

Mechanobiology Institute



Graduate Programme

What is mechanobiology?

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?

About The Mechanobiology Institute

Established in 2009,
MBI has established itself as a

world-class research centre

devoted to the study of
mechanobiology.

Earth Observatory of
Singapore, NTU

SCELS, NTU



Mechanobiology Institute, NUS

Cancer Science Institute, NUS

Centre for Quantum Technologies, NUS

MBI is the

***4th out of 5 Research
Centres of Excellence***

in Singapore, jointly funded by
the National Research Foundation and
the National University of Singapore

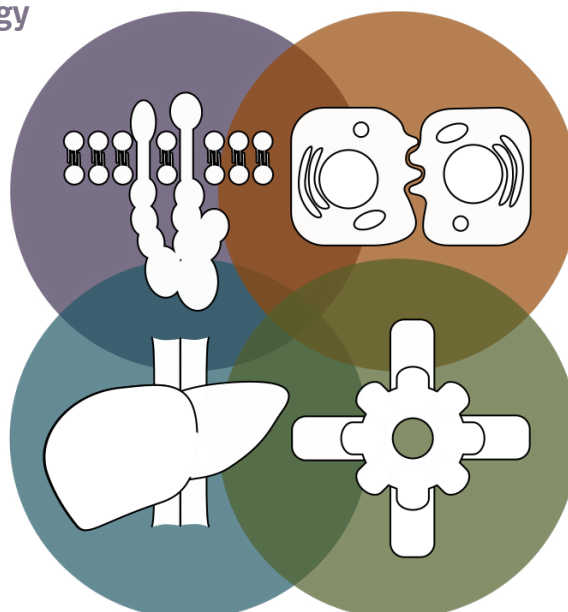
Focuses on 4 Main Research Themes

Molecular mechanobiology

- Molecular motors
- Complex molecular machines
- Mechanical signal transduction

Multicellular mechanobiology

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



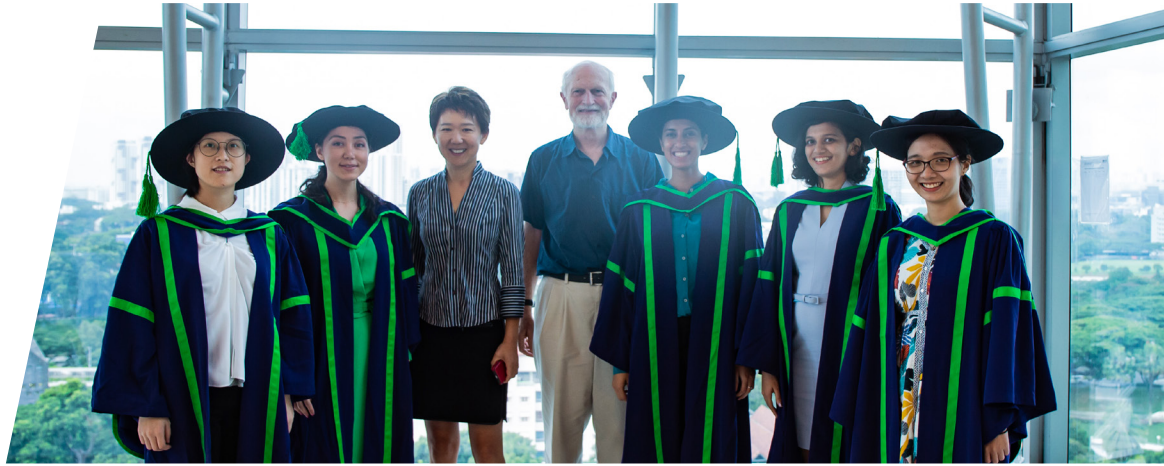
Cellular mechanobiology

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

Mechanotechnology

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

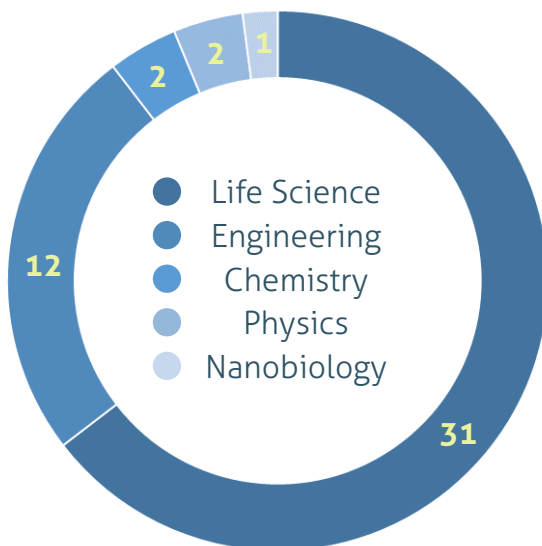
About The MBI Graduate Programme



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

MBI is looking for
outstanding local & international students, with diverse backgrounds

in Science, Technology, Engineering, and Mathematics (STEM)



Undergraduate degrees of current MBI graduate students

Full scholarship of up to 4 years will be granted

- Covering all tuition fees
- Generous monthly stipend
- Travel and settling-in allowances

Currently with 48 graduate students, around 6 to 8 students join each year. 66 have graduated to date and have

future careers in academia, industry, law, and start-up entrepreneurship.

MBI Graduate Student Life

During the programme, graduate students will:

- Be taught modules in mechanobiology
- Have lab rotations, before starting their projects
- Undergo a qualifying examination, thesis submission & oral examination.

Students will be supported by a fully-staffed lab and friendly research community, elaborated below:



MBI Bootcamp



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 member

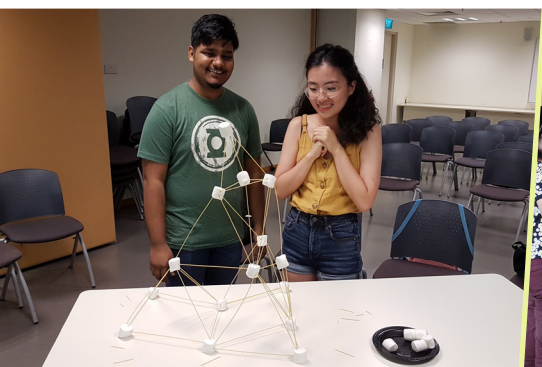
MBI Young Scientists Group

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

Students will also get to enjoy a

colourful student life with activities and events beyond the lab

Ice Breakers & Games



Christmas Party



YSG Barbeque



What **MBI** Offers

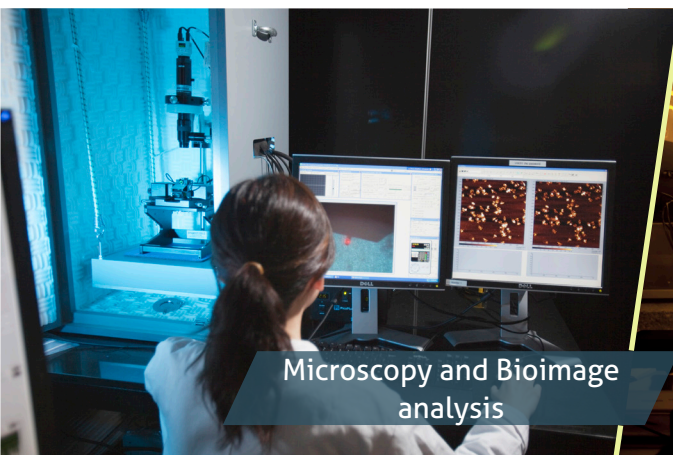
MBI has an open-concept lab, which emphasizes on collaborative science



Under the Open Lab concept, graduate 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.



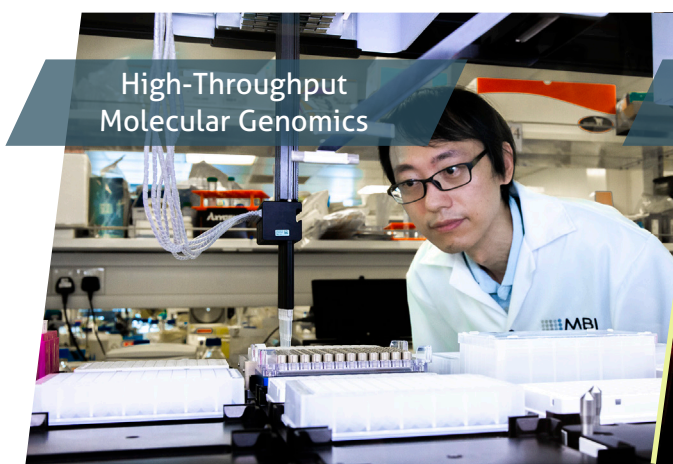
Microscopy and Bioimage analysis



Nano and Micro-fabrication

Graduate students also have access to

cutting-edge research technology at MBI's inhouse core facilities



High-Throughput Molecular Genomics



IT & High Performance Computing

For more information, please visit:



mbi.nus.edu.sg



mbigraduate@nus.edu.sg



[@mbisg](https://twitter.com/mbisg)

The MBI Young Scientist Group

Comprises two divisions:
The MBI Graduate Student
Committee & The MBI
Postdoc Committee



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

