

Carnegie Mellon Biomedical Engineering

Keith E. Cook, PhD
Professor, Biomedical Engineering
Carnegie Mellon University

What is Biomedical Engineering?

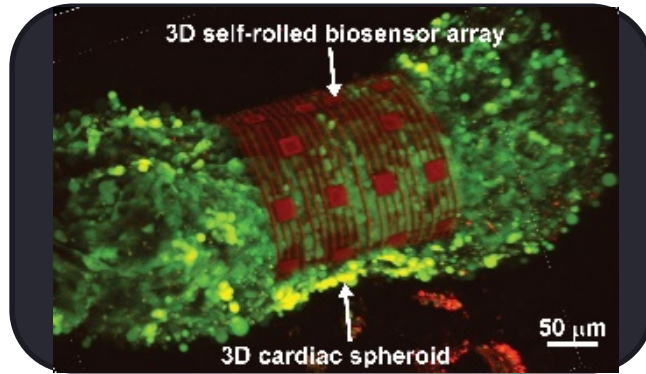
- Intersection of biology and medicine with “traditional” engineering disciplines
 - Mechanical Engineering
 - Electrical Engineering
 - Materials Science
 - Computer science
 - More...

Our Students Have Different Backgrounds

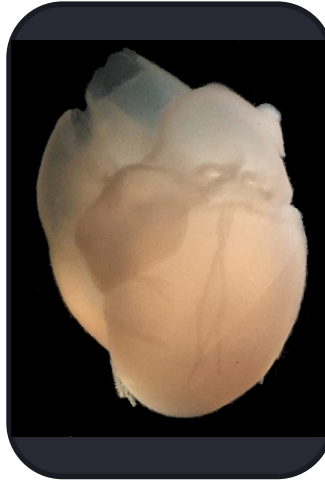
- Engineering
- Biological sciences
- Other sciences
- Mathematics



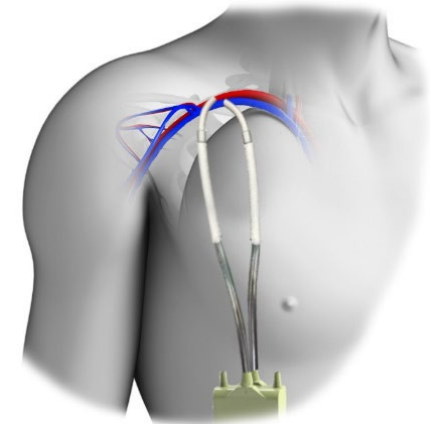
CMU Research Strengths



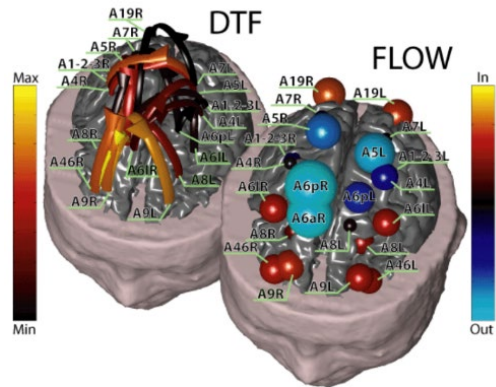
Biomaterials



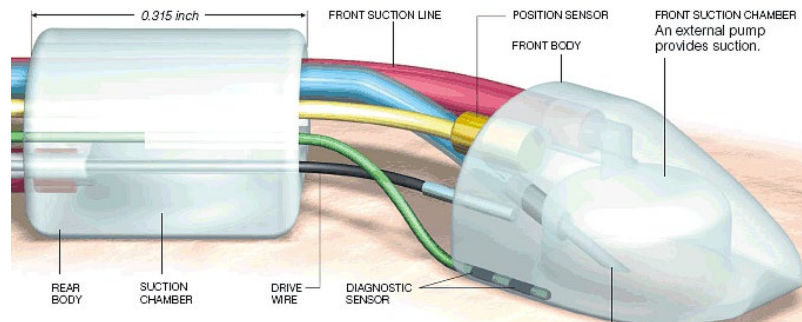
Tissue/Organ Engineering



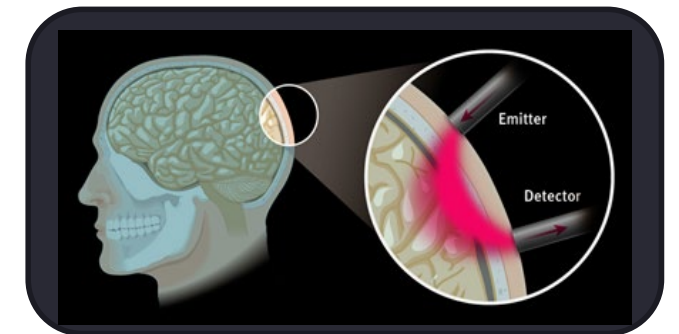
**Cardiopulmonary
Medical Devices**



Neural Engineering



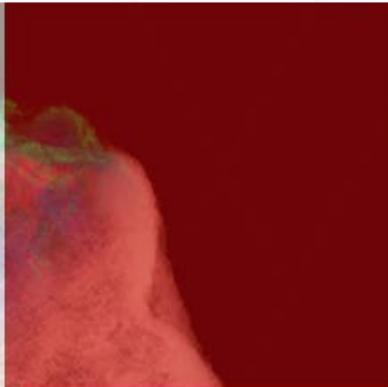
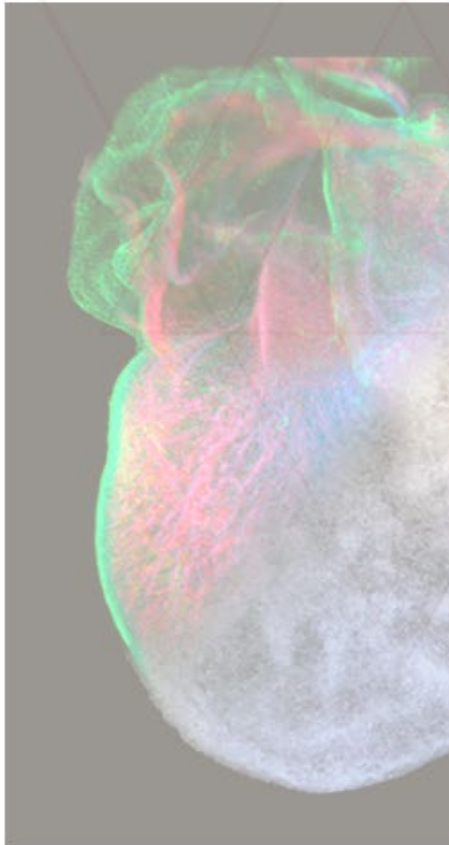
Medical Robotics



Biomedical Imaging



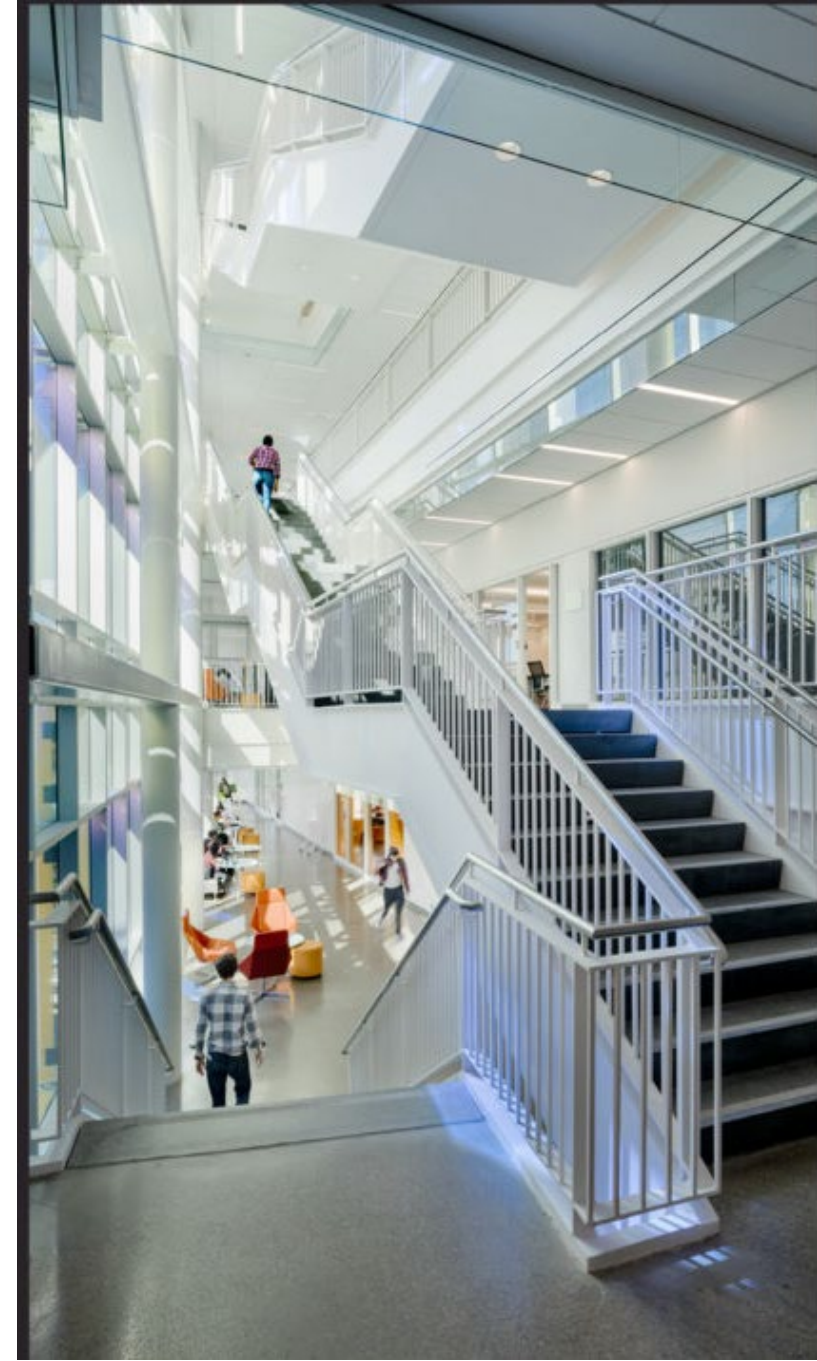
Bioengineered Organs Initiative

[News](#)[Research](#)[About](#)[Faculty](#)[Join us](#)[Support us](#)[Contact us](#)[Events](#)[About bioengineered organs](#)[Explore our research](#)[Learn about our faculty](#)

Constructing longer life

Course Focus Areas

- Physiology and Cellular/Molecular Biology
- Biomaterials and Tissue Engineering
- Biomechanics
- Biomedical Imaging and Bioinformatics
- Neuroengineering



Graduate Programs

- PhD
- MS
 - Practicum option (course-based)
 - Research option
 - Engineering & Technology Innovation Management (ETIM)
 - Technology Ventures (MSTV)
 - CS + BME Dual Masters



PhD Direct Entry Requirements

- \approx 5 years
- **100% paid for (tuition & stipend)**
- 7-9 formal classes
- Rest of time dedicated to research



Practicum Masters Requirements

- 9-16 months
- Tuition – fellowship are available (GEM)
- Course work
 - 7-9 formal classes
 - One project (clinical, research)

Joint Programs (ETIM, MSTV, CS + BME)

- 9 months of BME courses (7-9)
- One year of the additional program
 - Innovation management
 - Technology ventures
 - Computer science

Research Masters Requirements

- \approx 21 months
- Tuition – fellowship are available (GEM)
- Course work
 - 6-8 formal classes
 - Remainder is research