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.