

# Applying for NSF CAREER Awards

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Spring Quarter Pre-Tenure Workshop  
May 6<sup>th</sup>, 2021

## CAREER Awardees and Panelists

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- > **Jamie Morgenstern**, Assistant Professor, Computer Science and Engineering
- > **Dan Fu**, Assistant Professor, Chemistry
- > **Jim Pfaendtner**, Professor, Chemical Engineering

# Jamie Morgenstern

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Assistant Professor, Computer Science and  
Engineering

# My CAREER experience

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First applied .5 years in (at GATech, where I started a position January 2018).

Was strongly encouraged by my PM after attending a CAREER workshop in DC

Rejected as low-competitive :(

The reviews were confusing at the time.

Moved to UW Fall 2019

Didn't reapply that summer

Applied in summer 2020

Completely rewrote the technical (non-outreach portions) of the proposal

... months and months after when I was told I would hear/some friends of friends had heard...

I found out in February I'd be getting the award.

# First attempt's reviews: the critique

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In general, advice I continue to hear from folks is to not overfit your future submissions to reviews.

BUT

In my case, looking back, I now think my reviews had valid criticisms that helped me on the second attempt.

- Needed more details describing the problems I was proposing
- Needed more specificity in terms of how exactly I'd approach solving a problem
- You need to walk a fine line between
  - Convincing the panel you have a super good idea how to solve your big, important, impactful problems/implement your agenda
  - but not look like you have done all the work yet
  - And not give the the panel the impression that, after reading your very thoughtful plan, it will be too easy.

# How I wrote broader impacts/outreach

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This was the only part of my first attempt that didn't get pummeled.

And, for most first timers, this is the part of the proposal they're weakest at.

I approached it like it was part of the technical sections:

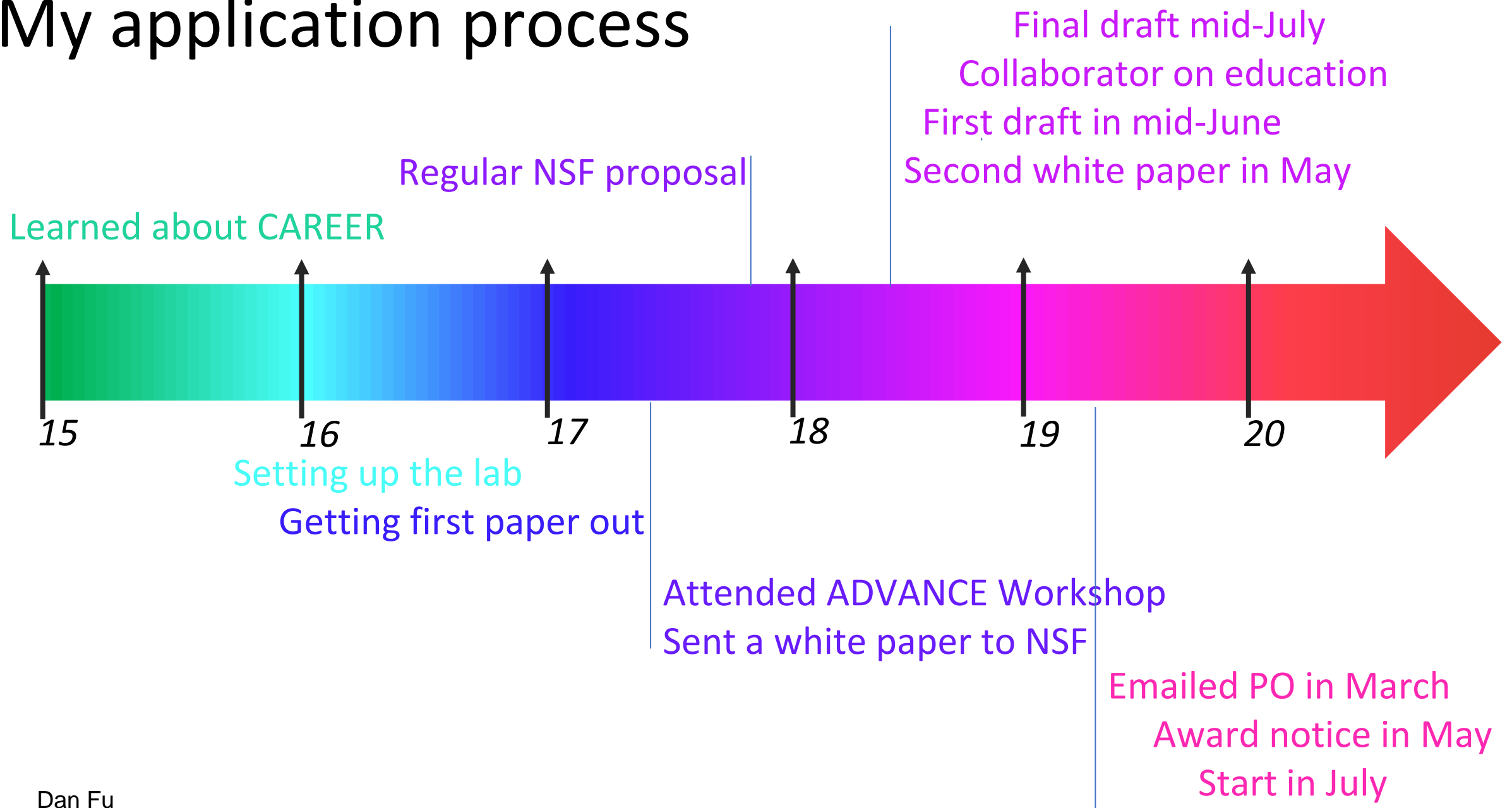
- What do I aim to solve?
- What are the tools I'll use to solve it?
  - What resources already exist on campus that I can leverage to increase my chances of success?
  - Letter of Collaboration can really help here.
- How will I evaluate how well my plans have worked?

# Dan Fu

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Assistant Professor, Chemistry

# My application process



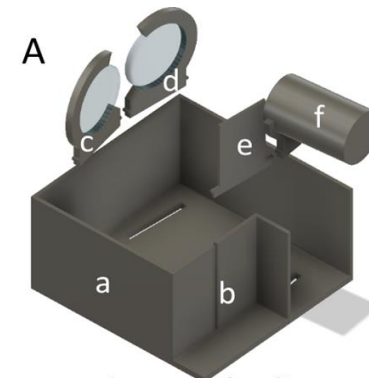


# Common questions

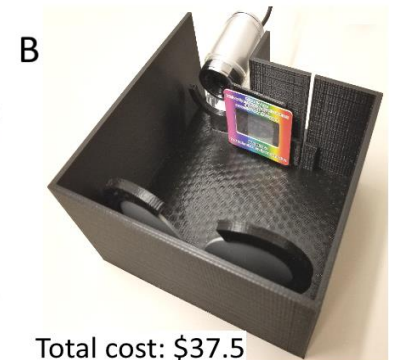
- Which year should you apply?
  - Three chances, apply when you are ready
- How much time do I need for my proposal?
  - 2-3 months?
- Should I apply for a regular NSF grant first?
  - It may help but no need
- What should be the scope of my project?
  - Discuss with program officer, not overly ambitious but innovative and long term
- What should I write in my educational component?
  - Treat it as a research goal (with background, preliminary results, approach, assessment)
- What if I do not have any outreach activity yet?
  - Time to get ideas from colleagues, leverage resources at UW

# Other thoughts

- Start early:
  - Start now
  - Look at many successful examples from colleagues!
  - Discuss your research idea with program officer and colleagues
  - Thinking about your educational components
- Connect with program officer through conferences/workshops
- Education components need to be unique to you, with specific aims
- Double check your formatting, print it out
- Patience and plan B
- Overlap with other grants



a: enclosure b: slit  
c,d: spherical mirror  
e: grating f: camera



Total cost: \$37.5  
Camera: \$10 Grating: \$1.5  
Mirrors: \$15 LED: \$2  
Printer resin: \$9

# Jim Pfaendtner

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Professor, Chemical Engineering



# NSF CAREER AWARD: PANELIST PERSPECTIVE

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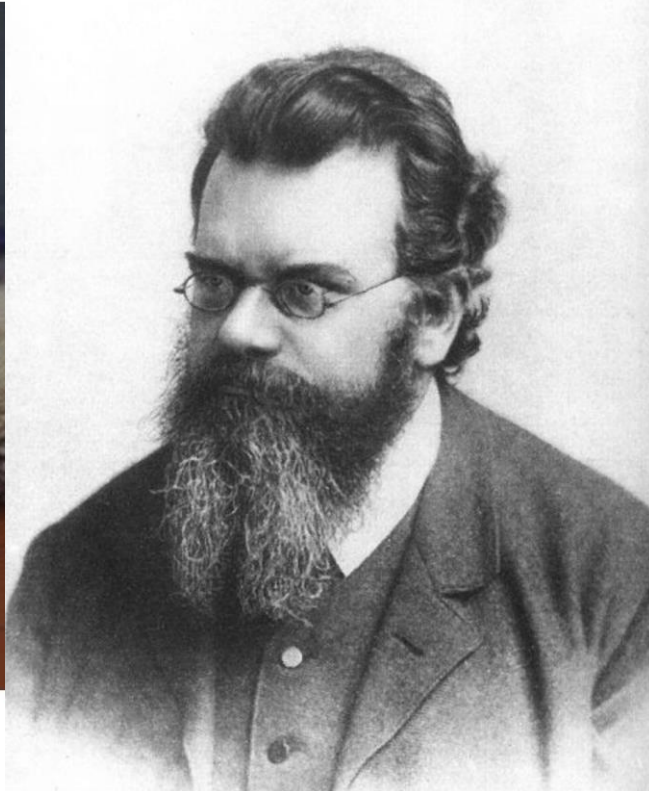
THIS DOES NOT COUNT AS ONE OF MY SLIDES!

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- > ***Fun Fact: I have two sheepdogs (Boltzmann and Millie) named after famous physicists***



BOLTZMANN



MILLIE



# NSF PROPOSAL REVIEW AND RANKING PROCESS

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- > **Proposals get read by 3-5 people**
- > **Scores of P/F/G/V/E (or mixes, e.g., E/V) are given**
- > **Each proposal gets a “lead” , 2-3 “reviewers”, and a “scribe”**
  - **Reviews are formulated around Intellectual Merit and Broader Impacts highlighting strengths and weaknesses in each category.**
- > **The scribe writes down comments and discussion and writes the panel summary**
- > **The panel will bin your proposals in three categories:** highly competitive, competitive and not competitive
  - NC will not get funded, and often not discussed at the panel (no panel summary)
  - Most / all of HC will get funded
  - Most / all of C will not get funded
- > **Jim’s advice: don’t worry about this, get the top ranked proposal and you will get funded**

# SIMILARITIES AND DIFFERENCES COMPARED TO REGULAR GRANTS

Same: you still need a great proposal

- > **Your problem is motivated by engaging and well written background**
- > **Clear statement of research objectives (hypothesis driven when appropriate)**
- > **Convincing preliminary data**
- > **Remember: this is a 5-year project, not a 3-year project** [*repurposing a losing 3-year NSF grant is a bad strategy*]
- > **You must clearly state the transformative potential of your work**
- > **Broader impacts should also address the NSF's mission of workforce development and broadening participation**

Different: integration of research and education

- > **There is a huge focus on *integration of research and education***
  - Read the solicitation carefully. You also must provide a plan for *assessment* of your work.
  - This now means assessing the success of your research outcomes
- > **The plan to integrate research and ed is DIFFERENT than the 'broader impacts'**
- > **Reviewers are looking for evidence that you are laying the foundation for leadership in your research field**
- > **Your reviewers, in general, will be non-experts in your specific research subfield**

# HOW TO WIN

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- > **The best proposals excite the panel with something new that we have never heard of.**
  - Convince us that you are the one we have been waiting for to take your field to the next level
- > **Excellent research will only get you 80% of the way there**
  - Take it to the next level by proposing something exciting and new in the area of integrating research and education. Something we have never even thought of.
  - All parts of your CAREER should be coherently connected (research, education and broader impacts)
- > **Play up your prior training and preparation, but just a bit. We want to see evidence that you are thinking of a career in your field and how you are prepared. But don't overdo it.**
- > **Meaningfully and authentically convince the panel you want to make an impact in broadening participation in your field**
- > **Swing for the fences and don't play it safe**



# More Resources

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# UW Broadening Participation Contacts

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- > **OMAD College Access programs:**
  - <https://www.washington.edu/omad/pre-college-recruitment/>
- > **OMAD student services programs:**
  - <https://www.washington.edu/omad/services-for-uw-students/>
- > **CoEnvr DEI programs:**
  - <https://environment.uw.edu/about/diversity-equity-inclusion/>
- > **Arts and Sciences DEI resources for students:**
  - <https://artsci.washington.edu/diversity-equity-inclusion/student-resources>
- > **CoE sample DEI student programs:**
  - <https://www.engr.washington.edu/current/studentprogs>



## More Resources: past handouts, NSF webinars, ADVANCE Abstract Review

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- > **Resources from Past Workshops:**
  - <https://tinyurl.com/ADVNSFCareer>
- > **NSF CAREER Program Webinars**
  - May 14th, 1-3pm
  - May 20th, 1-3pm
  - Relevant to MPS, SBES, CISE, Geosciences, Engineering, & EHR directorates
  - Register: <https://tinyurl.com/NSFCAREERWebinar>
- > **ADVANCE CAREER Abstract Review Speed Dating & Write Right Now**
  - June 24th, 10-11 am, “Speed Dating” style review session
  - June 24<sup>th</sup>, 11 am – 12 pm, mini Write Right Now session



# NSF Science Matters Blog Post



## NSF 101: Five tips for your Broader Impacts statement

How does your research impact society? Scientists and engineers funded by the U.S. National Science Foundation are accountable to taxpayers for conducting research, and collectively moving their research beyond the lab to impact the public good, thereby benefitting the economy, society and discovery itself. This is what NSF defines as "Broader Impacts."

### Spread the Word



### Related Stories



[The glacier of greatest concern](#)



[10 NSF-funded studies](#)

# Questions?

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