not previously engaged in research, etc.

4 CHALLENGE: Lack of Common Approaches and Processes for Research Management

- ▶ Develop a local training program that fits most institutions
- ▶ Develop a service center model to help with compliance
- ▶ Establish a Vermont consortium charged with responding and advising when new regulations come out



CLOSING THOUGHTS FROM THE CAPSTONE MEETING OFFERED BY ATTENDEES INCLUDED:

- ▶ **There's a strong interest for RA's and researchers to continue to network.**

Participants would like to see further funding pursued to bring some of the best ideas to fruition, from both NSF funding sources, and possibly looking into co-funding models to create central resources.

OUTCOMES AND TOP GOALS

The principal outcome of this project was that by bringing together interested parties in Vermont to start a conversation around building state-wide research and research administrative infrastructure, we founded a network of RAs who want to continue to work together in Vermont. Seeded by, and also expanding from the Steering Committee assembled for the project, this network is interested in implementing new, cross-institutional collaborations that can be simply implemented, and in identifying and securing resources to support and grow statewide research over time.

TOP GOALS FOR MOVING FORWARD

- ▶ **GOAL 1: Build on the RAISE-VT GRANTED work to further develop and organize a Vermont network of RA's, institutional leaders, and researchers committed to increasing statewide research, extramural funding, and support**

- ▶ **GOAL 2: Explore and analyze the feasibility of shared services and a shared research expertise database that could work in Vermont. Define pilot models, for example, a talent repository across institutions of faculty available to participate in research at varying levels. Over time, explore more comprehensive structures that could be located at the University of Vermont, or in a stand-alone nonprofit**

NEXT STEPS

The RAISE-VT Steering Committee and leadership have agreed to support a re-launch of an expanded, self-organized research administrator working group beginning in September 2024, with the goal to establish a sustained state-wide network of Vermont's research administrators. This group will further develop their goals in the Fall of 2024. Some initial ideas include addressing the unique need for connections and communications to supplement other listservs and networks that research administrators currently participate in, and identifying project initiatives that members of the network would like to organize and support. Further updates and developments of this project can be found on our website: go.uvm.edu/raisevt.

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