# Mechanobiology Institute


# Graduate Programme

MBI
MECHANOBIOLOGY INSTITUTE
National University of Singapore

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?

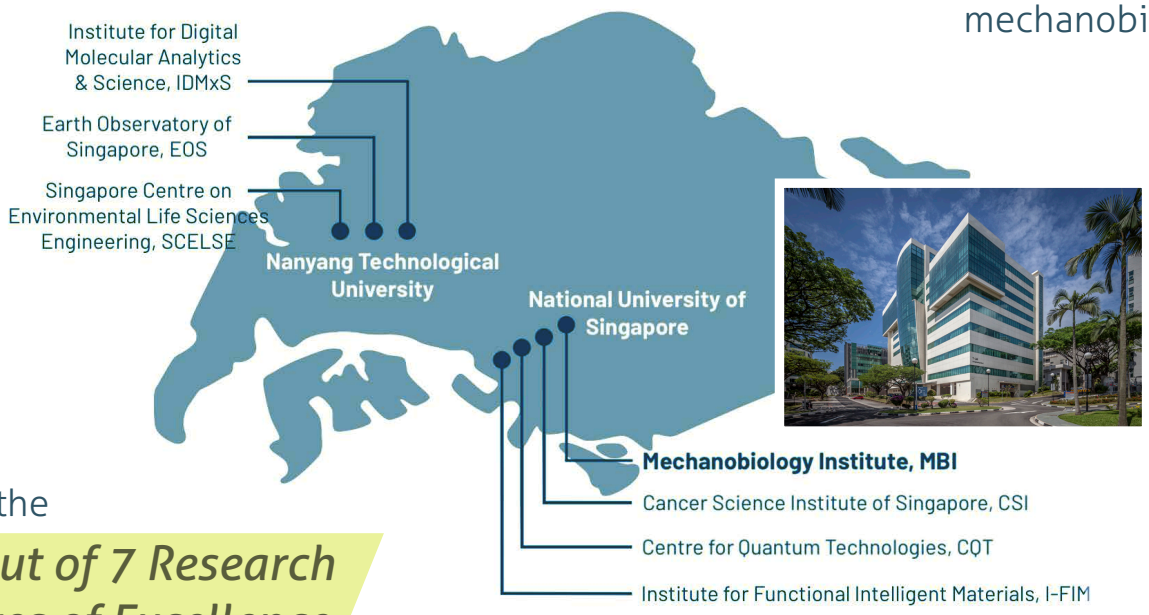
How can biomechanical systems be modulated for prolonging health or treating diseases?

# About **The Mechanobiology Institute**

Established in 2009,
MBI has established itself as a

***world-class research centre***

devoted to the study of
mechanobiology.




MBI is the

***4th out of 7 Research Centres of Excellence***

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

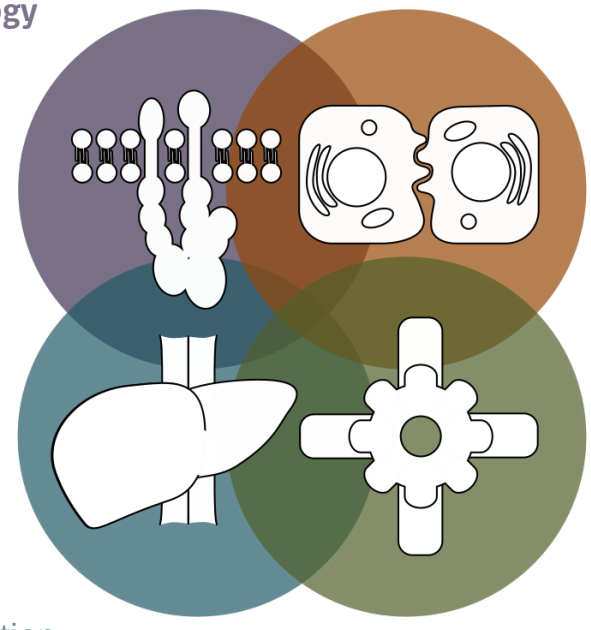
## *Focuses on 4 Main Research Themes*

### Molecular mechanobiology

- Molecular motors
- Complex molecular machines
- Mechanical signal transduction

### Multicellular mechanobiology

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



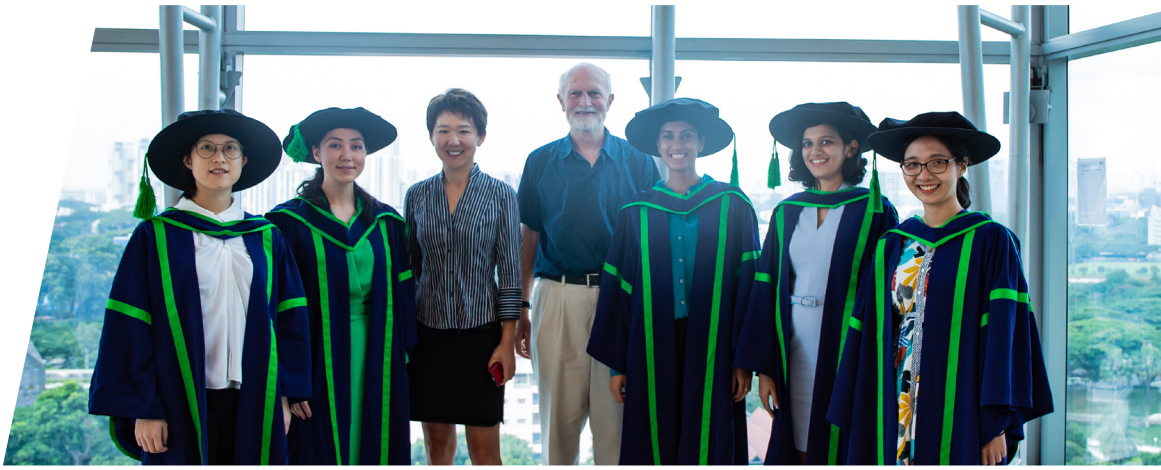
### Cellular mechanobiology

- 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**

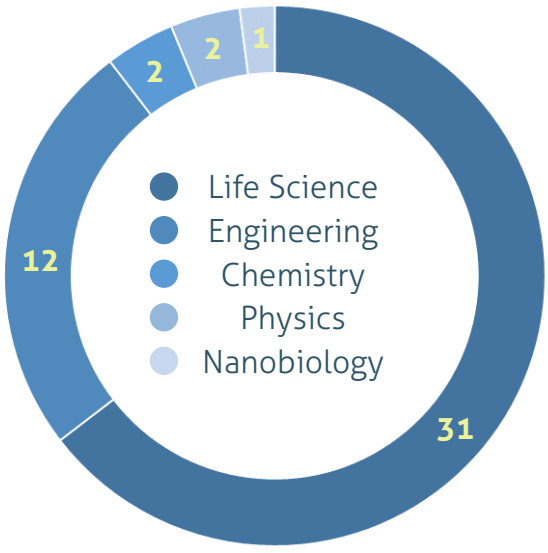


***The MBI PhD Programme trains PhD students in interdisciplinary research and collaborative science***

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 courses 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

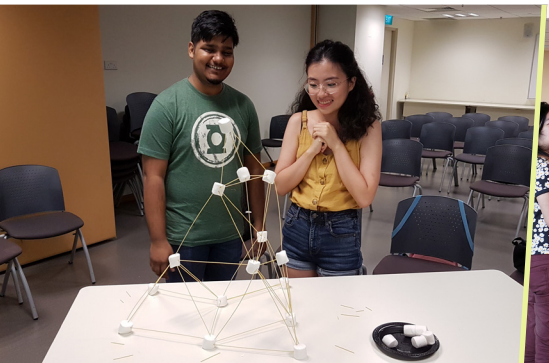
Students will also get to enjoy a

## *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.


Graduate students also have access to

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


For more information, please visit:

mbi.nus.edu.sg

mbigraduate@nus.edu.sg

@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/

MBI YOUNG SCIENTISTS
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