

Project CREST Overview: Changing Research Experiences, Structures, and (in)Tolerance through the Adaptation of Promising Equity Practices

ADVANCE Adaptation

The National Science Foundation's ADVANCE Program is dedicated to increasing the representation of women in Science, Technology, Engineering, and Mathematics (STEM) and Social and Behavioral Sciences (SBS) fields by funding teams across the US to research and implement promising equity practices. Project CREST received an ADVANCE grant in the Adaptation track in July 2021. The adaptation track supports the adaptation of evidence-based practices to a specific university context to improve equity in STEM/SBS fields. Project CREST seeks to improve the research landscape of UCCS today and for the next generation of scholars by adapting evidence-based practices from previously funded NSF ADVANCE projects from **Montana State University, Seattle University, West Virginia University, and Georgia Institute of Technology.**



Impact

Positively impact the research experiences and productivity of women- and minoritized faculty



Change

Change the research policies and evaluation structures within the institution to more fully support equity

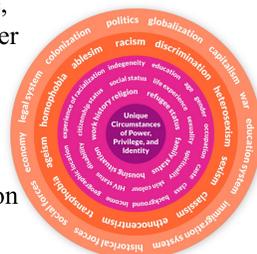


Mitigate

Vigilantly mitigate biases within UCCS research spaces and research processes

Intersectionality and an Ethos of Care

Intersectionality provides a lens to consider identity and the unique structural barriers people face. For example, though often discussed as a binary, we know that gender is fluid and just one of many social markers that intersect in one's identity including an individual's foreign-born status, their ethnic/racial minority status, their sexual orientation, and/or their caregiver roles. With this Adaptation grant, we are laying the foundation to improve the culture for future generations of UCCS faculty by engaging in systemic change in the spirit of an ethos of care (Skop et al., 2021).



Initiative 1: Build a responsive and inclusive research infrastructure based on MSU's ADVANCE Project TRACS



Hire a Research Development Coordinator to help establish an inclusive research infrastructure



Offer "mini grants" for women faculty and those from other underrepresented backgrounds in STEM and SBS



Host grant-writing bootcamps to provide dedicated time and instruction for creating successful grant submissions



Create and implement a targeted Research Network to provide ongoing support and mentoring for campus researchers

Initiative 2: Reshape research policy, practices, and evaluation structures



Use the WVU Dialogues dual-agenda technique to develop cohesion and inclusion among departments and co-create new annual review processes with each unit



Reimagine promotion and tenure documents in line with Seattle University's ADVANCE Project



Revisit all research policies with an intersectional lens to ensure that they benefit everyone – also from SU's ADVANCE Project



Establish enduring sense-making opportunities using Georgia Tech's ADEPT format to catalyze new habits, texts, and interactions that can help sustain and cultivate gender and racial equity

Meet the Team



Project Leadership:

Principal Investigator: Dr. Jessi L. Smith
 Co-PI: Dr. Sylvia Mendez
 Co-PI: Dr. Heather Song
 Co-PI: Dr. Emily Skop
 Co-PI: Dr. Elizabeth Daniels
 Research Development Coordinator: Dr. Kelly McNear
 Faculty Fellow: Dr. Jeffery Montez de Oca
 Project Coordinator: Jennifer Poe

We want to hear from YOU!

Adapting these evidence-based practices to the unique culture at UCCS and building sustained support for our initiatives needs input from our campus community – YOU! We invite you to be part of our strategies by helping us reflect on our activities and accomplishments. We hope you will join us on this climb!

Co-Creating Faculty Annual Review Documents: Collaborations Across and Among Communities to Reshape Evaluation Structures

Summary

Annual Faculty Evaluation: It is a chance for reflection, for celebration, for course correction, and for mapping out future needs and goals. It is also a space in which too-quick judgments, ambiguity, indifference, and distrust can spill into the culture of our departments and our campus.

Our Adaptation Project CREST Team partnered with the **West Virginia University ADVANCE Dialogues** program to adapt their dual-agenda facilitation program with the goal to create an inclusive annual review process and lay the foundation for equitable group processes in which all department members feel included, respected, and experience collective efficacy. The Dialogues dual-agenda process is an evidence-based practice to support inclusive conversations to generate departmental work, in this case, annual review documents, by role-modeling technology and tools that create intentional inclusive spaces for all voices to be heard.

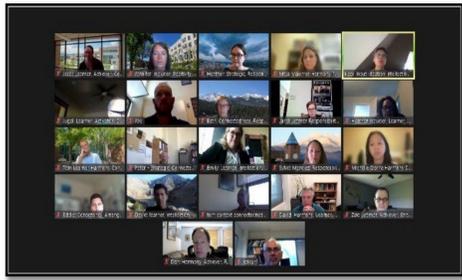
Background

- New CU System Regent Law** went into effect that states each college or school must create new annual review evaluation processes, separate from promotion and tenure.
 - Our Goal:** Building an inclusive, fair, and transparent annual review process that accurately acknowledges the many talents and accomplishments of faculty is an on-going process. Our fields change, our faculty change, our strengths, and vulnerabilities change, and our mission evolves in ways that require vigilance, reflection, and trust
 - Our Adaption:** The WVU Dialogues communication intervention, which when applied to creating strategic planning documents showed significant improvement in:
 - Departments' collective efficacy toward retaining and promoting women
 - Improved cooperation and collegiality
 - Decreased departmental conflict (Latimer et al., 2014; Nolan et al., 2012).
- Dialogues is especially effective in majority male departments (Jackson et al., 2016) and has been used at five other institutions in the US, focused on a range of topics, including IRB processes, faculty hiring, and ADVANCE team planning.



Method

- 14 STEM/SBS department leaders
- 9 hours of virtual Dialogues training
- 90-minute practice session with additional campus chairs and leaders
- Creation of a toolkit with sample agendas
- Post-training check-ins
- Feedback offered on drafts
- Chairs recognized with leadership certificates and a small token of appreciation



What is Dialogues? A comprehensive and interactive flexible facilitation technique (using visioning, stop-start-continue, and other tailored tools) that allow for anonymous and iterative feedback.

What Does it Do? Builds relationships and generates trust, helps group members come to a consensus, catalyzes groups to act, and introduces new tools and technologies to assist with department-level work.

How was it Adapted for Annual Review Document Development? The facilitation helps chairs and faculty identify existing barriers/biases within their annual review processes and criteria while explicitly focusing on how the annual review should consider the downstream impacts of COVID-19 on research productivity, especially for women faculty with multiple identities. We ensured the interactive questions were attentive to intersectionality to make visible different vectors of power that can harm or privilege people with different positionalities.



COVID
Mentoring
DEI
Caregiving
Invisible Labor
Collaborations

Co-Creating Annual Reviews Toolkit

ADVANCE PROJECT CREST

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Please see our sample hardcopy or download your own today!



In Progress - Outcome Evaluation

- Document Audit Review:** Adapted evaluation audit rubric from O'Meara & Templeton (2022). Coding is in progress as final drafts come in.
- Chair and Faculty Experiences 12-minute Survey:** Measures satisfaction with and perceptions of: the department's process to develop the annual review documents, the content of the documents, and future expectations. \$25 e-gift card as a token for participants' time. The survey will launch end of April.

Example coding of annual review document



University of Colorado Colorado Springs

- www.research.uccs.edu/advanceprojectcrest
- <https://twitter.com/AdvanceCrest>
- <https://www.facebook.com/nsfCREST>



Acknowledgements

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Background

Retention, promotion and tenure practices at UCCS routinely use faculty awards for teaching, research, and service as markers of excellence in these respective areas. However, previous research indicates that women-identified faculty often win fewer awards (Holmes, M. A., et al., 2011; Meho, L. I., 2021) and, when they do win, these awards do not appear to translate to greater prestige or are otherwise undervalued (Butcher, C., & Kersey, T., 2015; Ma, Y., et al., 2019). When it comes to promotion and tenure decisions, this undervaluing or lack of parity in awards given presents a potential barrier form women-identified faculty as they work towards the Full Professor rank. Indeed, at UCCS we see greater parity among faculty at the Assistant and Associate ranks, yet the number of Full women professors remains lower than expected (Figure 1). Our team set out to inventory the faculty awards on campus and conduct a systematic review of all associated documents pertaining to criteria and selection of winners to determine – and offer recommendations for enhancing – the inclusivity of existing criteria.

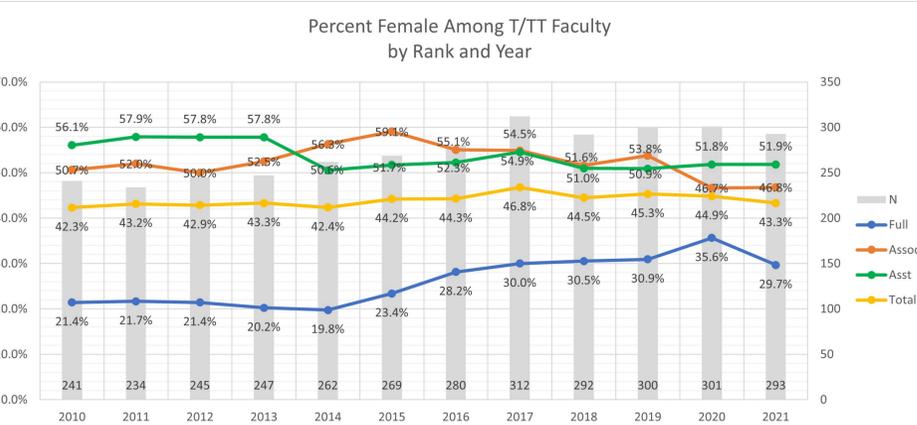


Figure 1: Graph showing percentage of woman-identified faculty by rank over a ten-year span.

Methods

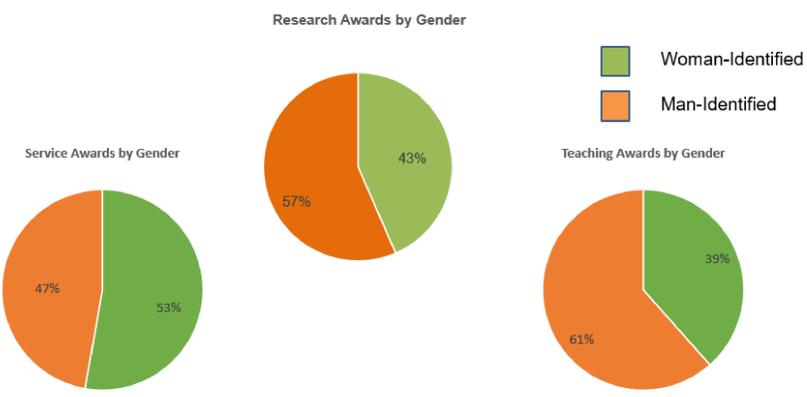
The Project CREST team began by gathering a list of UCCS internal awards and seed grants for the past 10 years. We then:

- Obtained statistics of awardees based on rank, gender, and ethnicity.
- Created an award coding rubric adapted from O’Meara’s (2022) **Equity-Minded Faculty Evaluation Audit Resource**
- This rubric allowed our team to code for how the award call addresses diversity, equity, and inclusivity in its criteria and evaluation processes
- We suggest that award reviewers use reviewer instructions and rubrics to ensure they are implementing equity practices.

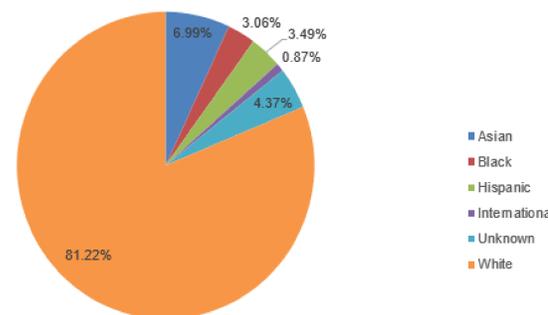
Initial Results

Our initial review of the awards given in the previous ten years revealed gender and ethnic disparities in the award distribution. In particular, women-identified faculty are underrepresented in research and teaching awards, but are overrepresented in service awards. Additionally, awards of every type overwhelming went to white faculty, those the UCCS faculty body is predominately white to begin with.

Campus Awards by Gender (2011-2021)



Awards by Faculty Ethnicity (2011-2021)



Equity-Minded Faculty Award Rubric

We based the creation of the Equity-minded Faculty Award Rubric on the audit resource published earlier in 2022 by Dr. KerryAnn O’Meara which posed questions to consider when looking at the inclusivity of faculty evaluation protocols. Our adaptation resulted in the coding rubric below.

Equity-Minded Faculty Award Coding Rubric	
Guiding Principles of Equity and Inclusivity	
Score (1 - Strongly disagree to 5 - Strongly agree) or N/A	
For All Types of Award (Teaching, Research, Service)	
1 Transparency	
1.1	Salient information related to faculty evaluation is intentionally shared, accessible, and accurate.
1.2	The review criteria are broad and embrace the interests and talents of faculty from multiple social groups and backgrounds.
2 Clarity	
2.1	Information is provided in a way that is easily understood.
2.2	There is ambiguity that could invite bias, guessing, and misinterpretation.
2.3	The award/seed grant evaluation criteria are outdated.
3 Accountability	
3.1	The review process is explained in a clear manner and are there responsible actors and steps identified.
4 Consistency	
4.1	Essential parts of the award evaluation process are standardized and applied consistently so that when the same kind of activity is evaluated or procedure enacted, faculty can expect similar treatment.
4.2	There are informal processes or practices that reward certain types of activities that may give one group of potential awardees an advantage?
5 Context	
5.1	The award criteria take into account new contexts and novel forms of excellence.
6 Credit	
6.1	Award criteria policies specifically recognize mission-critical work (e.g., mentoring, institutional service, DEI).
6.2	Policies provide a way to take into account past performance when it is important to do so.
7 Flexibility	
7.1	Award evaluation policies are flexible enough to adapt to the new, different, and changing set of contexts shaping faculty careers and work.
8 Pandemic Impacts	
8.1	The award evaluation takes into account the long-term impacts of the pandemic, and its corresponding restrictions and disruptions on faculty work.
8.5	The award evaluation considers how caregiving demands amplified considerably during the pandemic both personally and professionally in terms of emotional labor and meeting student and staff and colleague needs.
9 Holistic assessment	
9.1	There is a holistic assessment of teaching/research/service (or is there an overreliance on FQIs/h-indices/committees?).
10 Appointment type/rank	
10.1	Policies include what it means to meet and/or exceed teaching/research/service criteria relevant to different appointment types and ranks.

In-Progress

Currently our team is coding the award calls and (if available) the rubrics for judging faculty applicants. Once complete, we will compile our results and make recommendations to awarding bodies for how to make their award criteria and judging process more equitable. We also intend to share our coding rubric with other university’s interested in assessing and revising their own internal awards to ensure they are fair, transparent, and equitable and to create a template for reviewer instructions.

Full Professor Musings from Associate Professor Women in STEM and SBS at UCCS

Summary

Interviews were conducted with nine demographically diverse UCCS associate professor women in science, technology, engineering, and mathematics (STEM) and social and behavioral sciences (SBS) in Fall 2021 and Spring 2022 in an effort to better understand their successes, challenges, and needs. One area of interest was the way in which they considered their path to full professor. Using an instrumental case study design (Stake, 1995), interview data were analyzed using inductive methods (Silverman, 1993). Three themes emerged: (1) full professor criteria appear to be vague and unclear; (2) anxiety is high for those seeking full professor; and (3) mentorship in pursuing full professor is deficient. These findings reveal the importance of clear full professor criteria and procedures and mentorship to demystify the path from associate to full professor.

Method

Research Design: An instrumental case study design (Stake, 1995) was employed to explore the ways in which nine UCCS Associate Professor women in STEM and SBS consider their path to full professor.

Data Collection: Following IRB approval (#2021-150), all participants were provided with a consent form detailing the purpose of the study, interview procedures, and safeguards in place to protect their privacy and confidentiality. A semi-structured interview protocol was utilized to capture data on participant successes, challenges, and needs.

Data Analysis: Silverman's (1993) thematic content analysis follows an inductive approach to search for themes and patterns in the interview transcripts. Process and evaluative codes were created, collapsed, and amalgamated into three final themes. Multiple verification strategies were employed to ensure the findings were trustworthy by attending to credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985).

Findings

Theme 1: Full Professor Criteria Appear to be Vague and Unclear

"For full professor, it seems like there isn't as much care given to that criteria . . . it's actually very ill-defined."
~ Associate Professor in SBS

"It's not as clear as tenure is . . . it's even unclear about how far out you have to be from tenure to go up."
~ Associate Professor in STEM

Theme 2: Anxiety is High for those Seeking Full Professor

"The most nerve-wracking part of that process is external reviewers, they don't recognize the constraints in our environment, like how much we teach. Some people are just hanging on by a thread to get their research done."
~ Associate Professor in STEM

"I wonder what the weight of external review letters are for full professor especially because I haven't gone out of my way to build collaborations and connections outside of UCCS."
~ Associate Professor in STEM

Theme 3: Mentorship in Pursuing Full Professor is Deficient

"In my department, nobody told me to plan for it, and nobody really mentioned it, but I saw people around me who came in with me being promoted, so just seeing them do it encouraged me to apply."
~ Associate Professor in STEM

"There's a general lack of mentoring at the associate professor level . . . they want to help you a little bit to get to tenure and then after that, you should just kind of figure it out and not necessarily like in any kind of hostile or neglectful way, there's just an expectation that you should be able to figure it out."
~ Associate Professor in SBS

Implications

Policy: All participants shared their departmental full professor criteria were riddled with ambiguous language. And while nearly all felt they were on track to be successful in a full professor review, the vagueness in the criteria and process created undue stress, anxiety, and uncertainty about their path to full professor.

Practice: Mentorship is lacking for associate professors seeking to attain full professorship. More attention to the mid-career stage may ease the natural workload changes that occur post-tenure. This easement may prove valuable as mid-career faculty shoulder more responsibilities in their departments, colleges, and the broader campus.

Culture: Presently, there is only one full professor woman in STEM at UCCS. To counter this trend, the university must do better in criteria and process language, as well as mentorship and chair training, to ensure mid-career faculty can position themselves to achieve full professor status. This will require investment across campus to ensure all faculty have the insight, resources, and workload to succeed in this endeavor.

Project CREST Response: As we seek to reshape research policy, practice, and evaluation structures to improve equity in the academy, we will be providing support to departments to reimagine promotion and tenure documents—these findings will be reflected in that work as full professor criteria are reviewed. Additionally, a research network called Belayers for Associate Professor women in STEM/SBS was created to build community and share resources, such as a newly developed full professor dossier repository—these activities are grounded in the literature which notes the importance of individualized, tailored guidance on promotion processes for diverse mid-career faculty (Buch et al., 2011; Croom, 2017).

References: Buch, K., Huet, Y., Rorrer, A., & Roberson, L. (2011). Removing the barriers to full professor: A mentoring program for associate professors. *Change: The Magazine of Higher Learning*, 43(6), 38–45; Croom, N. N. (2017). Promotion beyond tenure: Unpacking racism and sexism in the experience of Black womyn professors. *The Review of Higher Education*, 40(4), 557–583. Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage; Silverman, D. (1993). *Interpreting qualitative data*. Sage; Stake, R. E. (1995). *The art of case study research*. Sage.

Faculty Research Support: Role of the Project CREST Research Development Coordinator

Meet the Research Development Coordinator!



Dr. Kelly McNear joined the UCCS community in Fall 2018 as a research associate in the UCCS BioFrontiers Center. Here, Kelly became well-versed in grant writing and has submitted numerous grants to various agencies. She joined the Office of Research in December 2021 to support faculty research efforts.

The Research Development Coordinator Position is funded 50% by NSF ADVANCE Project CREST grant and 50% by UCCS. This means that while women-identifying and minoritized faculty are the focus of Project CREST, Kelly can help all faculty here at UCCS!

Evidence-based guidance for research support

Women Submit Fewer Proposals
Men in STEM and SBS submitted 76% more proposals than women.

Women in STEM Request Less Funding
Men in STEM request 30% more funding in their proposals than women.

Women's proposals are more successful
Women in STEM and SBS are 45% more successful in securing funding than men.

Data from UCCS shows that while women in STEM/SBS fields submit fewer proposals than men, their proposals are more successful (FY 20). However, women and minoritized faculty often do not get the support that they need and face bias (Holliday, 2015). The goal of this position is to provide research support to increase the number of proposals submitted by women-identified and minoritized/marginalized faculty.

	Calendar Year		
	2012	2016	DIFFERENCE
STEM & SBS			
Number of TT Women Faculty	60	100	40
Number of TT Women PIs	33	65	32
Total Expenditures	\$6,814,450.71	\$13,855,449.65	\$7,040,998.94
Expenditures/ TT Women Faculty	\$113,574.18	\$138,554.50	\$24,980.32
Expenditures/ TT Women PIs	\$206,498.51	\$213,160.76	\$6,662.26
Number of TT Women Faculty	45	77	32
Number of TT Women PIs	32	55	23
Total Expenditures	\$6,848,481.97	\$12,617,179.35	\$5,768,697.38
Expenditures/ TT Women Faculty	\$151,271.53	\$163,859.47	\$12,587.94
Expenditures/ TT Women PIs	\$214,4015.06	\$229,403.26	\$15,388.20
STEM			
Number of TT Women Faculty	15	23	8
Number of TT Women PIs	1	10	9
Total Expenditures	\$7,231.76	\$1,238,270.30	\$1,231,038.54
Expenditures/ TT Women Faculty	\$482.12	\$53,837.84	\$53,355.72
Expenditures/ TT Women PIs	\$7,231.76	\$123,827.03	\$116,595.27
SBS			

Breakdown of women tenure-track faculty hires by STEM/SBS department and the total over the life of the ADVANCE Project TRACS grant.

Peer-reviewed data (Smith, 2017) from Montana State University (above) shows that support provided from this position positively impacted research efforts of women-identifying faculty in STEM/SBS fields.

How can the Research Development Coordinator support you?



Full grant consultations

If you're unsure of where to start, want to talk through strategies, or need someone to serve as an accountability partner, Kelly can support every step of the way.



Assistance with finding funding

Whether you're new to grant writing and need help finding appropriate calls or a seasoned grant writer who is looking for new and unique funding opportunities, Kelly will perform funding searches to help meet your needs.



Proofreading of documents

Having a second set of eyes to catch typos or grammatical errors can be a huge help. Whether for proposals, manuscripts, or even budget forms, Kelly can proofread all your documents for you.



Grant Writing Bootcamp

Starting May 12, Kelly will offer a 5-session grant writing bootcamp over 6 weeks. The goal is to provide faculty with resources and feedback so that they will have a completed, ready-to-submit proposal by the end of bootcamp.



Research Network—CREST Belayers

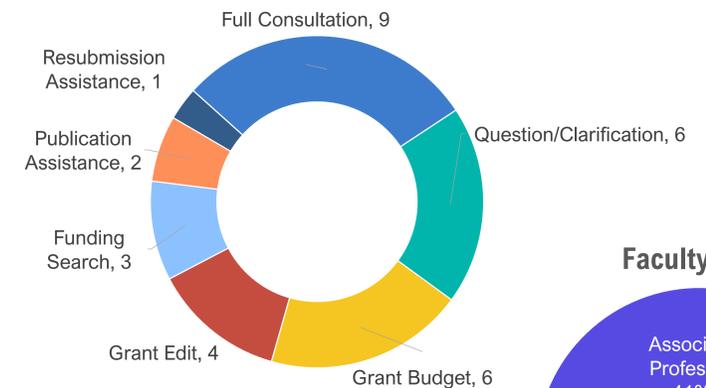
Together with the Project CREST team, Kelly has been organizing monthly CREST Belayers events for mid-career women in STEM/SBS. As this position grows, we hope to expand our research networking groups!



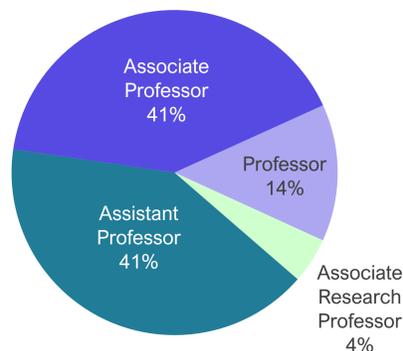
SCAN HERE TO REQUEST SUPPORT!

RDC Support Data: Who and how we are helping

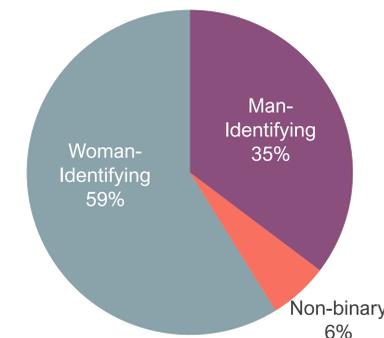
Type of Support Provided



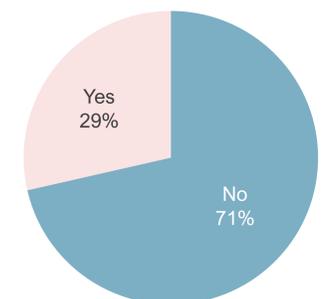
Faculty Rank



Gender Identity*



Racially or Ethnically Minoritized?*



*Not all faculty completed the demographics portion of the survey. Of the 21 faculty members assisted, 17 responded to gender identity questions and 14 responded to race/ethnicity questions.

Your input matters!

Since this position is new and has the potential to support so many research efforts on campus, we would love your feedback to make this role as efficient as possible!

Please leave your comments in the envelope next to this poster.



Creating an Inclusive and Equitable Retention, Promotion, and Tenure Review Process

The Problem

Despite important gains, the academy retains significant barriers to the advancement of minoritized scholars.

Barriers that minoritized faculty experience

Hostile Environment

Minoritized students more likely to enter STEM fields (the “pipeline”) because of recruitment and more likely to leave because of exclusionary experiences (Asai, 2020). Minoritized faculty more likely to experience racism, sexism and sexual harassment (Dzau, 2018; Hamlin, 2021; NAS, 2018)

Lack of Support

Rather than addressing the institutional environment, programs focus on fixing the individual. Fostering supportive environments benefits everyone (Barber et al., 2020; Moss-Racusin, 2021).

Not Valuing Inclusive Diversity – A Core Value at UCCS

Inclusive diversity works takes time and energy away from teaching and research but has limited value at promotion. IUPUI turned values into policy by making diversity, equity and inclusion work a promotion and tenure option (Flaherty, 2021).

At UCCS: Tenure stream faculty are 72% white at the assistant level, 79% at the associate, and 82% at full. Careers of women faculty tend to stall at the associate level

The Workshop



Project CREST focuses on systemic reform efforts to make UCCS a more inclusive, equitable institution. For Project CREST, I adapted an evidence based educational workshop from Georgia Tech University to minimize bias and discrimination in the review, promotion, and tenure (RPT) process, and to specifically foster an environment that advances women and all minoritized scholars through the academic ranks. We call this workshop Creating an Inclusive and Equitable Retention, Promotion and Tenure Review Process.

In this two and half hour workshop, we first review empirical research on bias in the RPT process. This section outlines how bias affects the RPT process, it breaks down elements of the RPT process, and it guides strategies to ensure an equitable, inclusive process. Then the workshop simulates a RPT review meeting where participants put their research-based knowledge of bias into practice.

Minimizing Bias?

- Unintentional bias is like a habit: Difficult, but not impossible, to break
- Recognize RPT standards are often vague and ambiguity leads us to rely on stereotypes
- Review the entire dossier not just personal statements
- Go Slow – People rushed, stressed, distracted, or pressured are more likely to apply stereotypes
- Take notes and document decisions with evidence
- **Ask yourself “how has this person been successful?” INSTEAD of “how successful is this person?”**

ABRIDGED Dossier Packet for:

Dr. Samia Manasur

Candidate for Tenure and Promotion to Associate Professor

College: Letters, Arts & Science

Department: Chemistry and Biochemistry

Years of Service at the University of Colorado Colorado Springs: 7

Assignment of Effort: 40% Research, 40% Teaching, 20% Service

Packet Contents

1. Abridged Curriculum Vita

2. Narrative synopsis of Digital Me

Your Role: Committee Chair (Terry) – You are a mid-career scholar who has served on many promotion and tenure committees, but this is your first time as chair. You considered stopping your tenure clock when you had children, but decided against it. You are fair-minded about stopping the tenure clock.

RPT Committee Meeting for Samia Manasur

1. **Committee Chair (Terry):** OK, I think that about wraps it up for Johnson's case. I'm fairly sure I have good notes on everything we just discussed, so I'll draft up our letter and send it to you both in a day or two. Now let's move on and consider Manasur's case for promotion and tenure.
2. **Member 1 (Alex):** Sounds good to me. Let's start with her research. From my vantage point, Samia is a good scholar. Look at this award for her research.
3. **Member 2 (Chris):** It's an impressive award, but we should consider the sum total of research.

