CornellEngineering
Robert Frederick Smith School of
Chemical and Biomolecular Engineering

Success Strategies for Early Career Faculty: A quick start to building your scholarship

Allison Godwin, Ph.D.

5/12/2023

- The experience of being early career
- A dozen bits of advice
- Advancing your career with a CAREER
- Resources

2011
B.S. in Chemical Engineering

2014
Ph.D. in Engineering & Science Education

2014
Purdue University
Assistant Professor of Engineering Education

2019
CHE Courtesy Appointment
CISTAR Engineering Workforce Development Director

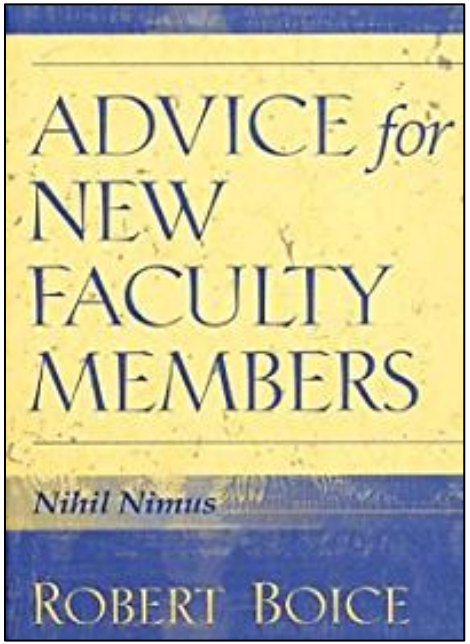
2020
Associate Professor of Engineering Education and Chemical Engineering
Chemical Engineering Education Assistant Editor

2023
Cornell University
Robert Frederick Smith School of Chemical and Biomolecular Engineering

Early career faculty experiences

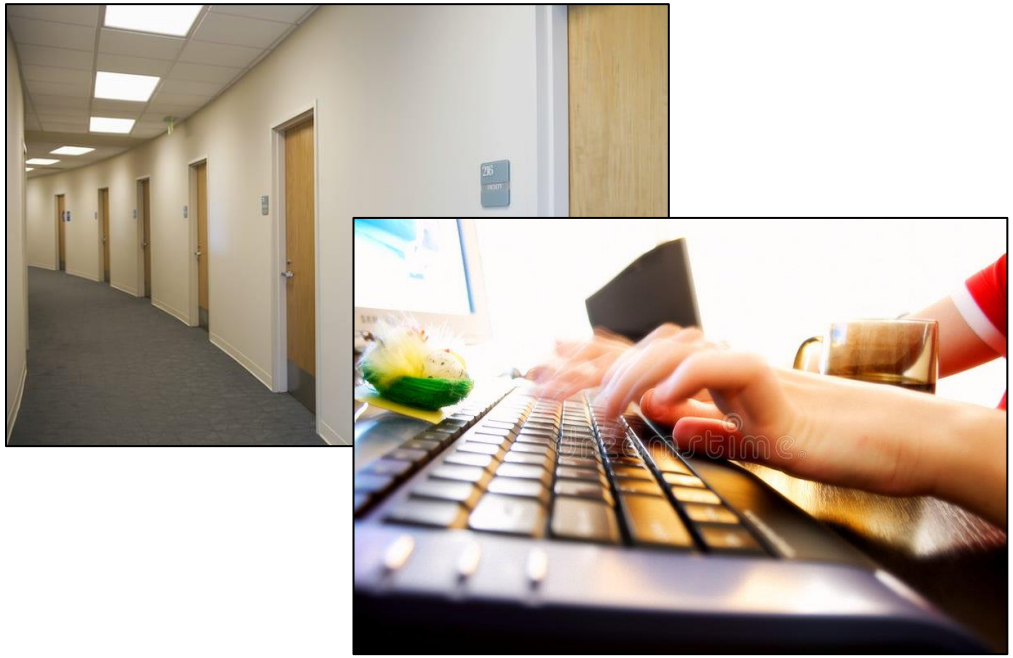
The early career stage can be challenging.

- Loneliness and understimulation were most commonly reported
- Identified common opportunities and common stressors
- Only 5% of faculty were “quick starters”



Boice, R. (1992). *The new faculty member: Supporting and fostering professional development*. Jossey-Bass.
Boice, R. (2000). *Advice for new faculty members: Nihil nimus*. Allyn & Bacon.

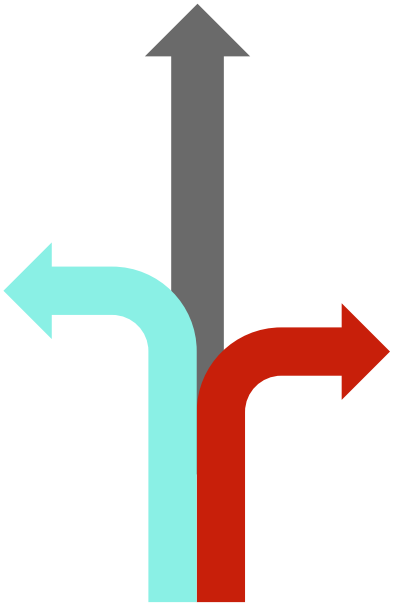
I had no idea what I was doing…



- Fear is part of doing new and big things.
- Types of fear:
  - *Pachad*
  - *Yirah*

Mohr, T. (2015). *Playing big: Practical wisdom for women who want to speak up, create, and lead*. Avery.

And I wasn't the only one…



Pawley, A. L., & Carberry, A. R., & Cardella, M. E., & Carnasciali, M., & Daly, S. R., & Gorlewicz, J. L., & Herman, G. L., & Hynes, M. M., & Jordan, S. S., & Kellam, N. N., & Lande, M., & Verleger, M. A., & Yang, D. (2014, June), *The PEER Collaborative: Supporting Engineering Education Research Faculty with Near-peer Mentoring Unconference Workshops.* In ASEE Annual Conference & Exposition, Indianapolis, IN. 10.18260/1-2--23170

Some pieces of advice ...

not new, but based in my experience and literature

Figure out your core mission.

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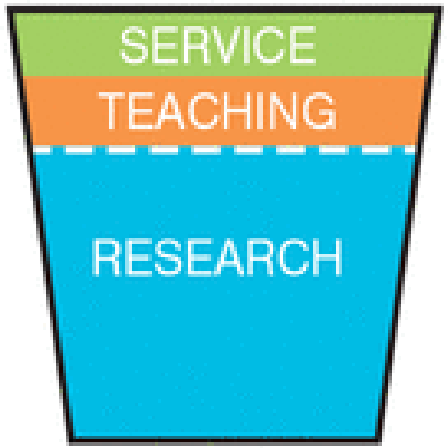
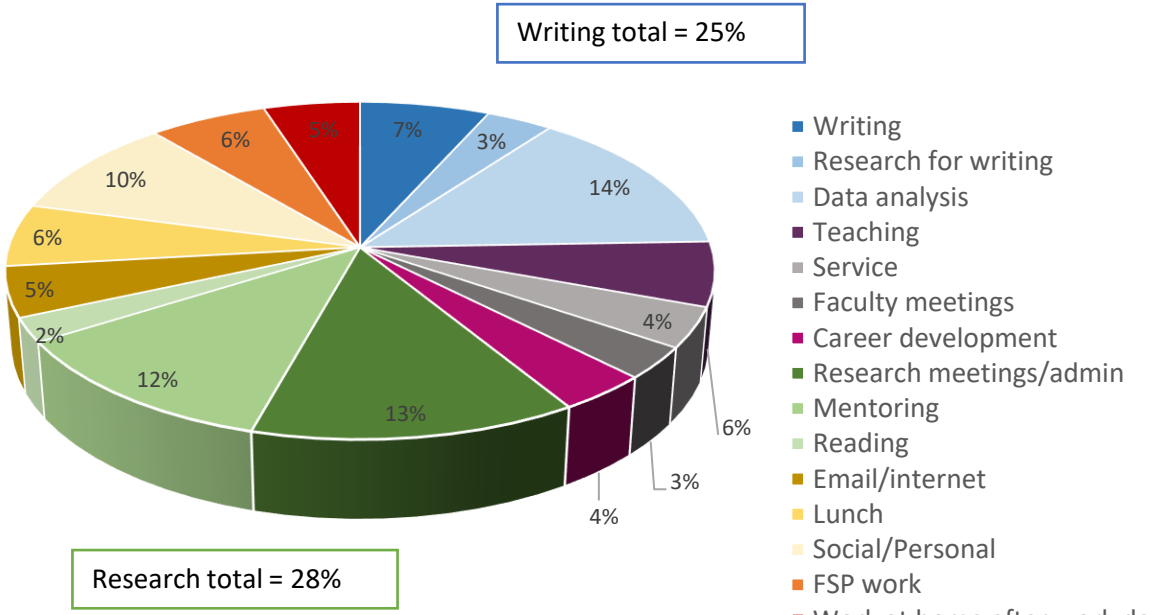
I didn't wait to take risks [until after tenure]. If I waited, I may have become a part of the system I was pushing against.
- Prof. Donna Riley

- Legacy
- Webpage
- Social Media(?)
- 1-page summary
- Visual graphics
- Core research questions

Understand how you are evaluated.





Dennin, M., Schultz, Z. D., Feig, A., Finkelstein, N., Greenhoot, A. F., Hildreth, M., ... & Miller, E. R. (2017). Aligning practice to policies: Changing the culture to recognize and reward teaching at research universities. *CBE—Life Sciences Education*, *16*(4), es5.

Make a plan, but not one that is set in stone.

- Semester
- Year
- 2-3 Years

"A once in a career opportunity comes along every two years."
- Prof. Michael Loui

Week	Writing/Research Projects	Personal
Week 1		
Week 2	Start descriptive analysis of paper Write participation essay FOEE	Ride 2 times per week Take time off on most weeknights and weekends Do something special with husband
Week 3	Submit JRST paper Calculate ICC Write topic essay FOEE Write innovation essay FOEE Write case study 2 Find videos	Ride 2 times per week Take time off on most weeknights and weekends
Week 4	Conduct analysis for paper CV 5 pages Submit FOEE Write case study 1 Update slides	Ride 2 times per week Take time off on most weeknights and weekends Have friends over
Week 5	Write methods section Write results section Schedule meeting with Denise	Ride 2 times per week Take time off on most weeknights and weekends
Week 6	ASEE Conference	

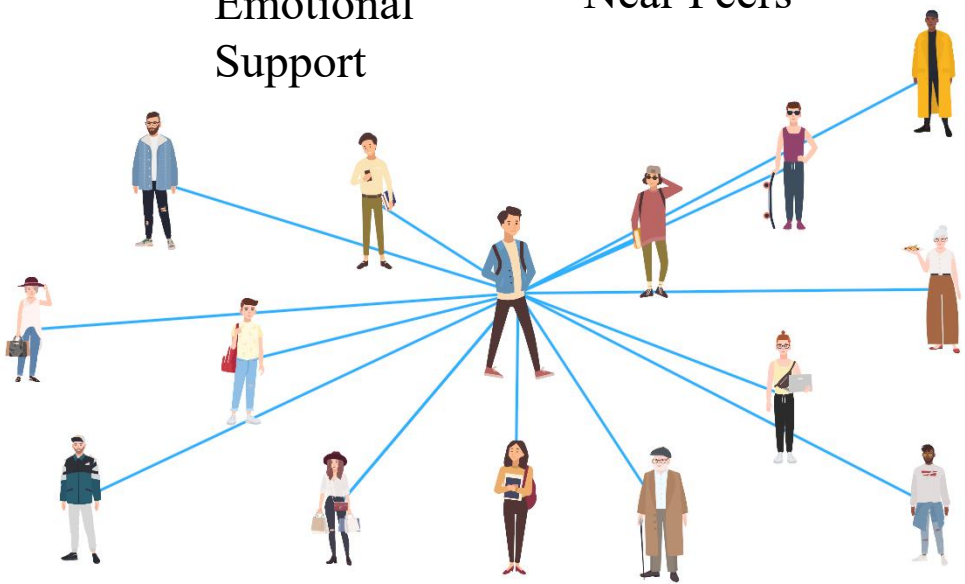
Develop a constellation of mentors.

Feedback

Emotional Support

Near Peers

Champions



Role Models

Career In/Out

Raw materials

…

Crispy

Teaching

Faber, C. J., Smith-Orr, C. S., Lee, W. C., Bodnar, C. A., Strong, A. C., & McCave, E. (2017, June), *Best Practices for Developing a Virtual Peer Mentoring Community* Paper presented at 2017 ASEE Annual Conference & Exposition, Columbus, OH. 10.18260/1-2--27655

Be generous and strategic.

- Share recognition and attribution generously
- Open opportunities for others
- Sometimes being generous costs you—consider how to strategically share your time and expertise

"Lift as you climb."
- Learned from Prof. Monique Ross

Dowland, D., & Pérez, A. (2018). How to be a generous professor in precarious times. *Chronicle of Higher Education*.
Martinovic, D., McGinn, M. K., Scott, R. M., & Obradović-Ratković, S. (2022). Conceptualising Generous Scholarship. *Journal of Perspectives in Applied Academic Practice*, *10*(1).

"'No,' is a complete sentence."

- Prof. Adam Kirn

- I'm bad at saying no
- Don't accept on the spot
- Evaluate your time and your values (why would I say yes?)
- Consider if you need to say a hard no or a not yet
- Leverage your mentors (no committee)

Pay yourself first.

- Writing is the currency of academia
- Takes time and intentionality
- Block 8:30-10:00 am every day for writing
- The rest of the day can fall apart, that's okay

"Writing is thinking. To write well is to think clearly. That's why it's so hard."
-Dave McCullough

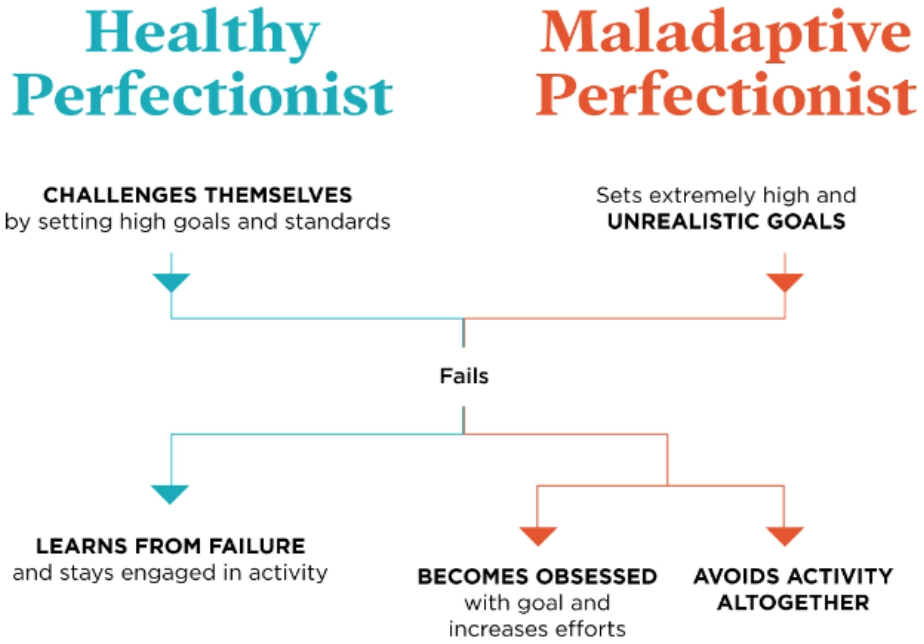
Boice, R. (2000). *Advice for new faculty members: Nihil nimus*. Allyn & Bacon.

It all won't fit.

-Prof. Alice Pawley

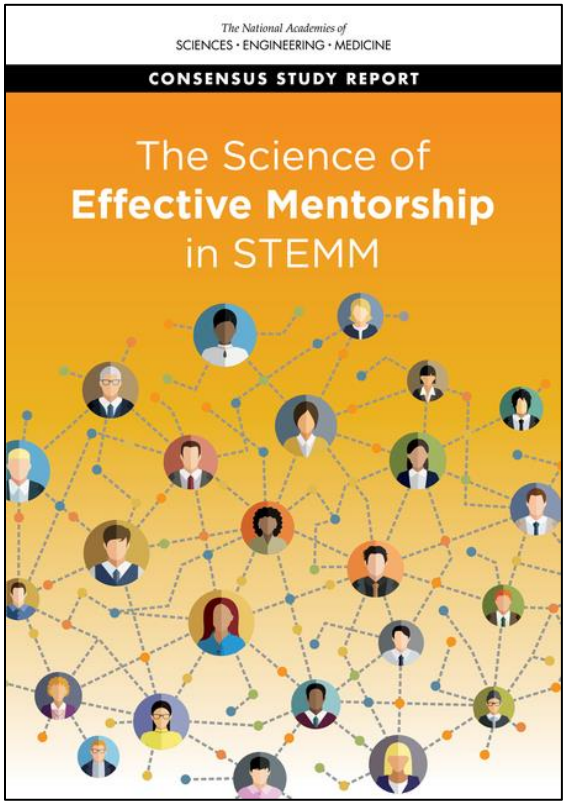
“Do what is acceptable.”

- Prof. Brenda Capobianco



Northwestern University’s online Master of Arts in Counseling program.
https://counseling.northwestern.edu/blog/maladaptive-perfectionism-coping-strategies/

Invest in your students and cultivate an inclusive lab environment.



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Shaping Transformative Research on Identity and Diversity in Engineering

Welcome!

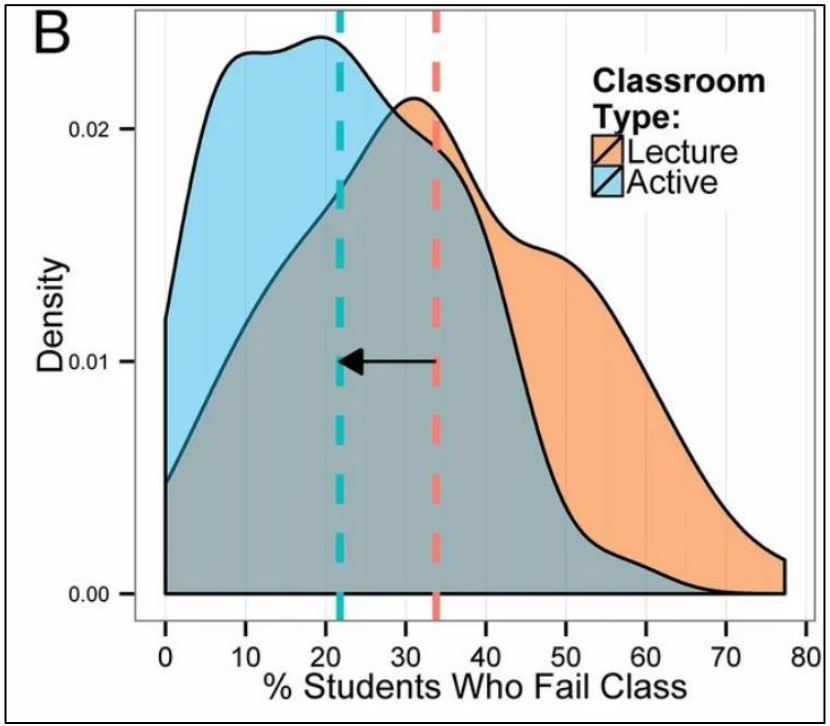
This document should help you get oriented to the research group and help lay out important expectations for you as a graduate student and myself as your advisor. Research in our lab asks: How does identity, among other affective factors, influence diverse students to choose engineering and stay in engineering through their careers? We explore this question using mixed methods research including instrument development, national survey research, observations, interviews, and focus groups. My job as an engineer, social scientist, and professor is to conduct research that makes tangible (e.g., grants, papers, workshops, etc.) contributions to the larger academic community. As a student, you will be helping me conduct this research, thereby also contributing to the scientific knowledge base. I hope you will enjoy working in the lab, will learn from me and your lab m[illegible]es, and gain the ski[illegible]needed to gr[illegible]to an indepen[illegible]ent researcher.

Griffin, K. A., Baker, V. L., & O'Meara, K. (2020). Doing, caring, and being: "Good" mentoring and its role in the socialization of graduate students of color in STEM. *Socialization in higher education and the early career: Theory, research and application*, 223-239.

Limit teaching preparation time.

- Shoot for 2 hours preparation per hour of class (likely won't make that but it's a good goal)
- Do
  - limit content instead of trying to "cover" everything
  - write detailed learning objectives and only assess those
  - leverage already developed materials
  - start early,
  - get feedback and development

Reconsider the “Sage on the Stage.”



Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, *111*(23), 8410-8415.

Launch your career with your CAREER

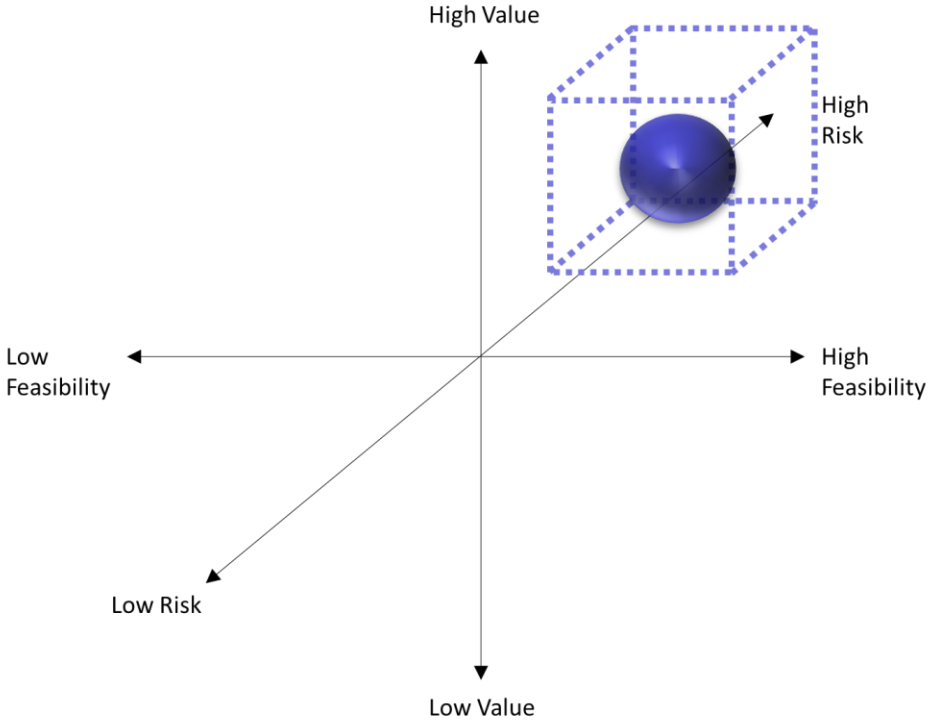
Ideas

Integration

Impact

Identity

Infrastructure



Karlin, J., & Godwin, A. (2020, June), *The Five I's: A Framework for Supporting Early Career Faculty.* In ASEE Annual Conference & Exposition, Virtual. 10.18260/1-2--35321

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Seek Input

- NSF Program Directors
  - 1 page summary
  - Short phone call – 30 minutes
  - Talk for 5 minutes, ask one question, and listen
- Colleagues
  - Ask for targeted feedback
  - Start early – at least a month or two in advance of the deadline
  - Ask for successful proposals
- Think critically about how you use your three attempts

There are patterns among successful proposals

- The education plan distinguishes proposals
  - At least 3-4 distinct education activities integrated with research
  - Not just "one off" events – sustainable effort across the grant timeline and connected to the research
  - Funding is dedicated to these efforts
  - Space in proposal is dedicated to these efforts
  - At least 10 citations to educational research literature
  - Not just developing new courses
  - What problem or issue are you trying to solve?
    - What does the literature describe?
    - What will you do?
    - How will you assess it?

There are patterns among successful proposals

- Successful proposals included:
  - Purpose statement as close to the top of the first page as possible
    - Do not focus on words like: “develop,” “design,” “optimize,” “control,” “manage,” etc.
  - Clear vision statement
    - How 5 year project fits with long-term academic goals
    - You are the only person to do the work you propose (unique advantage)

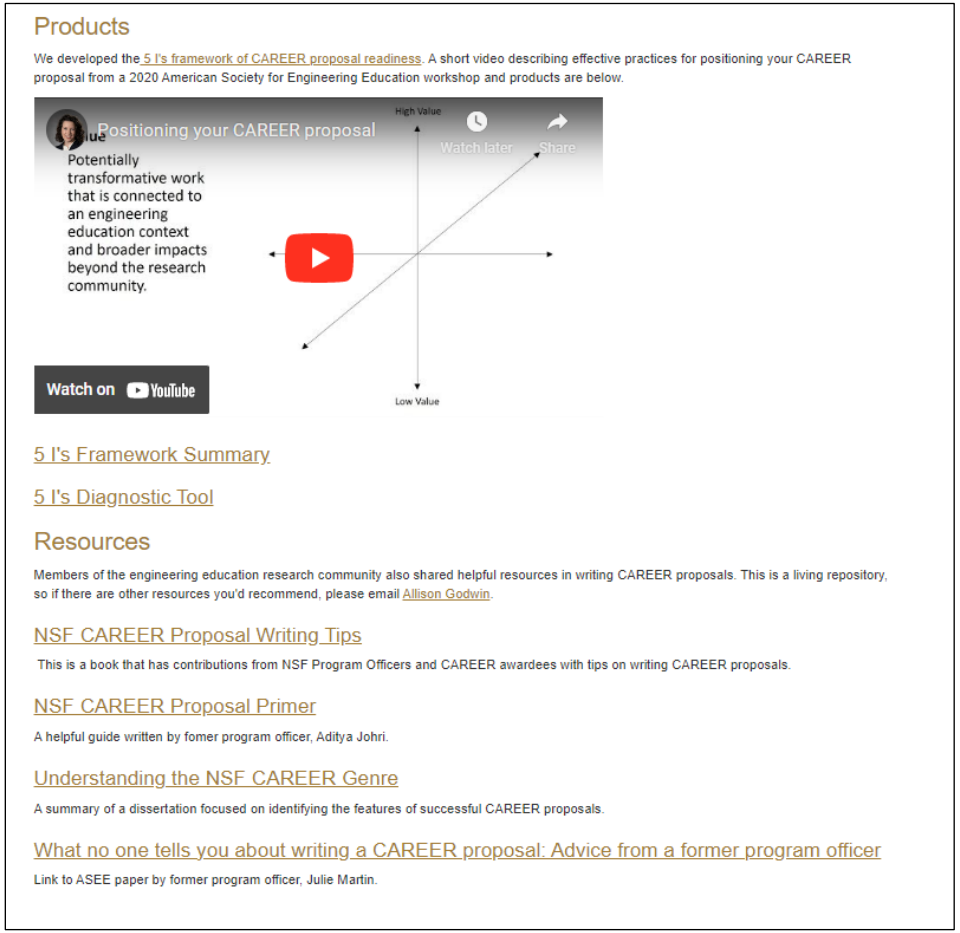
- **Compels you to act**
- **Inspires and motivates you to be committed to excellence**
- **Is easy to understand**
- **Provides direction and focus for every decision**
- **Invokes a mental picture of who you are, where you are going, and what you will do to get here**
- **Is future and action oriented**
- **Is unique**
- **Is not easily achieved**

You are the innovators of the future!

- Think big
- Take risks
- Be the voice for change you want to see
- The CAREER is one chapter in the book of your career

Resources

- CAREER Network Resources
  - https://engineering.purdue.edu/STRIDE/research/EAGER%20CAREER
- *Advice for New Faculty Members*
- National Center for Faculty Development and Diversity



Products

We developed the 5 I's framework of CAREER proposal readiness. A short video describing effective practices for positioning your CAREER proposal from a 2020 American Society for Engineering Education workshop and products are below.

5 I's Framework Summary

5 I's Diagnostic Tool

Resources

Members of the engineering education research community also shared helpful resources in writing CAREER proposals. This is a living repository, so if there are other resources you'd recommend, please email Allison Godwin.

NSF CAREER Proposal Writing Tips

This is a book that has contributions from NSF Program Officers and CAREER awardees with tips on writing CAREER proposals.

NSF CAREER Proposal Primer

A helpful guide written by fomer program officer, Aditya Johri.

Understanding the NSF CAREER Genre

A summary of a dissertation focused on identifying the features of successful CAREER proposals.

What no one tells you about writing a CAREER proposal: Advice from a former program officer

Link to ASEE paper by former program officer, Julie Martin.

Thank You!

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