Program Objectives:
• Support foundational and translational tissue engineering research that can benefit from experiments conducted on the International Space Station

Key Components:
• NSF funding supports initial research, preparation of experiments for flight, coordination with service providers, analysis of data, and dissemination of results
• CASIS funding supports translation and implementation of experiments to the International Space Station
• NSF proposal – maximum of 3 years and $300k, including indirect costs
• Solicitation 18-514 - includes special requirements

NSF-Supported work fits scope of EBMS Program
Program Objectives:
• Develop novel ideas into transformative solutions for biomedical problems
• Advance engineering and biomedical sciences, integrating the two disciplines

Key Components:
• Development of validated models of normal and pathological tissues and organ systems
  • Computational model with ISS experiments to validate
  • Organoid models for physiological investigation
• Design of systems that integrate living and non-living components for improved diagnosis, monitoring, and treatment of disease or injury
  • Tissue engineered systems
• Advanced biomanufacturing of 3D tissues and organs
Innovative research
Advance biomedical engineering
  - Engineering framework (e.g. validated design or modeling)
  - Answer questions related to physiology or pathophysiology
Questions cannot be answered through Earth-based research
Have an eventual impact to benefit human health
Sufficient preliminary data to demonstrate feasibility
• The NSF “bible” for PI’s and institutions
  – Part 1: Grant Proposal Guide
  – Part 2: Award and Administration Guide
• New version issued for 2018
• Read the Grant Proposal Guide for instructions and rules on submitting proposals
  – Required sections
  – Allowed supplementary material
  – Letters of commitment
NSF REVIEW CRITERIA

• Intellectual Merit:
  – Does the proposed work advance and contribute knowledge in its own field or across different disciplines?
  – Does the proposal involve creative and original concepts?
  – Is the proposal well-conceived and organized?
  – Is the PI (or team) qualified to conduct the proposed work?
  – Does the team have sufficient access to resources to conduct the work?

• Broader Impact
  – Does the research and related activities contribute to the achievement of societally relevant outcomes?
  – May include activities that:
    • Broaden participation in STEM
    • Improve STEM education
    • Increase public scientific literacy
KEYS TO SUCCESS

• Identify the right Program and tailor your project to that Program
• Contact the Program Director you hope to submit to in order to discuss your ideas and confirm the fit of the project with the program
  – Start with an email (include your project objectives) and follow up with phone call or visit for more extensive discussion

**DO NOT WAIT UNTIL THE LAST MINUTE!**

• Know the difference between an NSF and an NIH project
• Spend time on the Broader Impacts – don’t rely on the future benefit to human health
• Include enough preliminary data to prove that the work is doable
• Tell a good story explaining why your work is important, innovative, and (if successful) transformative
• Volunteer to serve as a panelist to better understand process and review
Work closely with your Research Office on the process
  – Electronic submission – and the last steps are completely out of your hands
  – Typically Research Office requests that they receive the proposal several days in advance
The deadline is **real** – down to the second: 5:00:00 PM local time
Ask your Research Office to submit at least a day early in case there is a data entry error – allows time for it to be kicked back and resubmitted
Going back in and changing any component of the proposal changes the submission clock – don’t do it past the deadline!
• Proposals due by February 12
• Panel review in March or April
• Decisions expected by July
• If sufficient strong proposals are submitted, anticipate continuing the program for 2019 and 2020
Thank you!