
MECHANOBIOLOGY
INSTITUTE
Graduate Programme
MBI
MECHANOBIOLOGY INSTITUTE
National University of Singapore

MBI – A Singapore Research Centre of Excellence

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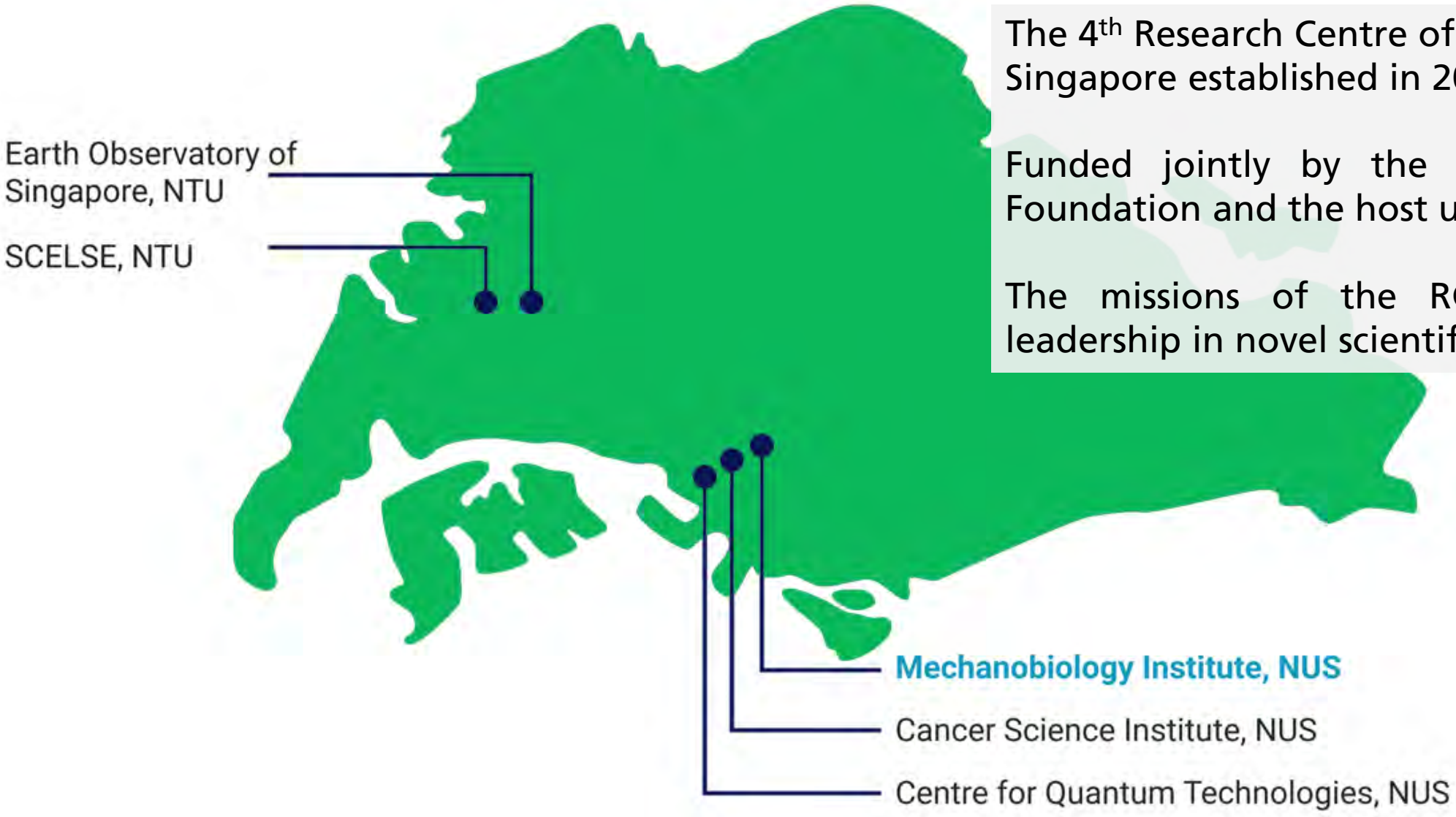

The 4th Research Centre of Excellence (RCE) in Singapore established in 2009

Funded jointly by the National Research Foundation and the host university

The missions of the RCEs are to build leadership in novel scientific areas

MBI Research - Defining Mechanobiology

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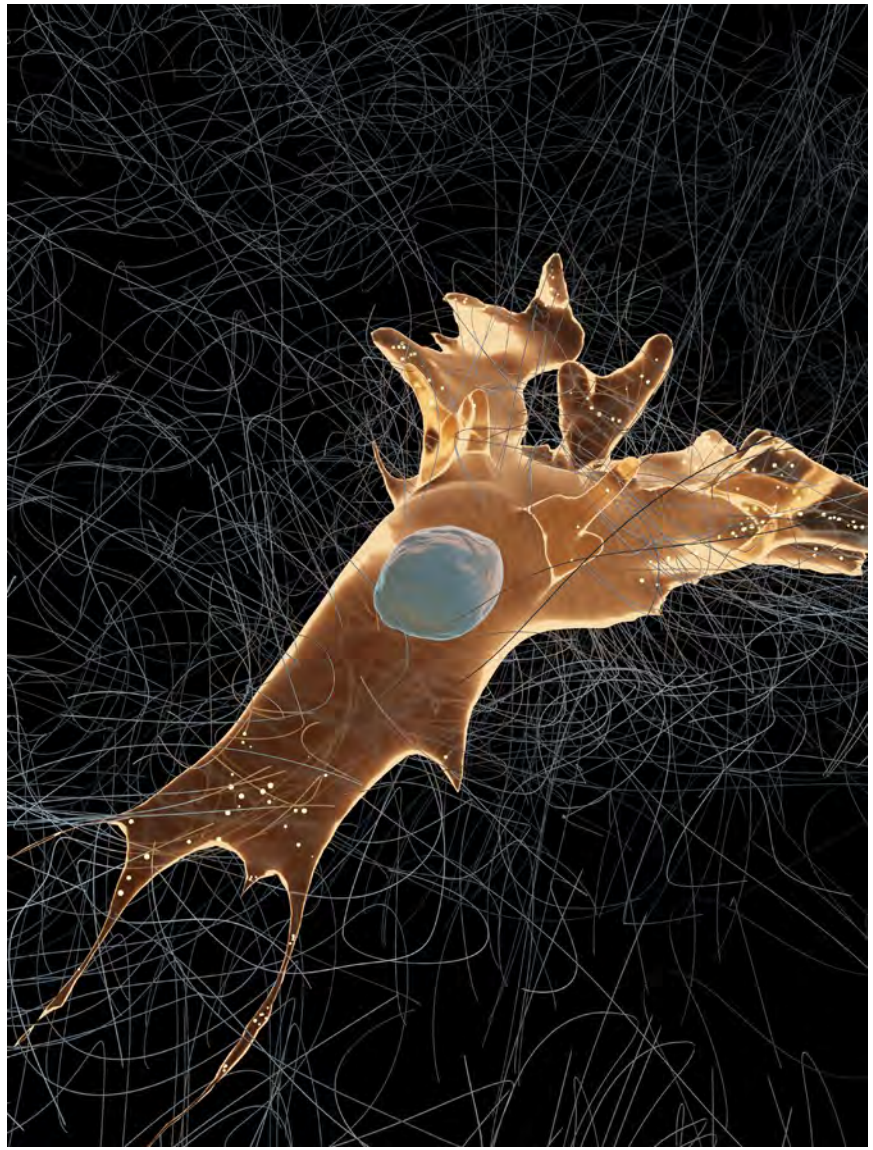
Mechanobiology interrogates biological systems from a physical and mechanical perspective:

- How are forces produced to drive form and function across scales?
- How are mechanical inputs integrated with biochemical signals?
- How does the malfunctioning or aging of biomechanical systems lead to diseases?
- How can biomechanical systems be modulated for prolonging health or treating diseases?



Four Research Themes at MBI

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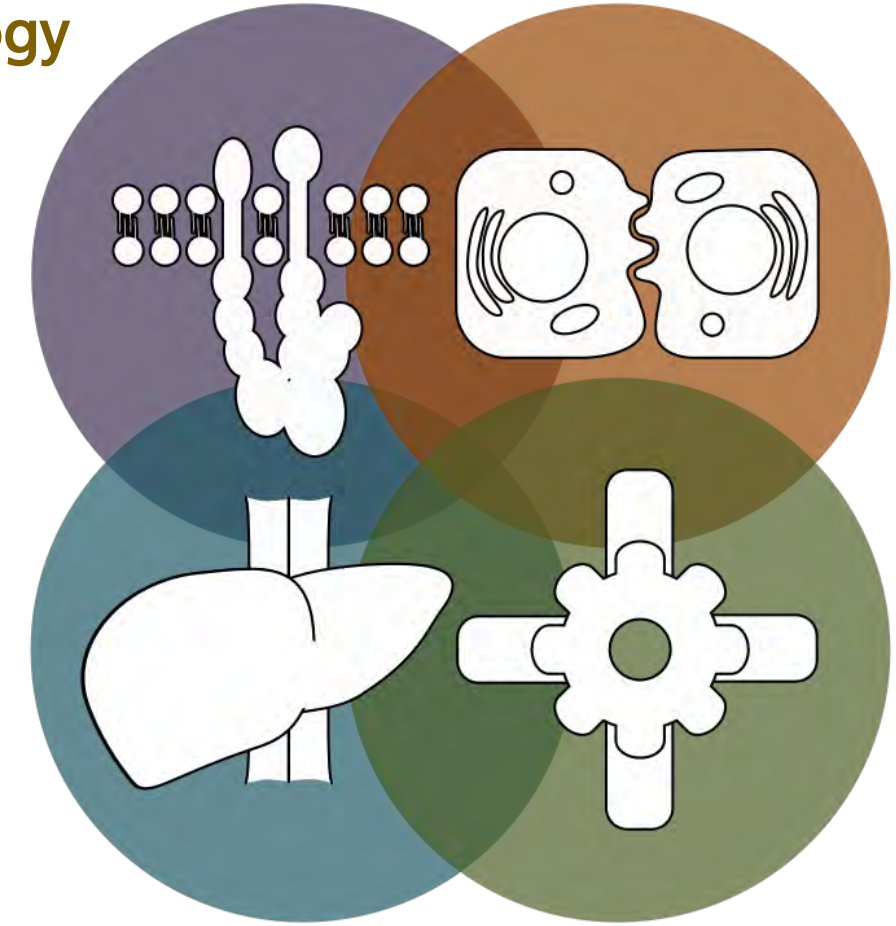
Molecular mechanobiology

- Molecular motors
- Complex molecular machines
- Mechanical signal transduction



Cellular mechanobiology

- Cell motility, division, morphogenesis
- Organelle dynamics and mechanics
- Cell-cell communication
- Cell-environment interaction

Multicellular mechanobiology

- Development of multi-cellular architectures
- Tissue, repair, aging and turnover
- Stem cells and regeneration

Mechanotechnology

- Mechanomodulators
- Tissues on chips
- Novel imaging platforms
- Diagnostic devices

The MBI Open Lab Emphasizes Collaborative Science

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MBI currently occupies 2200 square meters (23680 ft^2) in T-Lab

Under the Open Lab concept, students and research staff from different labs are intermingled to promote interdisciplinary collaborations

A dedicated Wet Lab Core Facility manages communal bench space, shared equipment, safety and maintenance

MBI Core Facilities – Students have access to cutting-edge research technology

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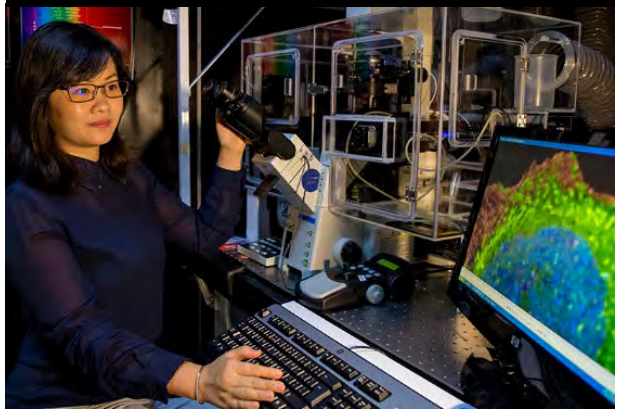
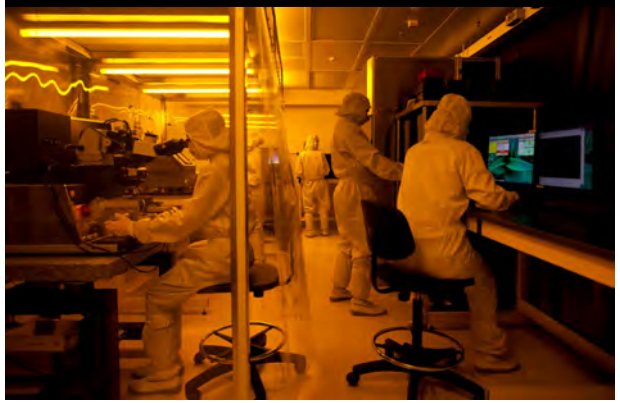
Microscopy



Microfabrication



Hi-Throughput Mol Gen (HMG)

IT & High Performance Computing

The MBI Graduate Programme

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The MBI PhD Programme trains PhD students in interdisciplinary research and collaborative science

First intake of students started in 2009

- *Around 6-8 students join each year,*
- *Total population of ~35*

Full Scholarship for up to 4 years

- *Covers all tuition fees*
- *Generous monthly stipend*
- *Plus travel and settling-in allowances*

During the programme

- *Taught modules in mechanobiology*
- *Lab rotations before starting project*
- *Qualifying examination*
- *Thesis submission & oral examination*

The MBI Graduate Programme

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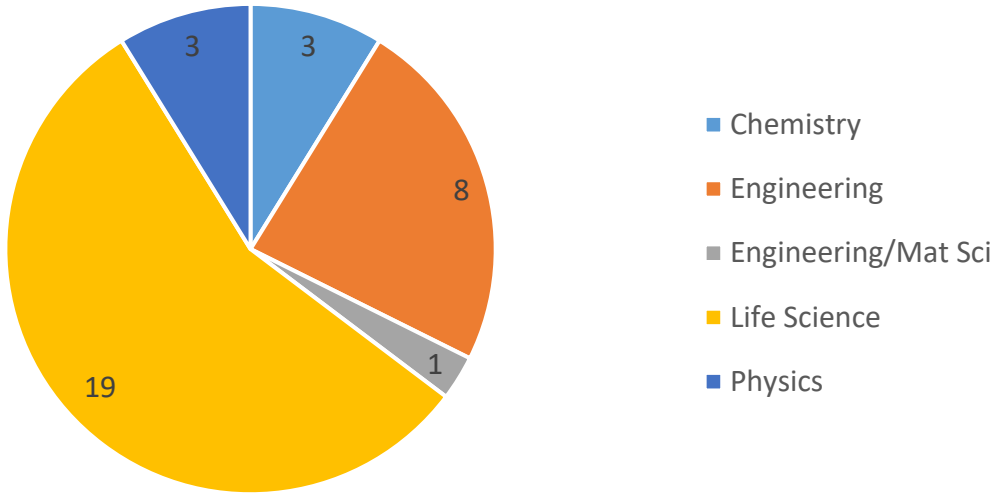
MBI is looking for outstanding local & international students with diverse backgrounds in Science, Technology, Engineering, and Mathematics (STEM)

Undergraduate degree of current MBI students



60 students have graduated to date

- *Future careers in academia, industry, law, and start-up entrepreneurship*

MBI Graduate Student Life

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MBI Seminars

- *Students and Postdocs Seminar Series every Tuesday*
- *Regular Friday meetings with invited scientists*

Dialogues

- *Student progress is closely monitored by a Thesis Advisory Committee and Graduate Committee*

MBI Young Scientists Group

- *The MBI YSG organises scientific, career development, and social events for PhD students and Postdocs*

For more information, visit:

mbi.nus.edu.sg

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MBI YOUNG SCIENTISTS
MECHANOBIOLOGY INSTITUTE
NATIONAL UNIVERSITY OF SINGAPORE

https://mbi.nus.edu.sg/people/mbi-young-scientist-group/

The MBI Young Scientist Group comprises two divisions: the MBI Graduate Student Committee and the MBI Postdoc Committee.

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