



VANDERBILT UNIVERSITY  
MEDICAL CENTER

# The Importance of Obtaining Funding Early in Your Career

Grants & Fellowships Workshop

October 18, 2011

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What types of funding exist?

How do you obtain funding?

## **WHY?**

The Importance of Obtaining Funding Early in Your Career

The Importance of Obtaining Funding in Your Mid-Career

The Importance of Obtaining Funding Later in Your Career

The Importance of Obtaining Funding

The Importance of Eating Fruits and Vegetables

The Importance of \_\_\_\_\_



## Financial Benefits

Independent money =  
focus on research without  
other significant obligations

\$\$ for travel, special  
equipment, or supplies

Support for stipend/salary,  
insurance, benefits  
= job security

What are the key tenets of training?



## Academic and Training Benefits

Depth of knowledge in a field of expertise

Mastery of the scientific method

# Mastery of the Scientific Method = Steps of a Grant Proposal



What are the key tenets of training?



## Academic and Training Benefits

Depth of knowledge in a field of expertise

Mastery of the scientific method

Strength in communication skills: written and oral



## Research Benefits

### Pre-submission

Helps solidify project goals and direction

Compels attention to long-term planning (biostatistic analyses, other resources)

Refine ideas based on peer review; Prioritize projects

### Post-submission

The process of obtaining funding....is a natural part of modern scientific training and careers



THE CHRONICLE OF PHILANTHROPY

MARK LITZLER

*"Now here's an advanced organism. You'll note the nucleus and cytoplasm development along with what appears to be the first draft of a grant proposal."*



# Benefits Apply to Any Future Career



**Financial Benefits**



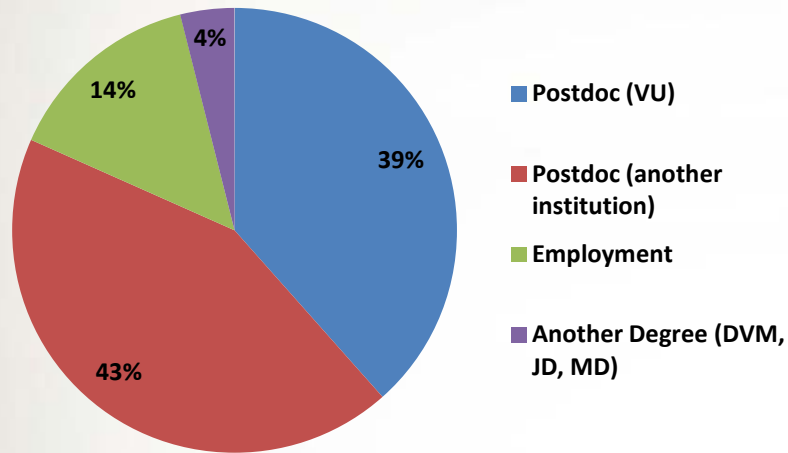
**Research Benefits**



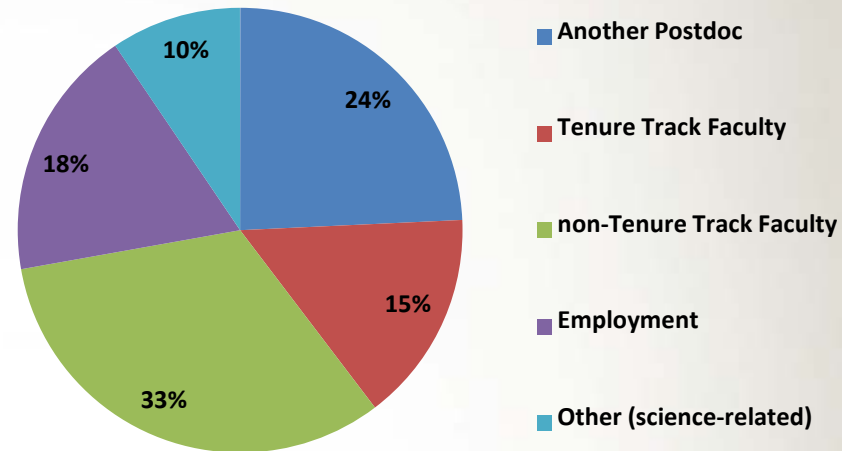
**Academic and  
Training Benefits**

# Outcomes at Completion of VU PhD or Postdoc

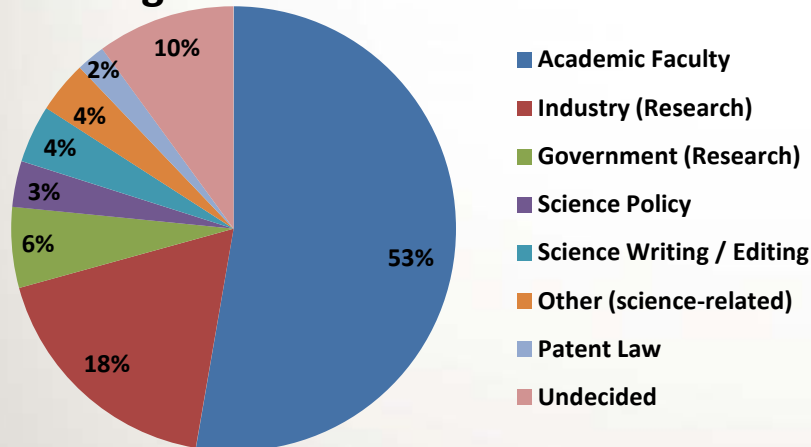
## Immediate Plans: After VU PhD



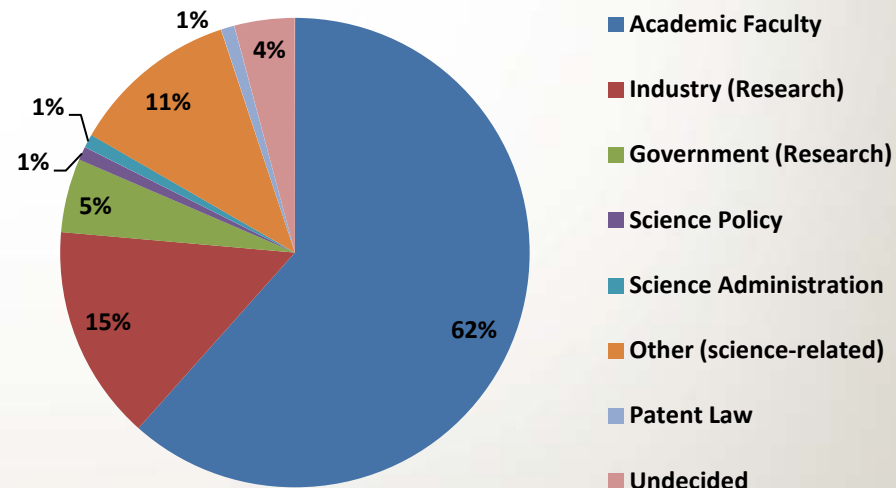
## Immediate Plans After VU Postdoc



## Long-Term Career Goals



## Long-Term Career Goals



# Past Performance Predicts Future Success – Regardless of Career Path

- Future employers know you understand the process and have good communication skills
- Funding is a “feather in your cap” to help distinguish you from others
- In research careers:  
Independent evidence of “value” – project and PI
  - Study sections value record or prior funding
  - Search committees value record of prior funding

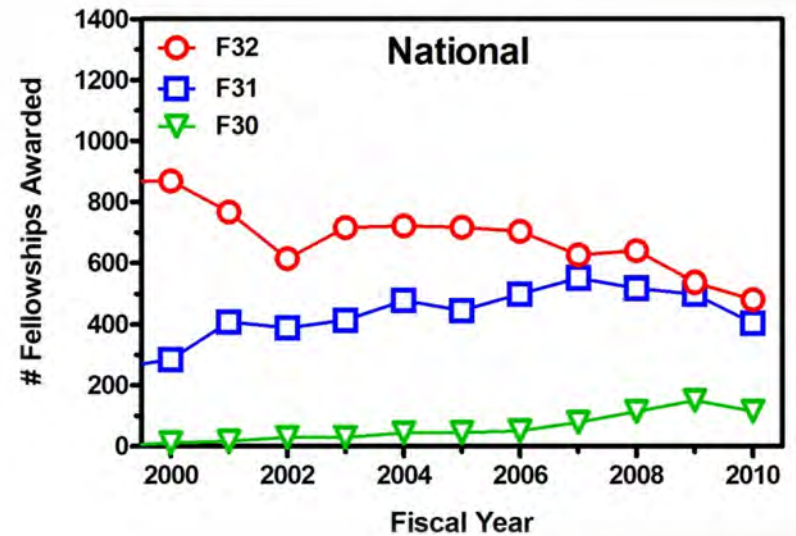
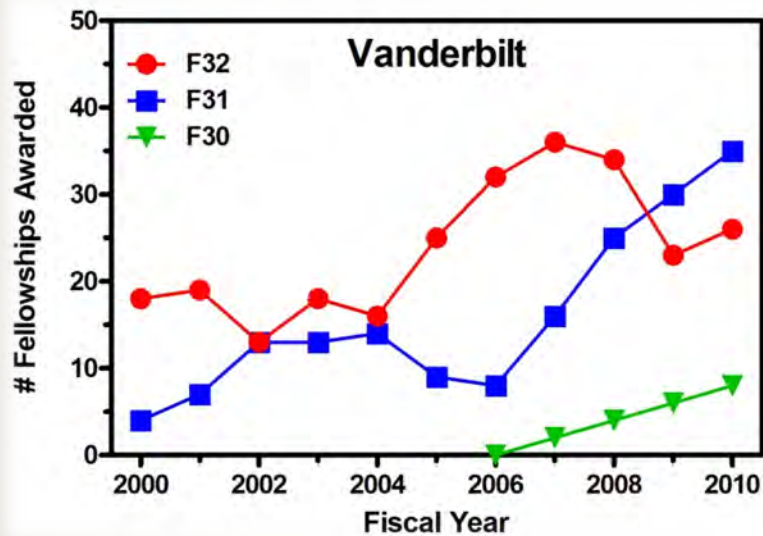
## Benefits to Faculty Mentor

- Helps PIs establish their training record and attract future trainees and scholars
- Lab members are more “invested” in their own project
- PI’s research dollars can be allocated for other project expenses

**How competitive are  
Vanderbilt trainees for NIH  
early career awards?**

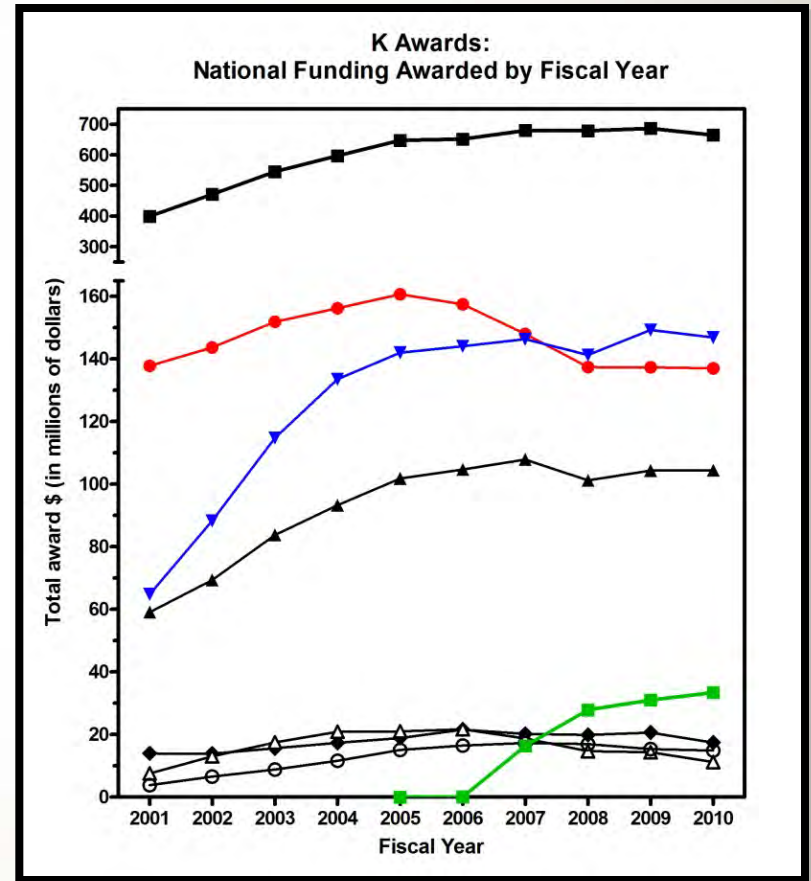
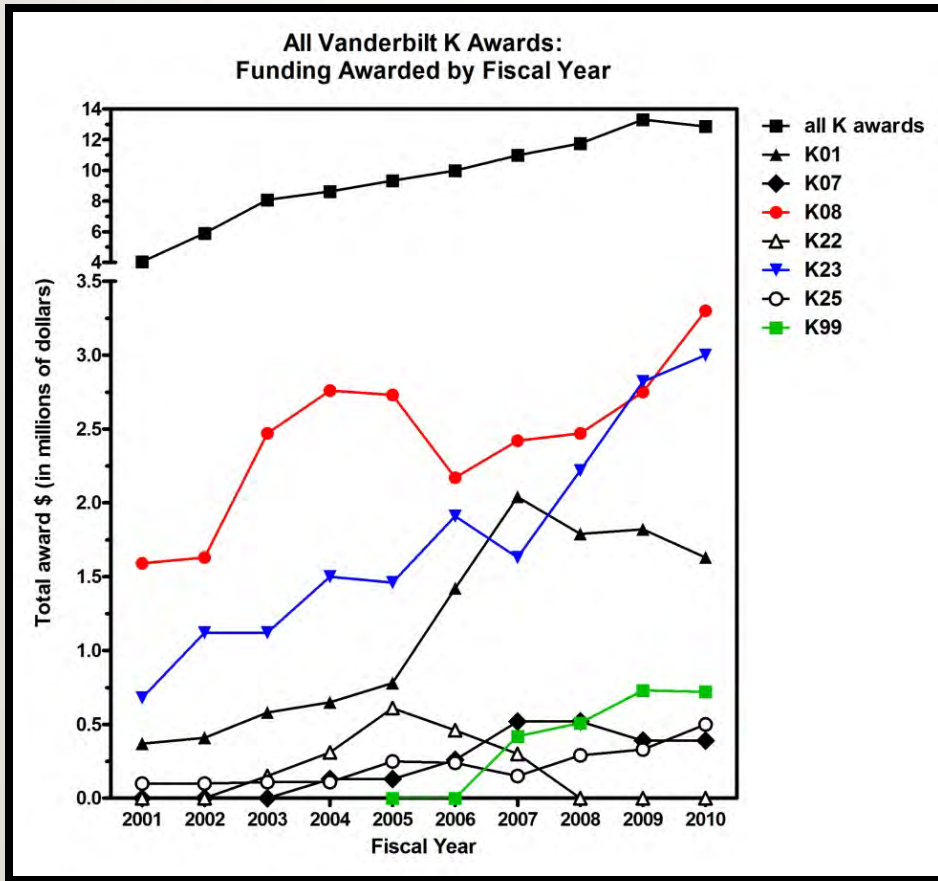
# NIH Fellowship Awards (NRSA)

Vanderbilt vs. National metrics



# NIH Career Development Awards

## Vanderbilt vs. National metrics





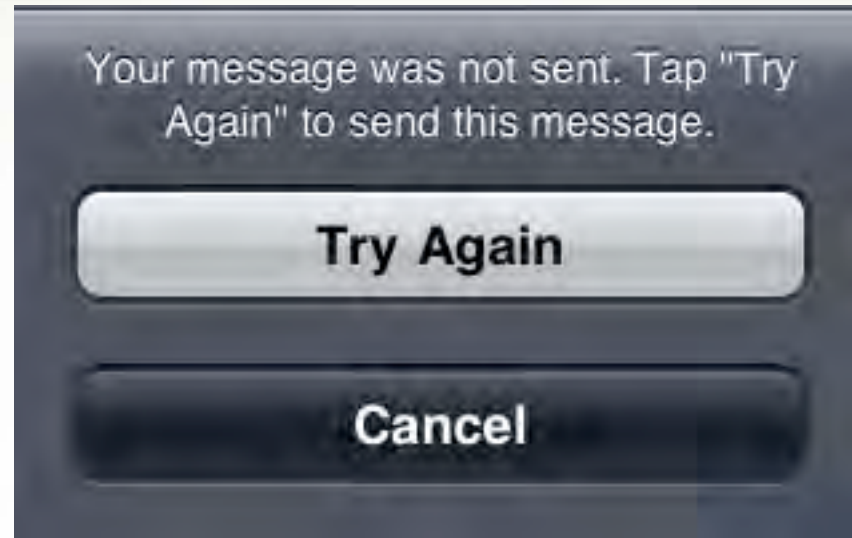
# Success Rates

(Fiscal Year 2010)

Success rate = the percentage of reviewed grant applications that receive funding

Success Rates (2010)	National	Vanderbilt
F30 (MD/PhD students)	40%	25%
F31 (PhD students)	36%	65%
F32 (Postdoctoral Fellows)	27%	60%
All K Awards	36%	45%
R01 (new)	18%	

## What if not successful?



All of my grants and all of my trainees' grants have not been successful.....

“Some concerns were expressed about the assays that will be used because they involve some technical difficulties and preliminary data are not included. Moreover, prioritization of experiments is needed.”

“The proposed studies have considerable potential to yield novel and exciting results, but this is not assured, given the preliminary results shown so far. Surprisingly, also many obvious key questions are not addressed.....the appearance of an overambitious research plan also detracted”



# The Importance of \_\_\_\_\_

## The importance of stupidity in scientific research

**Martin A. Schwartz**

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*Accepted 9 April 2008*

*Journal of Cell Science 121, 1771 Published by The Company of Biologists 2008*

*doi:10.1242/jcs.033340*

I recently saw an old friend for the first time in many years. We had been Ph.D. students at the same time, both studying science, although in different areas. She later dropped out of graduate school, went to Harvard Law School and is now a senior lawyer for a major environmental organization. At some point, the conversation turned to why she had left graduate school. To my utter astonishment, she said it was because it made her feel stupid. After a couple of years of feeling stupid every day, she was ready to do something else.

I had thought of her as one of the brightest people I knew and her subsequent career supports that view. What she said bothered me. I kept thinking about it; sometime the next day, it hit me. Science makes me feel stupid too. It's just that I've gotten used to it. So used to it, in fact, that I actively seek out new opportunities to feel stupid. I wouldn't know what to do without that feeling. I even think it's supposed to be this way. Let me explain.

For almost all of us, one of the reasons that we liked science in high school and college is that we were good at it. That can't be the only reason – fascination with understanding the physical world and an emotional need to discover new things has to enter into it too. But high-school and college science means taking courses, and

I'd like to suggest that our Ph.D. programs often do students a disservice in two ways. First, I don't think students are made to understand how hard it is to do research. And how very, very hard it is to do important research. It's a lot harder than taking even very demanding courses. What makes it difficult is that research is immersion in the unknown. We just don't know what we're doing.

We can't be sure whether we're asking the right question or doing the right experiment until we get the answer or the result. Admittedly, science is made harder by competition for grants and space in top journals. But apart from all of that, doing significant research is intrinsically hard and changing departmental, institutional or national policies will not succeed in lessening its intrinsic difficulty.

Second, we don't do a good enough job of teaching our students how to be productively stupid – that is, if we don't feel stupid it means we're not really trying. I'm not talking about 'relative stupidity', in which the other students in the class actually read the material, think about it and ace the exam, whereas you don't. I'm also not talking about bright people who might be working in areas that don't match their talents. Science involves confronting

# The Importance of Utilizing ALL Resources to Obtain Benefits



**Financial Benefits**



**Research Benefits**



**Academic and  
Training Benefits**

What types of funding exist?  
How do you obtain funding?

# With thanks to -

Co-sponsors:

BRET Office of Career Development and Outcomes Analysis  
Clinical and Translational Scientist Development Program

**Roger Chalkley, D. Phil.**

Senior Associate Dean for Education in Biomedical Sciences

**Katherine E. Hartmann, M.D., Ph.D.**

Associate Dean for Clinical and Translational Scientist Development

**Kim Petrie**

Director of Career Development, BRET

**Abby Brown**

Director of Outcomes Analysis, BRET & CTSD

With support from the Vanderbilt Medical Alumni Association

BRET and CTSD staff (especially Erika Thompson, David Markham-Jones, and Donna Marie)

Workshop planning committee

Workshop presenters, panelists, and moderators

Faculty who participated in mock peer review videos