

# Winning NFS CAREER AWARDS

Wendy Thomas  
Assistant Professor,  
Bioengineering

# Who I am

- I was originally a molecular biologist, but became a mathematician and a bioengineer.
- I had experience as a graduate student co-authoring a successful NIH grant, but not NSF
- I was awarded my NSF CAREER Award on my second try.
  - My advice is based on failure and success.

# My Main Point

- You are all doing stellar research.
  - It goes without saying that you must have outstanding scientific ideas.
- What determines whether you get the award is how well you communicate:
  - Your scientific ideas
  - The impact of your research
  - Your outreach impact
  - That *you* are a leader

# Talk to Your Program Manager

- Be prepared to email your summary or to describe it briefly on the phone before you call.
- Make a good impression.
  - Your program manager cannot influence the discussion or scoring of your grant,
  - but will make the final decision on what to do with that score.
- Keep looking until you find someone who is enthusiastic.
  - I talked to 8 program managers in 5 divisions in 3 directorates.
  - My degrees: molecular biology, applied math, bioengineering. My program is in the Division of Civil and Mechanical Engineering.

# Address your Program

- If you can get on a grant review panel for your program, do it. (need to start this 1 year ahead)
  - Tell your program manager you are willing.
  - Ask your senior colleagues to recommend you.
- If not, find out the disciplines of the scientists in your program.
  - Determine the knowledge, priorities, and pre-conceptions of your program.
- Speak to these people when you write
  - Motivate your grant according to your program's priorities.
  - Include the specific knowledge they are missing.
  - Directly but gently challenge pre-conceptions if needed.

# Grant Style: Make your Reviewers' Job as Easy as Possible

- Read some successful grants from colleagues.
  - Try to stick to 12 point type.
  - Use subsections, underlines, etc.
- Use as many pictures as possible.
  - Use cartoons of the proposed work/models.
  - Use color that can be understood in gray scale.
- If English is your second language, or if you are not a good writer, pay a scientific editor to help make your writing easy to understand.
- Don't dumb down your proposal. Include the equations, etc.

# Greater Impact

- I am told that NSF is currently looking for K-12 outreach more than college programs.
- Don't go it alone.
  - The hardest part about outreach is organizing. Partner with UW programs! Then you can focus on scientific modules and let them do the hard part.
  - These programs have mechanisms to reach under-represented minorities.
  - Have someone in your chosen partner program read the outreach part of your proposal.
- Be scientific:
  - Include references for your teaching method.
  - Include a plan to evaluate the success of the program.

# Have a Colleague Read your Grant

- Pick at least two colleagues to read your grant
  - One who is an expert in your work
  - One who knows less about your work but still might be representative of your review panel.
  - If possible, both should have either one this award themselves or be more
- Ask them to be highly critical.
- If they misunderstand part of your grant
  - Don't ignore their comments just since they are wrong!
  - Ask yourself how to make it easier to understand.
- Give yourself at least a week, preferably two, to respond to their comments.



# Leadership

- A CAREER Award is for a future leader in the field.
- They want independence from previous advisors, etc.
  - Yet, you need to show some preliminary results and expertise.
  - Address directly how your work builds on your prior knowledge but is a completely new program that is independent from the previous.
- Address directly how your work, including outreach, sets the stage for you to be a leader.