

# Non-NIH Funding, FINDing Grants, and Aligning Your Research Interests with Organizations' Funding Priorities



**PANEL PRESENTATION**

**MODERATED BY DR. LARRY SWIFT**

**PRESENTERS:**

**DR. ASHLEY BRADY**

**DR. MATT TYSKA**

**DR. AJ BAUCUM**

**DR. SHANE HUTSON**

**DR. DON RUBIN**

**DR. JIN CHEN**

# The Foundation Grant Proposal & Tips for Success



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...Ever feel like  
finding  
funding for  
your research  
is more work  
than actually  
doing the  
research??

# Foundation Awards: Things to Consider



- Often focused on advancing research into a particular disease
- Very interested in supporting **young investigators**
- Looking for ***Impact*** and ***Return on Investment***
- Opportunity to forge a **long-term relationship**
- Many foundation awards carry prestige and can enhance recognition in your field



## Tips for Proposals to Foundations

**\*Do your  
Research\***

**&**

**\*Play by  
the rules\***

- Write to the mission of the foundation; review past funding
- Research your reviewer audience
- Contact the foundation ahead of time to discuss your proposal
- Cultivate a relationship with an expert in your field as a reference
- Read directions carefully, verify eligibility
- Keep an eye on deadlines, LOIs



## **Tips for Proposals to Foundations**

**\*Sell your  
idea\***

**&**

**\*Stand out  
among  
others\***

- **Explain how the funding will impact your field of interest**
- **Highlight how the award will impact your future development**
- **Don't take "training opportunities" for granted**
- **Remember to cite support in your manuscripts and posters**
- **Write a thank you letter**

# Where Can I find Funding Opportunities?



- **Community of Science: [www.cos.com](http://www.cos.com)**
- **ResearchResearch: [www.researchresearch.com](http://www.researchresearch.com)**
  - ❖ Institutional subscription
  - ❖ Funding for all disciplines
  - ❖ Federal, corporate and foundation funding
  - ❖ National and international opportunities
  - ❖ Customized “push”
- **FIND grants: [www.mc.vanderbilt.edu/findgrants](http://www.mc.vanderbilt.edu/findgrants)**
  - ❖ In-house built and maintained
  - ❖ Tailored to biomedical research at VUMC
  - ❖ No federal opportunities
  - ❖ Minimum award: \$35K
  - ❖ Email alerts available



**Thank you!**

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# American Heart Association (and a science story)

Dr. Matt Tyska



# Basic science funding opportunities from the **American Heart Association**

## AHA 'vision statement':

The AHA will be the premier cardiovascular and stroke influencing agent for developing and funding early career investigators...the association will endorse and support multidisciplinary and collaborative models; undertake high-risk, high-reward research; **actively balance basic, clinical, population and translational research...**

## AHA funding programs of interest:

- Predoctoral fellowship (\$25k/yr for 2 yr)
- Postdoctoral fellowship (\$42k/yr for 2 yr)
- Scientist development grant (\$77k/yr for 4 yr)
- Grant-in-aid (\$83k/yr for 2 yr)

Graduate student



PI

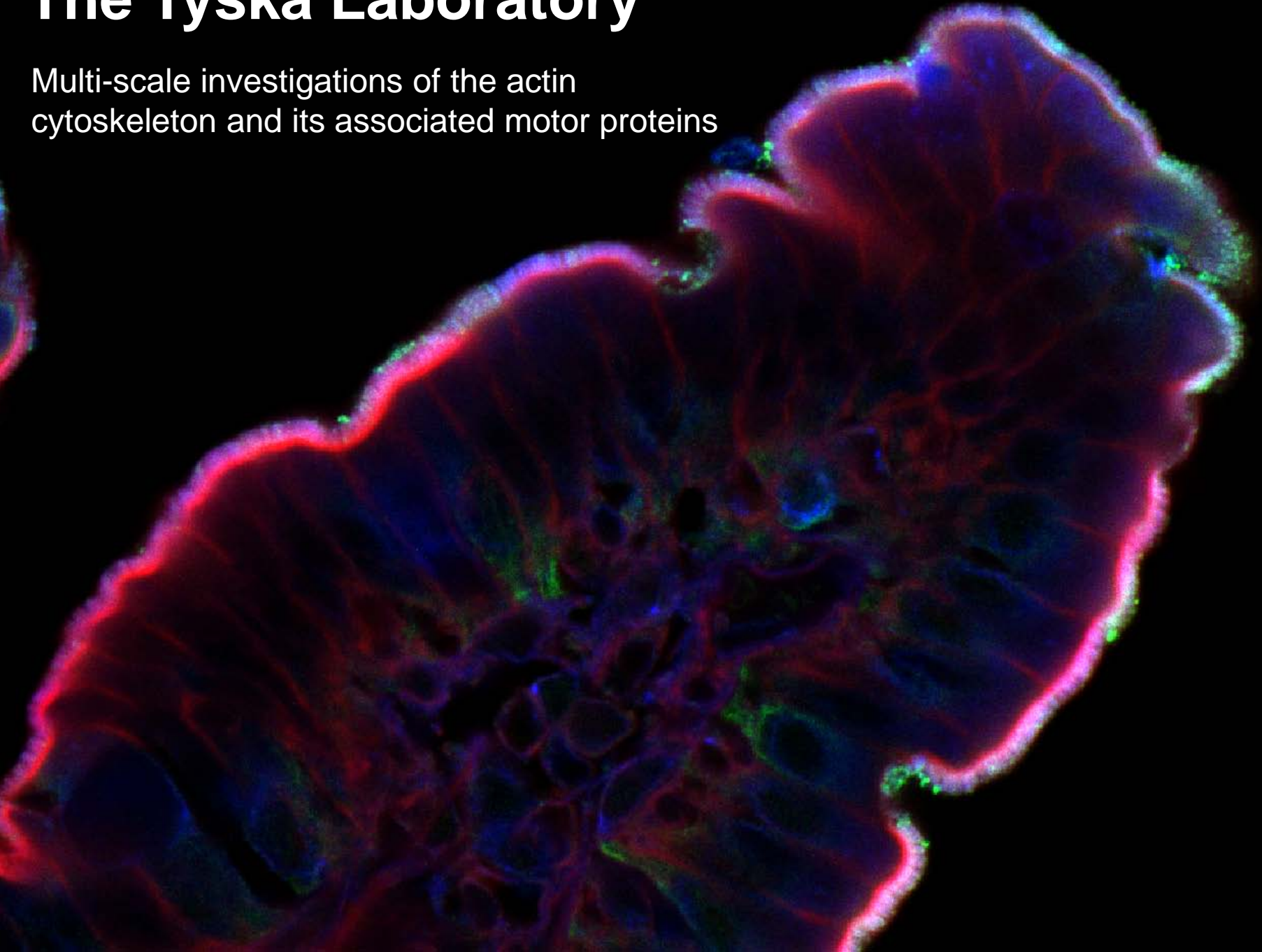
AHA currently funds about 2,100 scientists around the United States

AHA is second only to the federal government in funding cardiovascular and stroke research

Applications compete on a national-level, but are funded through regional affiliates (we are in the *Greater Southeast Affiliate*)

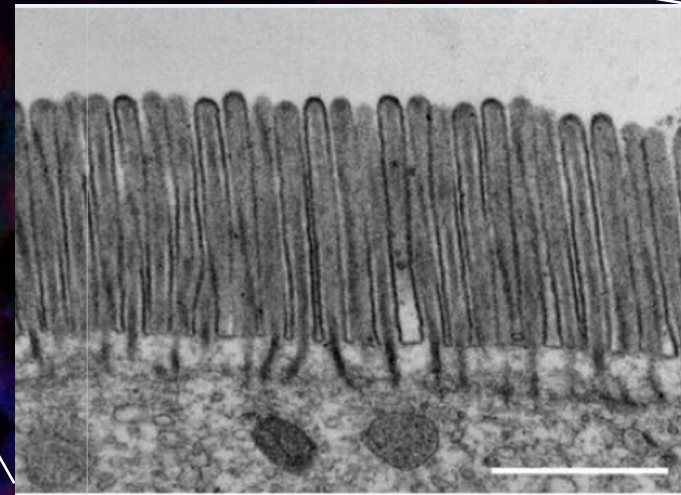
# The Tyska Laboratory

Multi-scale investigations of the actin  
cytoskeleton and its associated motor proteins



# Our biological context: the small intestine!

The *brush border* →

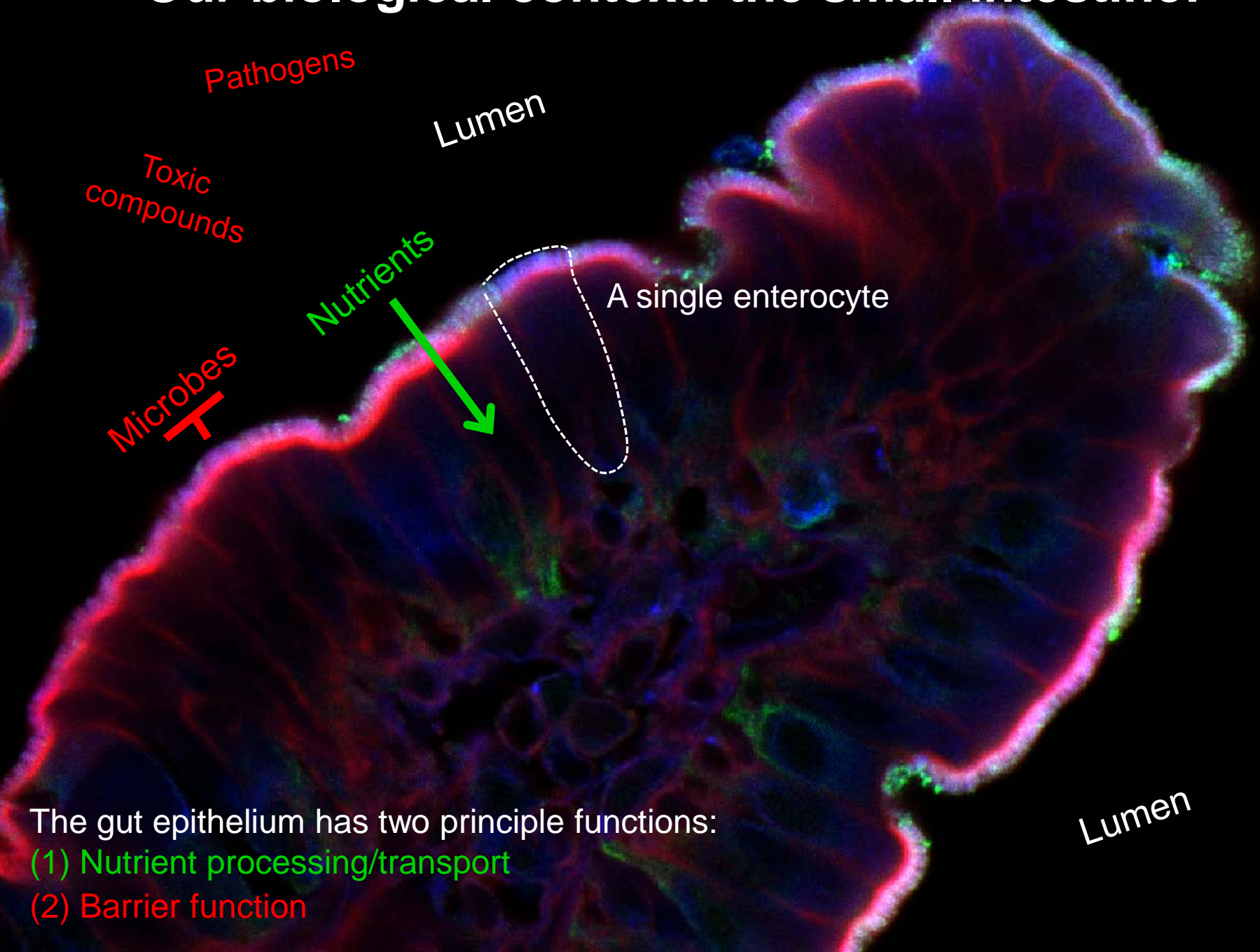


The *brush border* is one of the most elaborate actin arrays observed in nature

1  $\mu$ m



# Our biological context: the small intestine!



The gut epithelium has two principle functions:

- (1) Nutrient processing/transport
- (2) Barrier function

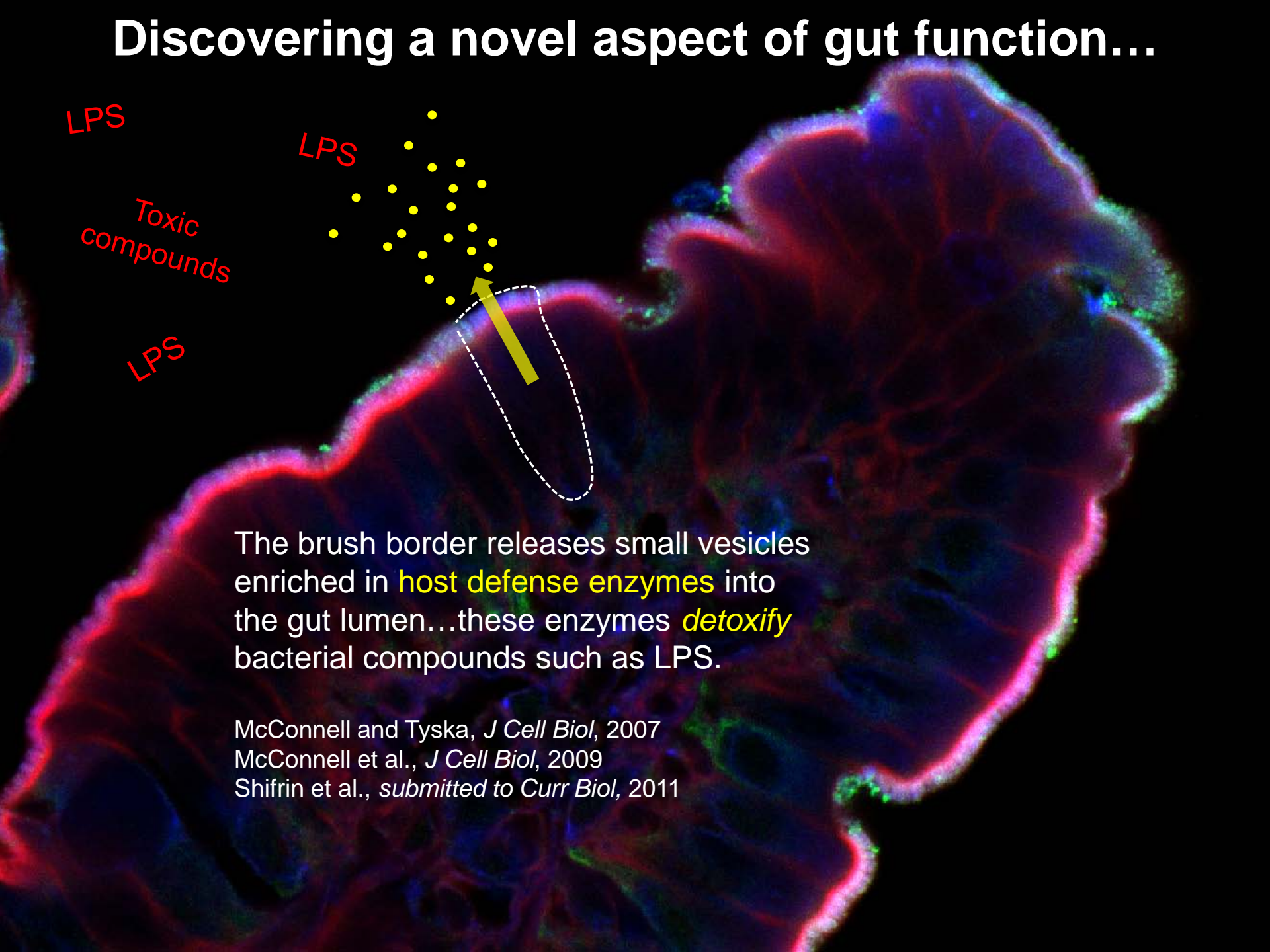
# Discovering a novel aspect of gut function...

LPS

LPS

Toxic  
compounds

LPS



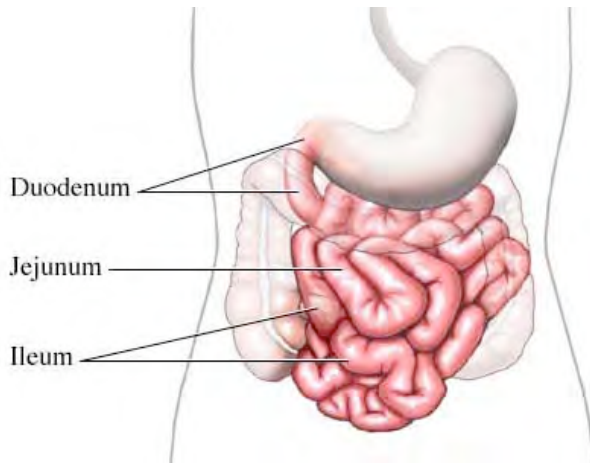
The brush border releases small vesicles enriched in **host defense enzymes** into the gut lumen...these enzymes **detoxify** bacterial compounds such as LPS.

McConnell and Tyska, *J Cell Biol*, 2007

McConnell et al., *J Cell Biol*, 2009

Shifrin et al., *submitted to Curr Biol*, 2011

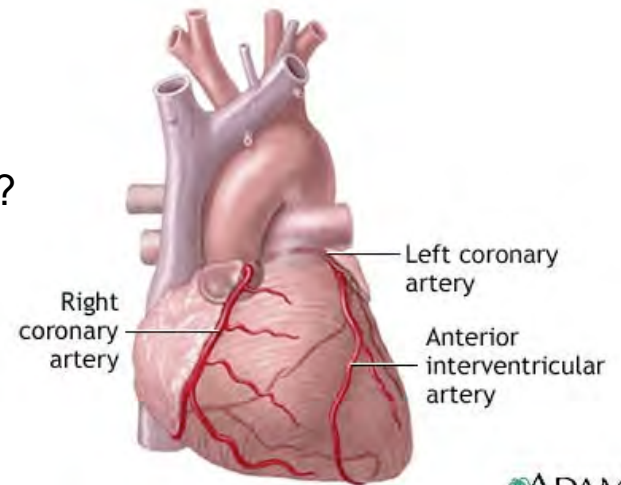
# Is this appropriate material for an AHA grant application?



Is there any connection?



**Yes!**



ADAM.



One afternoon on **PubMed** reveals a link between bacterial toxins in the gut and the pathophysiology of chronic heart failure...

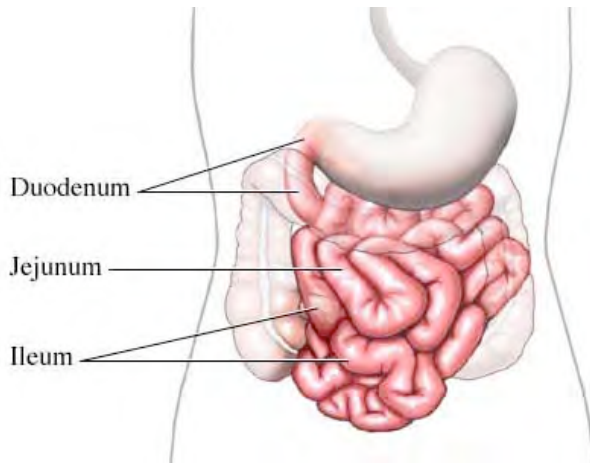
## **The emerging role of the gut in chronic heart failure**

Anja Sandek<sup>a</sup>, Mathias Rauchhaus<sup>b</sup>, Stefan D. Anker<sup>a</sup> and Stephan von Haehling<sup>a</sup>

*Curr Opin Clin Nutr Metab Care.* 2008 Sep;11(5):632-9.



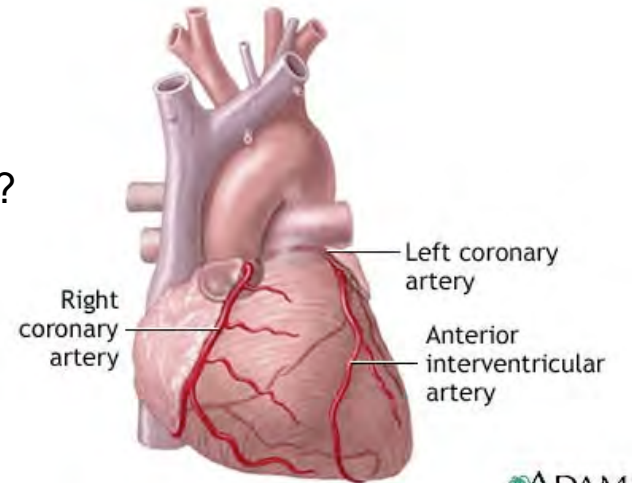
# Is this appropriate material for an AHA grant application?



Is there any connection?



**Yes!**



**The effort to make a connection with cardiovascular disease pays off:**

### ***Tyska lab AHA funding track record***

<b>2008</b>	2 Predoctoral fellowships (McConnell, Benesh) 1 Postdoctoral fellowship (Nambiar)
<b>2009</b>	1 Grant-in-aid (Tyska)
<b>2010</b>	1 Predoctoral fellowship (Shifrin)
<b>2011</b>	1 Predoctoral fellowship (Mazerik) 1 Postdoctoral fellowship (Crawley)



# UNCF-Merck, diversity awards, pilot funding

Dr. AJ Baucum

# Diversity Fellowships and Awards

- Goal = improve the diversity of the research workforce
- Eligibility varies (read the Program Announcement!)
- Usually includes individuals from underrepresented (in science) racial/ethnic groups, individuals with disabilities, and individuals from disadvantaged backgrounds
- Examples
  - predoctoral: some F31 NRSAs, Ford Foundation, UNCF-Merck
  - postdoctoral: UNCF-Merck, NSF Minority Postdoctoral Research Fellowships, Ford Foundation
  - Career Development: some NIH K01/K22 awards
  - All levels: diversity supplements for NIH research awards
    - May require at least 18 months left on the PIs R01
  - Travel awards: Carl Storm Gordon Conference, AACR, SACNAS

# UNCF Merck Fellowship

- Usually about 2 pages long (short)
- Want to know how you will be a good fit for the fellowship program
- Paired with a MERCK mentor who can help you during the fellowship and after
  - Don't have to be interested in a career in industry
  - In my case was a person doing proteomics who I occasionally ask for advice and have gone to a short course led by him
- Increasing the community of African American/Black scientists

# Pilot Funds/Transition Awards

- Not Necessarily Minority Based
- NARSAD – Brain & Behavior Research Foundation
- Internal Funding
  - Hobbs discovery grant (Kennedy Center)
  - Pilot Funding (Digestive Disease Research Center)
  - <http://vanderbilt.edu/oor/funding/internal-research-grants/>
  - Vanderbilt Institute for Clinical and Translational Research (VICTR)
    - <https://starbrite.vanderbilt.edu/funding/fundingcriteria.html>

# National Science Foundation Human Frontier Science Program

Dr. M. Shane Hutson



**National Science Foundation**  
WHERE DISCOVERIES BEGIN

NSF Vision:

Advancing discovery, innovation, and education beyond the frontiers of current knowledge, and empowering future generations in science and engineering.

## **NSF in a Nutshell**

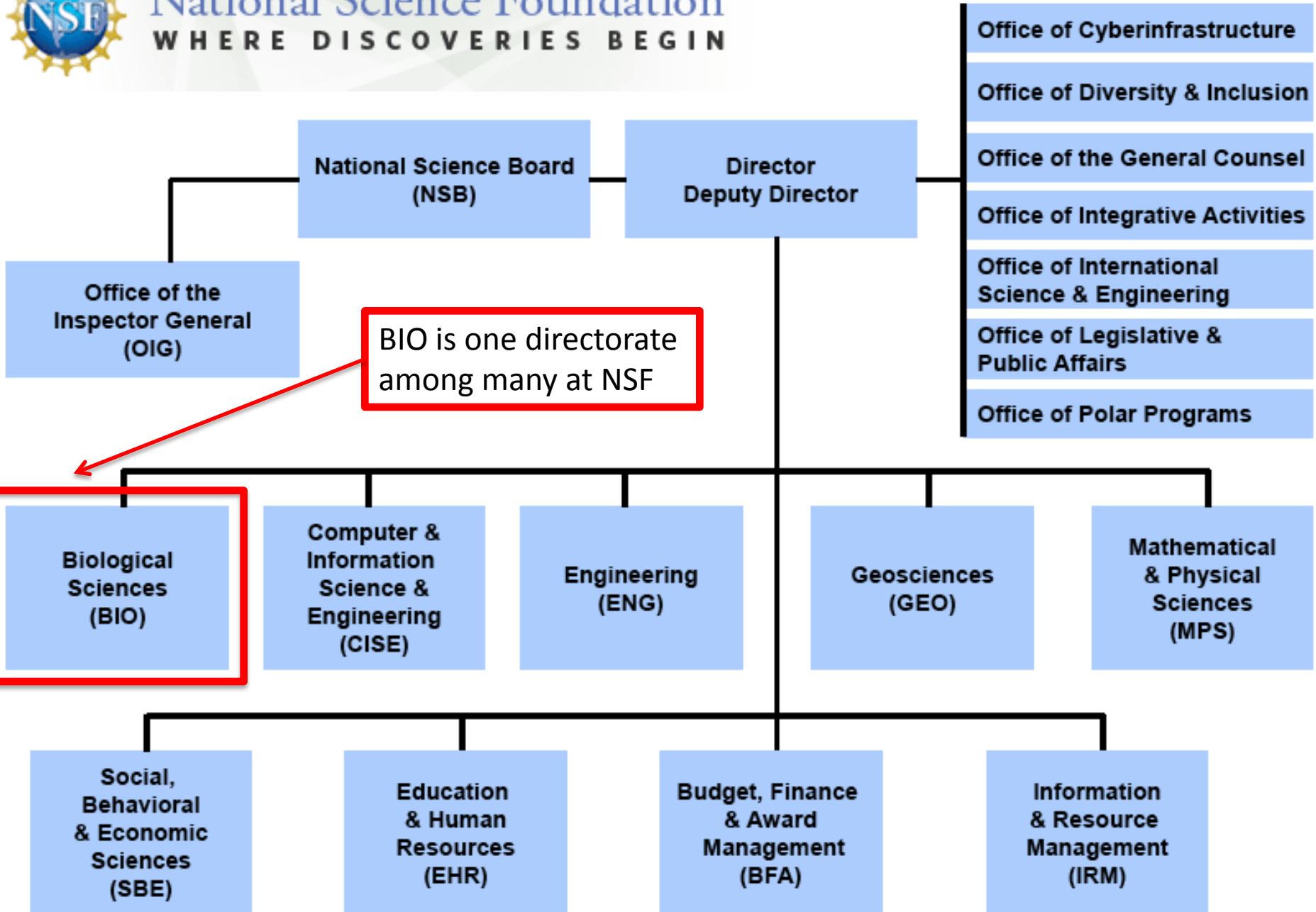
[www.nsf.gov](http://www.nsf.gov)

- **Independent Agency**
- **Supports basic research & education**
- **Uses grant mechanism**
- **Low overhead; highly automated**
- **Discipline-based structure**
- **Cross-disciplinary mechanisms**
- **Use of Rotators/IPAs**
- **National Science Board**



# National Science Foundation

WHERE DISCOVERIES BEGIN





National Science Foundation  
WHERE DISCOVERIES BEGIN

Federal Support for Basic Research  
in *Non-Medical Biological Sciences*  
at Academic Institutions



Federal Support for Basic Research  
in *Environmental Biology*  
at Academic Institutions

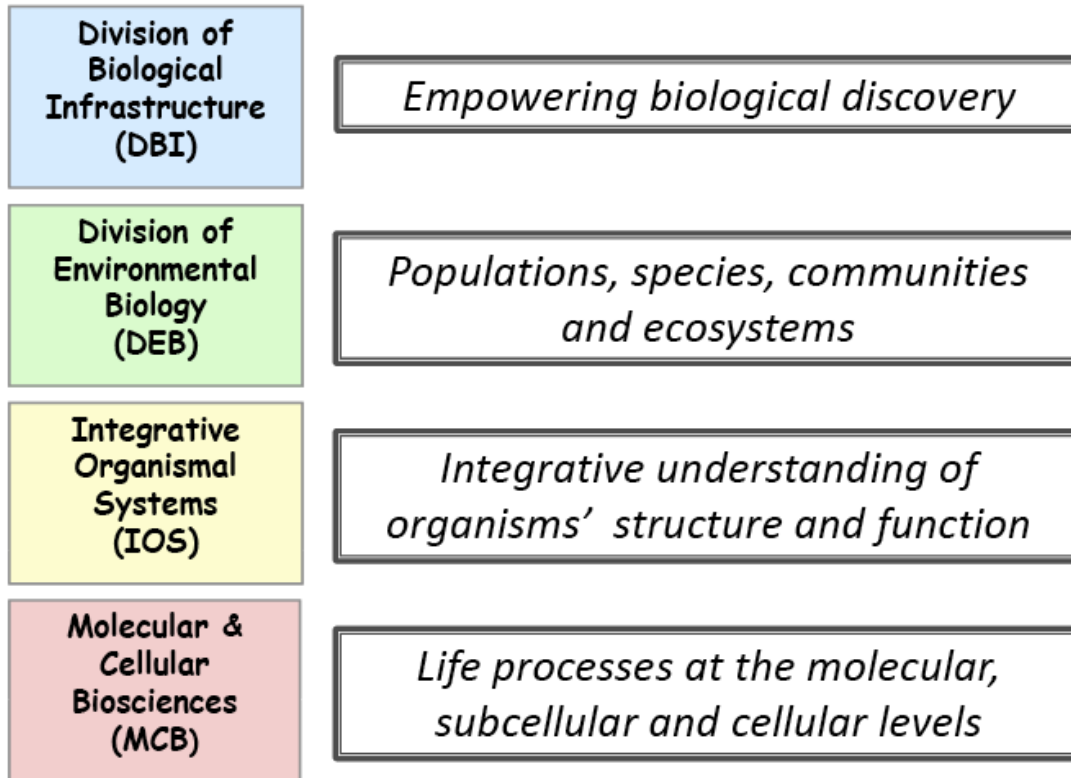


Biological research funded by NSF is explicitly non-medical.





## Within the BIO directorate . . .





## Doctoral Dissertation Enhancement Grants

- funds research related costs only (up to \$15k); can be used for travel to meetings
- must pass candidacy by deadline
- only available for projects within scope of DEB or Behavioral Sciences Cluster of IOS

## Postdoctoral Research Fellowships in Biology (PRFB)

- only available in *selected areas* supported by BIO and with special goals for human resource development in biology
- selected areas for FY2012 (these can change annually) . . .
  1. Broadening Participation in Biology;
  2. Intersections of Biology and Mathematical and Physical Sciences; and
  3. National Plant Genome Initiative Postdoctoral Research Fellowships.

## Faculty Early Career Development (CAREER) Awards

- special funding for early career researchers (must be in independent position)
- strong emphasis on integration of teaching and research
- highly competitive



HUMAN FRONTIER SCIENCE PROGRAM

FUNDING FRONTIER RESEARCH INTO COMPLEX BIOLOGICAL SYSTEMS

The Human Frontier Science Program is unique, supporting international collaboration to undertake innovative, risky, basic research at the frontiers of the life sciences. Special emphasis is given to the support and training of independent young investigators, beginning at the postdoctoral level.



HFSP member countries as of 2011.

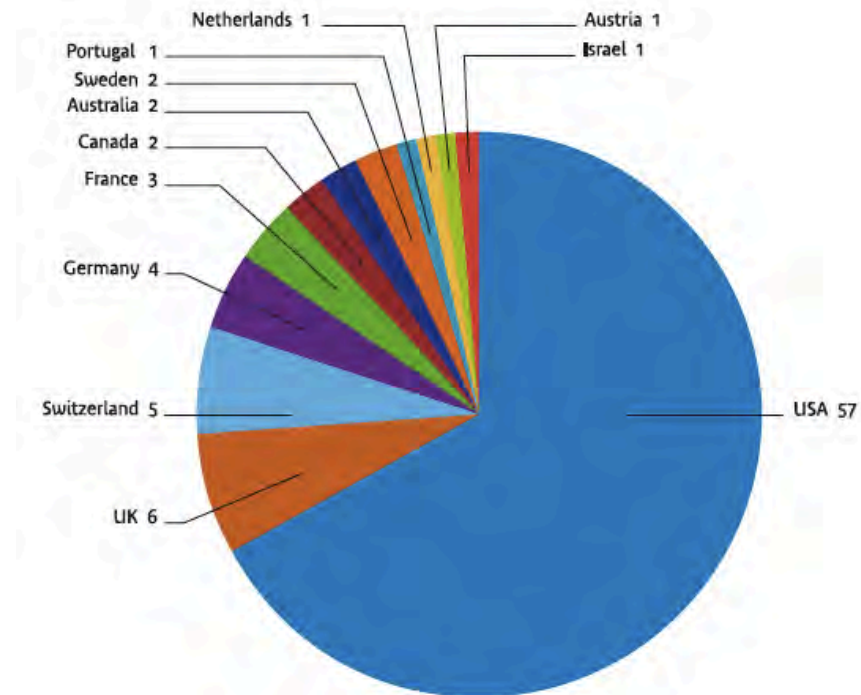
[www.hfsp.org](http://www.hfsp.org)



**HFSP postdoctoral fellowships** encourage early career scientists to broaden their research skills by moving into **new areas of study** while working in a **new country**.

- Long-Term Fellowships (LTF): PhDs moving from one area of biological science to another (11% success rate in 2010)
- Cross-Disciplinary Fellowships (CDF): for PhDs from outside the life sciences (e.g. physics, math, chemistry or engineering) who want to move into biological research (14% success rate in 2010)

HFSP fellows may choose to stay for up to three years in the host country or use the last year of their fellowship to return to their home country and start their own laboratory. Career Development Awards are available for former HFSP fellows.



Distribution of host labs - 2011



HUMAN FRONTIER SCIENCE PROGRAM

FUNDING FRONTIER RESEARCH INTO COMPLEX BIOLOGICAL SYSTEMS

## Q. What characterizes an outstanding HFSP fellowship application?

A:

- The successful completion of the previous research project as evident by at least one first (co-) author publication in an international peer-reviewed journal to which the candidate has made a significant contribution (the reference letters should elaborate on this aspect).
- Supportive reference letters by the host supervisor(s) and two referees.
- The research plan is feasible and described in sufficient detail.
- A successful project...
  - is an original study that marks a departure from the previous research (change in research direction),
  - exposes the applicant to new theory (literature) and methodology,
  - contains new elements (e.g. developing or learning new methods) that open a **completely new approach to the research problem even if risky,**
  - is deemed to make a major contribution to the research field.



HUMAN FRONTIER SCIENCE PROGRAM

FUNDING FRONTIER RESEARCH INTO COMPLEX BIOLOGICAL SYSTEMS

**Research Grants** are awarded for innovative research projects involving **extensive collaboration** among teams of independent scientists working in **different countries and in different disciplines**.

- Young Investigator grants: all team members in first 5 years of independent position (and within first 10 years of PhD).
- Program grants: team members at any career stage

Funding rate for both is ~5%, but Letter Of Intent is required and only ~13% of LOI writers are asked to submit full proposals (so almost 40% of full proposals are funded).



National Science Foundation  
WHERE DISCOVERIES BEGIN



HUMAN FRONTIER SCIENCE PROGRAM  
FUNDING FRONTIER RESEARCH INTO COMPLEX BIOLOGICAL SYSTEMS

NSF and HFSP both fund  
basic or fundamental biological research.

Missions are very different from NIH –  
explicitly non-medical!

This does not mean that your proposal cannot have any  
relevance to human health, but the emphasis must be on  
the underlying biology.

# U.S. Department of Veterans Affairs

Dr. Don Rubin



# Career Development Deadlines

- A Letter of Intent is required.
  - CSR&D and BLR&D Due Jun 15<sup>th</sup> and Dec 15<sup>th</sup>
  - HSR&D Due Apr 15<sup>th</sup> and Oct 15<sup>th</sup>
  - RR&D Due May 1<sup>st</sup> and Nov 1<sup>st</sup>
  - Must have a VA mentor.
- Research Funding Announcement (RFA) are available through the Research Office.

# Career Development Deadlines

- Career Development Proposals
  - HSR&D and RR&D Finals are Due Jun 15<sup>th</sup> and Dec 15<sup>th</sup>.
  - BLR&D and CSR&D Due Mar 15<sup>th</sup> and Sept 15<sup>th</sup>
  - Contact the Research Service for local dead lines.
  - Drafts must be submitted to the Research Office 30-days prior to final submission deadlines for R&D Committee review/approval.

# Career Development

- Career Development Program is comprised of
  - CDA-2 Career Development Award-2

# Career Development

- CDA-2 Career Development Award – 2
  - Provides salary and/or project funds to support for 3-5 years
  - Non-Clinicians need to be no more than 5 years beyond completion of PhD or doctoral equivalent.
  - Clinician nominees need to be no more than 5 years beyond clinical training.

# Career Development

- CDA-2 Career Development Award – 2
  - Nominees must not have been principal investigator or co-investigator on a peer-reviewed independent research project supported by national public or private organization *in excess of \$50,000 a year*.
  - Nominees need to have at least one first-authored research publication pertinent to the general proposed research area.

# FY09 DOD PRORP and SCIRP Funding Opportunities

## The US Army Medical Research and Materiel Command (USAMRMC)

a Peer Reviewed Orthopedic Research Program (PRORP) and Spinal Cord Injury Research Program (SCIRP). Both programs will be managed utilizing CDMRP's two-tier review process, recommended by the Institute of Medicine.

### Peer Reviewed Orthopedic Research Program

Appropriations in the amount of \$61 Million for PRORP will be managed specifically to address research and treatment of orthopedic injuries as they relate to U.S. military casualties.

Appropriations in the amount of \$35 Million for SCIRP will be managed to address spinal cord injury and treatment research.

# Biomedical Laboratory Research and Development

- Biomedical Laboratory Research and Development (BLR&D) supports research exploring biological or physiological principles in humans or animals. For example, BLR&D research includes pre-clinical models and investigations of tissues, blood or other biologic specimens from humans.
  
- \* Merit Review Program
- \* Career Development Program
- \* Centers and Research Enhancement Award Programs (REAP)
- \* Off-site Research
- \* Shared Equipment Evaluation Program (ShEEP)
- \* Special Solicitations
- \* Contacts
- \* Research Awards Program



# Health Services Research and Development Service (HSR&D)

## Overview

- The Health Services Research and Development Service (HSR&D)
  - the interface of health care systems, patients and health care outcomes.
  - HSR&D underscores all aspects of VA health care; specifically quality, access, patient outcomes and health care costs.
- Mission
  - advance knowledge and promote innovations that improve the health and care of veterans and the nation.
  - new technologies, explore strategies for improving health outcomes, and evaluate the cost-effectiveness of services and therapies.

## Peer Review grants and Centers of Excellence

- There are thirteen HSR&D Centers of Excellence (COE) and three Resource Centers located throughout the US. In addition, HSR&D's Research Enhancement Award Program (REAP) support the development of other research centers across the country.



# Rehabilitation R&D Service

## Journal of Rehab R&D

### ■ Overview of RR&

- technology that gives veterans back functional independence
  - an intramural program for improving the quality of life of impaired and disabled veterans
  - approved rehabilitation research projects
  - through evaluation and technology transfer to final clinical application.
- 
- Rehabilitation Research & Development's Centers of Excellence and Peer Review Grants

# Women's Health

- Women's Health and VA
  - 14% of active military
  - 20% of recruits
  - 2 million veterans
- Special JGIM Supplement: VA Research on Women's Health
  - Journal of General Internal Medicine March 2006;21(3).

- Scientists are people of very dissimilar temperaments doing different things in very different ways. Among scientists are collectors, classifiers and compulsive tidiers; many are detectives by temperament and many are explorers, some are artists and others artisans. There are poet-scientists and philosopher-scientists and even a few mystics.

- -Peter Medawar, *Pluto's Republic*, Oxford University Press, New York, 1982, p.116.

# U.S. Department of Defense

Dr. Jin Chen



## RESEARCH PROGRAMS



The office of the Congressionally Directed Medical Research Programs (CDMRP) manages Congressional Special Interest Medical Research Programs (CSI) encompassing breast, prostate, and ovarian cancers, neurofibromatosis, military health, and other specified areas. Since fiscal year 1992, the CDMRP has managed approximately over \$6.0 billion in Congressional appropriations for peer-reviewed research aimed to prevent, control, and cure disease. Through fiscal year 2009, approximately 9,934 awards have been made to advance health care solutions via extramural grants, contracts, and cooperative agreements.

### Currently Funded Research Programs

- [Amyotrophic Lateral Sclerosis](#)
- [Autism](#)
- [Bone Marrow Failure](#)
- [Breast Cancer](#)



# People with DOD Funding in the Chen Lab

Meghana Rao

David Vaught

Dana Brantley-Sieders

Yoonha

Krishna

Jin Chen

Charlene

Guanglei Zhuang

Wei Bin Fang

Wenqiang





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Program Announcements & Forms

[Home](#) > [Program Announcements and Forms](#)

## Program Announcements and Forms

### General Application Instructions

General Application Instructions

Word

PDF

n/a



## Current Funding Opportunities

*Program Announcements*

[Autism Research Program \(ARP\) 2011](#)

[click to view Award Mechanisms](#)

[Breast Cancer Research Program \(BCRP\) 2011](#)

[click to view Award Mechanisms](#)

[Defense Medical Research and Development Program \(DMRDP\) 2011](#)

[click to view Award Mechanisms](#)

[Duchenne Muscular Dystrophy Research Program \(DMDRP\) 2011](#)

[click to view Award Mechanisms](#)

[Lung Cancer Research Program \(LCRP\) 2011](#)

[click to view Award Mechanisms](#)

[Peer Reviewed Cancer Research Program \(PRCRP\) 2011](#)

[click to view Award Mechanisms](#)

[Peer Reviewed Orthopaedic Research Program \(PRORP\) 2011](#)

[click to view Award Mechanisms](#)

[Psychological Health and Traumatic Brain Injury Research Program \(PH-TBI\) 2011](#)

[click to view Award Mechanisms](#)

[Spinal Cord Injury Research Program \(SCIRP\) 2011](#)

[click to view Award Mechanisms](#)



**Fiscal Year 2011 (FY11) Peer Reviewed Cancer Research Program (PRCRP)  
Reference Table of Award Mechanism and Submission Requirements**

Award Mechanism	Eligibility	Key Mechanism Elements	Funding	Submission Deadline
<p><b>Discovery Award</b></p> <p>Go to:</p> <ul style="list-style-type: none"> <li>• <a href="#">Program Announcement</a></li> <li>• <a href="#">General Application Instructions</a></li> </ul> <p>Grants.gov Funding Opportunity Number: <a href="#">W81XWH-11-PRCRP-DA</a></p>	<ul style="list-style-type: none"> <li>• All investigators</li> <li>• Postdoctoral fellows and early career independent investigators are encouraged to apply</li> </ul>	<ul style="list-style-type: none"> <li>• Research must be in one or more of the FY11 PRCRP Topic Areas</li> <li>• Supports the exploration of a highly innovative, untested, high-risk/potentially high-reward concepts, theories, paradigms, and/or methods</li> <li>• Does not support training of postdoctoral fellow to include a budget option for research supplies</li> <li>• Applications must not address breast, prostate, lung (excluding mesothelioma), or ovarian cancer research</li> <li>• Inclusion of preliminary data is strongly discouraged</li> <li>• Clinical trials will not be supported</li> </ul>	<ul style="list-style-type: none"> <li>• Maximum funding for the entire period of performance is \$200,000 for direct costs (plus indirect costs)</li> <li>• Maximum period of performance is 2 years</li> </ul>	<p><b>Pre-application:</b> <b>October 13, 2011</b> 5:00 p.m. Eastern time (ET)</p> <p><b>Application:</b> <b>October 27, 2011</b> 11:59 p.m. ET</p>





eReceipt System

# CONGRESSIONALLY DIRECTED MEDICAL RESEARCH PROGRAMS

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## Program Announcements and Forms

### Lung Cancer Research Program (LCRP)

 [Synopsis of LCRP Award Mechanisms](#)

 [General Application Instructions](#)

Award Mechanism

Documents and Forms

Concept Award

[Program Announcement](#) 

Early Investigator Synergistic Idea Award

[Program Announcement](#) 

[Early Investigator Synergistic Idea Award Eligibility Statement](#) 

Investigator - Initiated Translational Research Award

[Program Announcement](#) 

Promising Clinician Research Award

[Program Announcement](#) 

[Promising Clinician Research Award Eligibility Statement](#) 

[Show All Current Funding Opportunities](#)

**NOTE:** Award mechanism-specific forms shown above supercede the generic documents below. If the form is not listed with the award mechanism, please use the generic version of the form below.

# Kim's Questions

1. What research areas and types of awards are funded by the agency? (PhD/postdoc fellowships, career dev awards, small research grants, clinical research awards)
2. Who is eligible? (PhDs, MDs, non-citizens?)
3. Key websites, listservs, and resources
4. How is the application and review process different from the NIH?
5. How are funds allocated and distributed?
6. Key people who help with the grant application and review process (i.e. like program officers at the NIH)
7. Success rates
8. Advice for applying for funding from that agency



Thank you for your attention! Any questions?

