

# Applying for NSF CAREER Grants

UW ADVANCE  
Spring Quarter Pre-Tenure Faculty Workshop  
May 1, 2020

# Speakers

## CAREER Awardees and Panelists

- **Alex Gagnon**, Assistant Professor, Chemical Oceanography
- **Alexandra Velian**, Assistant Professor, Chemistry
- **Cynthia Chen**, Professor, Civil & Environmental Engineering

## Broadening Participation Contacts

- **Office of Minority Affairs and Diversity**  
(<https://www.washington.edu/omad/>)
  - College Access
  - Student Services

# Alex Gagnon

ASSISTANT PROFESSOR, CHEMICAL OCEANOGRAPHY

## My CAREER Experience

- Submitted during Year 2 at UW
  - Side project during postdoc so had preliminary data then added some modeling
  - Passionate about the science. Combined geochemistry, materials science, and global change
- First CAREER submission was successful, but ...
  - Originally a short high risk proposal to a foundation → not funded
  - Then a full proposal to a special NSF call → went to out of field program and rejected
  - Ad hoc reviewer approached me at conference: told me to send to my “home” NSF program
  - The time writing a proposal is rarely wasted



Advice looking back:

Where do YOU think you can have the biggest impact?  
Trust your reading of the field.

What is it that you love to do and that you do well?  
A faculty career is a marathon not a sprint  
Happiness and motivation matter  
It takes practice to say no but it is a vital skill

It is awesome to have a 5 year award, but...  
...what sounds like a big 3 yr award can feel  
thin when spread over 5 yrs

## Educational Component

- Integrate research and education
- Balance between innovation and achievability
- Leverage existing activities at UW  
-> *My college has working list of established outreach opportunities*

### New “Native Science” Curriculum with Anthropology

NSF liked vision but needed more details

I was allowed to refine and rebudget prior to award

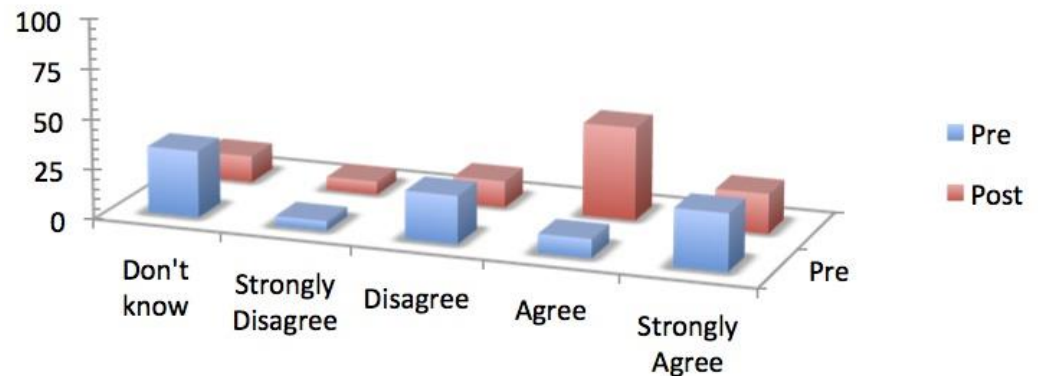
- Assessment Define success and show how you will evaluate success.  
-> *Do you need a collaborator or service to help you with assessment?*

#### My 2 cents:

*I really favor force multiplication  
(teach teachers rather than students)*

*I used the CAREER to lock in departmental support for  
some non-traditional educational activities*

#### I am considering taking more classes in earth science, oceanography, or environmental science



## Resources and Parting Thoughts

- NSF Grants Conference (Several per year. Fills up quickly. Sign up for “Get Notified”)
- “Writing Successful Science Proposals” Freidland & Folt, Yale University Press.
- Discipline specific workshops where you can build relationships with program officers
- Expect to get paneled at NSF (if you have not done a panel recently already)
- I am very proud of the NSF review process

Don't stop at CAREER: Sloan, Packard, ...

Make friends with UW Advancement

My portfolio is about 1/3 each: Federal – Foundation – Private donor

Not recognized with a PECASE,  
but still got to talk science with Obama!  
*(for another project)*



# Alexandra Velian

ASSISTANT PROFESSOR, CHEMISTRY

Started 09/2017, NSF Career 2020 (PM called in Nov 2019, first time application)

## 1. 2018 NSF Career Workshop, in Washington DC

- department paid for travel costs
- time your participation to state of readiness to take full advantage of resources (e.g. meeting program managers, feedback on application documents)

## 2. 2019 ADVANCE Career Workshop, UW

- learned of local resources (helped with my outreach program)
- more relevant since I was actually planning to apply

### Some takeaways:

- Inspect examples of successful applications (with all components):
  - ideas & structure for broader impact, scope, etc
  - **formatting, structure, language of the proposal** (successful applications make information easy to find via clear structure for hypotheses, outcomes, metrics for success, alternative strategies, preliminary vs proposed etc)
  - educational plan, overview, etc (examples will help cut down on time invested)
- Identify the best matched program manager & reach out to them no later than 1.5 months before application deadline (email with concise info included within email, like a brief outline; they followed up quickly with a phonecall to point me to the best suited program).
- Ask PM about: maximum budgets, discuss fit in the program, scope of research, possible areas of weakness you are concerned about, etc.



What are Broader Impacts anyways? I thought I am here to do science research...

... After some research: Keep it locally relevant & figure out how to contribute and build upon existing initiatives

1. How can you make a difference given specific problems, for example at UW/in WA?
  - Meet with agencies on campus relevant to you – for me that was OMAD and LSAMP, and locally within the Chemistry Department.
  - This will also gain your proposal credibility and set you up for departmental support of your proposal.
2. Do something you actually care about and that you actually can implement within reason (without giving up on all the other responsibilities)
3. Write the section as if it's a research section (background, hypothesis driven, clear goals, clear metrics for success, some data plot)  
Mine contained several items, of which some are ~ standard (student mentorship, curriculum development, etc)

- T—1.5 months: Identify program manager and reach out with a brief synopsis of plans (email), chat on the phone. (**Verdict**: First try + no paper = very little to zero chances of success)

*T—10 days: not submitting a proposal this year (next year it will be so much better)*

*T—9.5 days: “submit now to get in line” (there’s a line?!)*

- Complete application & submit final application at 3 day deadline. Felt like a winner for just putting it together!
- Next day, documents sent back from OSP... Long story short: address within two hours or it will not be sent to NSF! ... Stop packing house, disaster averted & resubmission
- In late November, got a call from the PM that my proposal was funded

## Other thoughts:

Employ caution in prior or concurrent applications relying on similar core ideas (especially if you are only a co-PI)

Make sure qualified people (at least students/postdocs) read through your proposal, if not for more sophisticated feedback, for proofreading and general editing/clarity

# Cynthia Chen

PROFESSOR, CIVIL & ENVIRONMENTAL ENGINEERING

# CAREER: Program Goals

- Foundation-wide activity that offers NSF's most prestigious awards for faculty members beginning their independent careers.
- To provide stable support at a sufficient level and duration to enable awardees to **develop careers** as outstanding researchers and educators who effectively **integrate teaching, learning, and discovery**.
- Awardees are selected on the basis of their plans to **develop highly integrative and effective research and education careers**.
- Increased participation of those traditionally under-represented in science and engineering is encouraged.

# CAREER Evaluation: IM/BI Integration

- **Integration between research and education:**
  - All CAREER proposals must have an integrated research and education plan at their core. NSF recognizes that there is no single approach to an integrated research and education plan, but encourages all applicants to think creatively about how their research will impact their education goals and, conversely, how their education activities will feed back into their research. These plans should reflect the proposer's own disciplinary and educational interests and goals, as well as the needs and context of his or her organization. Because there may be different expectations within different disciplinary fields and/or different organizations, a wide range of research and education activities may be appropriate for the CAREER program
  - ***A CAREER proposal must indicate the goals and objectives of the proposed education activities, how it will be integrated with the research component, and the criteria for assessing how these goals will be met***

# CAREER: Points to Consider

- Does the PI propose creative, effective and integrated research and education plans as well as plans for assessing these components?
- Is it a well-argued and specific proposal for activities that will, over a 5-year period, build a firm foundation for a lifetime of contributions to research and education in the context of the PI's organization?
- While excellence in both education and research is expected, activity of an intensity that leads to an unreasonable workload is not.
- The research and educational activities do not need to be addressed separately, if the relationship between the two is such that the presentation of the integrated project is better served by interspersing the two throughout the Project Description.







# Resources from past Workshops

<https://tinyurl.com/UWADV-CAREER>

## ADVANCE Resource Library

Found 31 resources. Search Type = simple; Search Text = NSF career (exact string only = yes)

[New Search »](#)

File	Title	Author	Year ▼
 1001k	<b>Applying for NSF CAREER Grants -2019</b> Slides from the 2019 Pre-Tenure Faculty workshop on Applying for NSF CAREER Grants  Doc type: presentation Event(s): Pre-tenure Faculty Workshop	Kate Starbird, Alshakim Nelson, Emily Carrington	2019
 web	<b>Help funders help you: Five tips for writing effective funding applications</b> A resource giving 5 tips to help persuade a research funding committee to fund your research. Related to the Spring 2019 Applying for NSF CAREER Grants Workshop.  Doc type: web page Event(s): Pre-tenure Faculty Workshop	Neil A. Lewis, Jr., Leah H. Somerville, Jay J. Van Bavel, William A. Cunningham	2019
 12100k	<b>Applying for NSF CAREER Grants 2018 Slides</b> Slides from the 2018 Pre-Tenure Faculty workshop on Applying for NSF CAREER Grants  Doc type: presentation Event(s): Pre-tenure Faculty Workshop	Kristian Wiles, Cole DeForest, Laura Prugh, David Masiello	2018
 13252k	<b>Applying for NSF CAREER Grants Slides (Spring 2017)</b> ADVANCE Spring 2017 Pre-Tenure Workshop Slides on Applying for NSF CAREER Grants  Doc type: presentation Event(s): Pre-tenure Faculty Workshop	ADVANCE CIC; Cossairt, Brandi; Munson, Sean; Kirschen, Daniel	2017
 31k	<b>Advice on Writing Grant Proposals</b> Handout from ADVANCE spring 2016 Pre-Tenure Workshop on "Applying for NSF Career Grant"  Doc type: handout Event(s): Pre-tenure Faculty Workshop	Oskin, Mark	2016
 3360k	<b>Applying for NSF Career Grants</b> ADVANCE spring 2016 Pre-Tenure Workshop slides  Doc type: presentation Event(s): Pre-tenure Faculty Workshop	Wiles, Kristian; Venneau, Cassie; Cunningham, Sonya; Pauzauskie, Peter; Buckley, Lauren; Sniadecki, Nathan; ADVANCE CIC	2016

# NSF CAREER Program Webinar

- May 13, 2020, from 2:00-4:00 p.m. ET
- For more information and to register:  
<https://tinyurl.com/yagl9wqe>