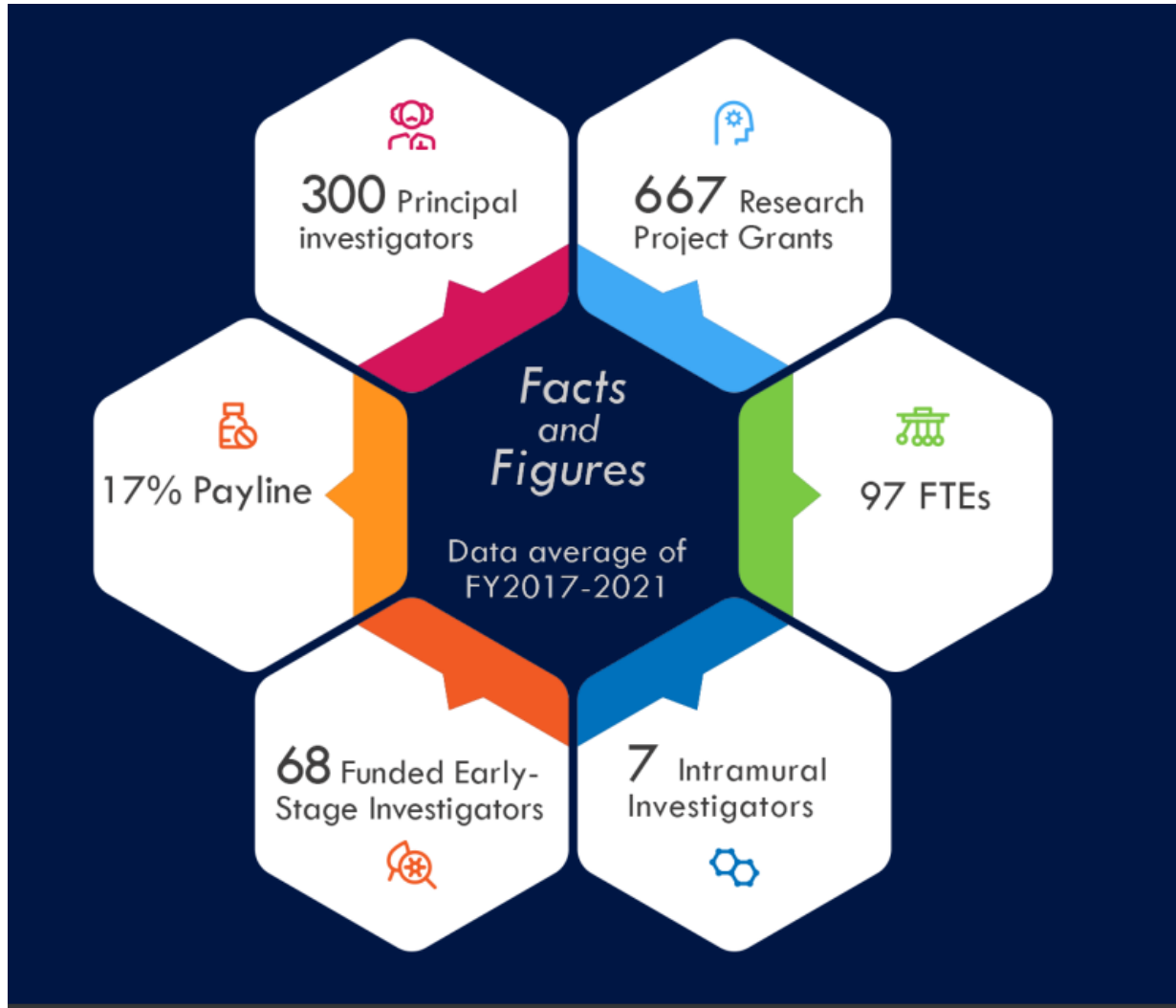


Research Opportunities at National Institute of Biomedical Imaging and Bioengineering (NIBIB)

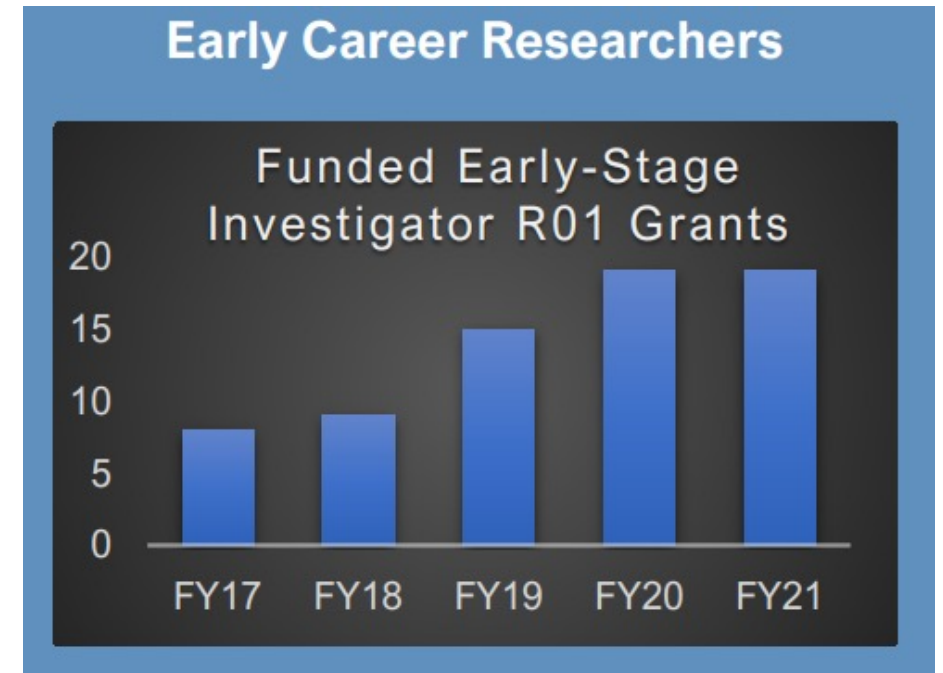
Moria Fisher Bittmann, Ph.D.

Program Director, Robotics, Bionics, and Medical Simulators
National Institute of Biomedical Imaging and Bioengineering

NIBIB's Funding Landscape for FY23

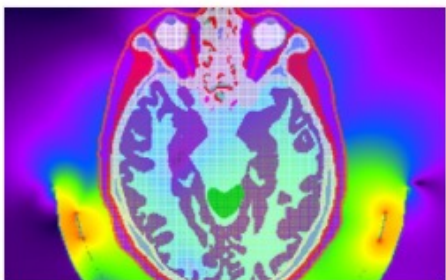


Total NIH Budget = \$47.5B
Total NIBIB Budget = \$420M



NIBIB Program Areas

NIBIB's Mission: *To improve health by leading the development and accelerating the application of biomedical technologies.*



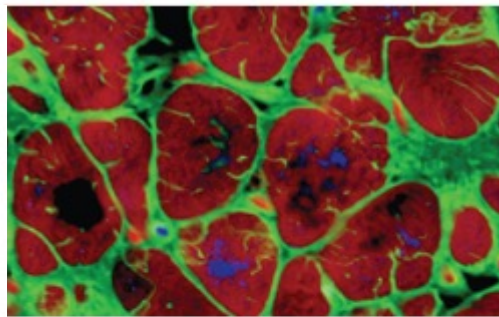
Bio-Electromagnetic Technologies

Shumin Wang, Ph.D.



Bionics

Moria Fisher Bittmann, Ph.D.



Biomaterial Interfaces

Luisa Russell, Ph.D.



Artificial Intelligence, Machine Learning, and Deep Learning

Behrouz Shabestari, Ph.D.



Connected Health - Mobile Health and Telehealth

Tiffani Bailey Lash, Ph.D.



Magnetic Resonance Imaging

Guoying Liu, Ph.D.

Shumin Wang, Ph.D.



Robotics

Moria Fisher Bittmann, Ph.D.



Biomedical Informatics

Qi Duan, Ph.D.



Point of Care Technologies - Diagnostics

Tiffani Bailey Lash, Ph.D.

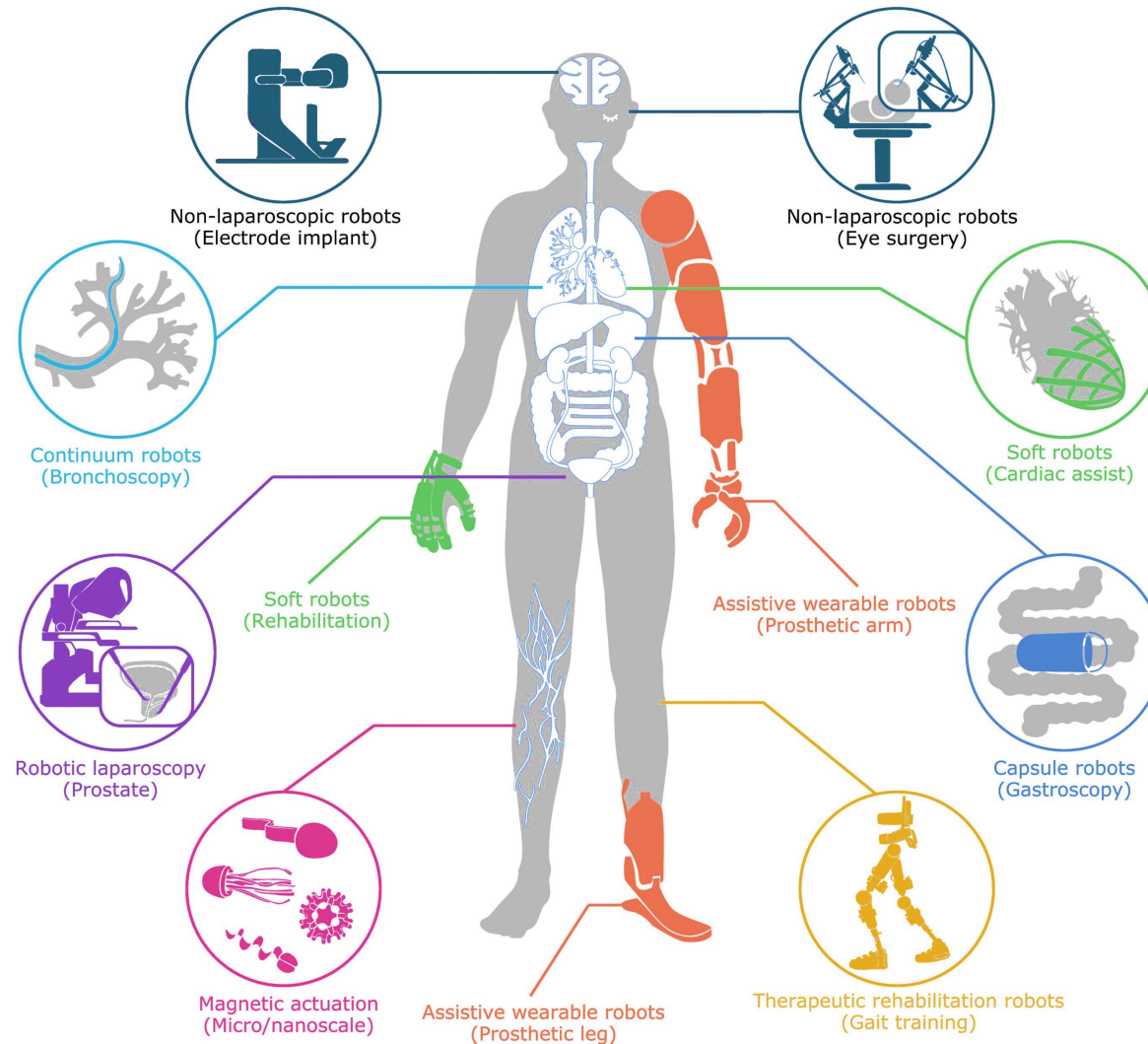


Image Processing, Visual Perception and Display

Behrouz Shabestari, Ph.D.

Qi Duan, Ph.D.

NIBIB's Investment in Robotic and Bionic Device Development



NIBIB Investment 2017-2022

Surgery	\$8.4M
Image-guidance	\$1.7M
Bionics	\$4.4M
Prosthetics	\$4.7M

Dupont et al, A decade retrospective of medical robotics research from 2010 to 2020. *Sci. Robot.* 6, eabi8017 (2021).

Supporting Hypothesis AND Non-Hypothesis Driven Research

NIH-wide Funding Opportunities

- **Research Project Grant (Parent R01)**
- **Katz Early-Stage Investigator R01**
- **Exploratory/Developmental Grant (R21)**
- **Small Grant Program (R03)**
- **SBIR/STTR Grants (R41, R42, R43, R44)**
- **Training, Resource, Conference Grants (F series, K series, R25, R13)**

NIBIB Specific Funding Opportunities

- **Trailblazer FOA (R21)**
 - Early Stage OR New Investigators
 - Minimal preliminary data
- **Technology Development to Reduce Health Disparities (R01)**
 - Partnership with NIMHD
 - Development or adaptation of current tech
- **Academic-Industrial Partnerships for Translation of Technologies for Diagnosis and Treatment (R01)**
 - Partnership with NCI and NIDCR
- **Research on Bioethical Issues Related to Bionic and Robotic Device Development and Translation (R21)**

RFA-EB-23-005: Research on Bioethical Issues Related to Bionic and Robotic Device Development and Translation (R21)

Purpose:

- Support research that analyzes and/or addresses bioethical issues related to **bionic** and **robotic devices**
- Develop a robust bioethics research evidentiary base to inform policy and program decision-making with regards to the device lifespan
- Cultivate an interdisciplinary community of bioethicists, engineers, scientists and clinicians

Examples of projects:

- Ethical implications of recent developments in bionic and robotic devices
- Participant representation in study design and participant selection
- Informed consent practices
- Long-term obligations to research participant populations
- Ethical challenges related to equitable availability and use of robotic and/or bionic devices in medical settings



Due date: January 26, 2024

Thank you!

Moria Fisher Bittmann, PhD

Division of Discovery Science & Technology
Program Director, Robotics, Bionics, Medical Simulators

National Institute of Biomedical Imaging and
Bioengineering (NIBIB)

National Institutes of Health (NIH)

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www.nibib.nih.gov

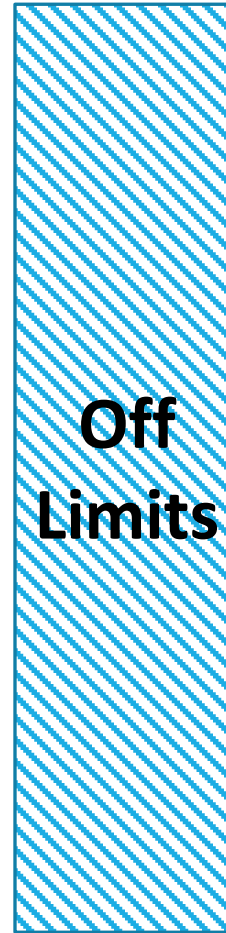
NIH Program Officer: your primary contact

Pre-Application

- Start by emailing a draft of your **specific aims** → visits are unnecessary
- Assess the “fit” to the IC, Program(s)
- Start the conversation early: develop your ideas together
- Choose the right activity/mechanism
- Brief on Review Issues: Dos/Don'ts

Post Review

- Analyze the Summary Statement: deeper insights from the Review
- Understand the rating and assess the likelihood of funding
- BEWARE! Nothing is certain until you have it in writing



During the Award

- Discuss problems in execution (re-budgeting, re-scoping, extensions)
- Find an administrator to address unusual issues
- Brag about important discoveries
 - Heads-up on publications
 - Send highlight slides

Anytime

- Arrange introductions so you can serve on advisory boards workshop panels, etc. to help set the research agenda
- Discover what's New and Coming Soon in Funding Opportunities



Application

Review



Award