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Welcome to the Master's Open Day

Biomedical Sciences

New Curriculum, incl 2nd phase

Wilfred Germeraad, PhD

Associate Professor Immunology

Programme Coordinator M-BMS

Maastricht University

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What is Biomedical Sciences about?

The New York Times

Wednesday, March 15, 2017 | Today's Paper | Video | 54°F

DAX +0.02%

HEALTH | TAKE A NUMBER

Cardiovascular Deaths Linked to Poor Dietary Choices

By STEPH YIN MARCH 13, 2017

Cardiovascular disease claims 610,000 lives in the United States each year. It is the leading cause of mortality nationwide, accounting for one in every four deaths.

A new analysis, funded by the Bill and Melinda Gates Foundation, shows that a substantial portion of these deaths could be prevented by healthier eating.

In 2015, more than 400,000 deaths from cardiovascular causes were linked to unhealthy diets, according to the research, presented at a meeting of the American Heart Association last week in Portland, Ore.

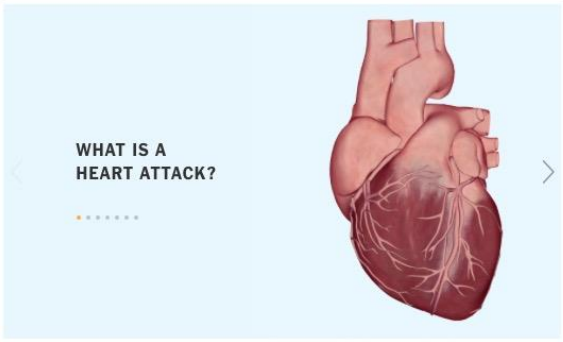
The biggest factors were a deficit of nuts and seeds, vegetables, whole grains and fruits, and an excess of salt. Diets low in omega-3 fatty acids, found in seafood, and high in trans-fat, processed meat or sugary beverages also played a role.

RELATED COVERAGE

Q&A
A Possibly Lifesaving Guide to Heart Attacks JUNE 22, 2015

ASK WELL
Mediterranean Diet vs. Statins to Prevent Heart Attack and Stroke? MARCH 10, 2017

MENDING HEARTS
A Sea Change in Treating Heart Attacks JUNE 19, 2015



Sources: Dr. Reginald Blaber, Dr. Harlan M. Krumholz, Dr. Karthik Murugiah and Dr. Brahmajee K. Nallamothu
By Larry Buchanan, Jonathan Corum, Yuliya Parshina-Kottas and Graham Roberts

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What is Biomedical Sciences about?

5°C CLEAR
TOKYO (3 a.m.)
MARKETS 114.7 ¥/$ (5 p.m.)

The Japan Times
NEWS

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NATIONAL / SCIENCE & HEALTH

Health ministry OKs transplants involving retinal cells grown from donor iPS cells

KYODO

To address illnesses that cause blindness, the health ministry has approved a groundbreaking plan to conduct the world's first transplants of retinal cells grown from artificially derived stem cells received from donors.

A team of doctors is preparing to perform the transplants in the first half of the year as part of clinical trials on using so-called induced pluripotent stem cells.

FEB 1, 2017
ARTICLE HISTORY
PRINT SHARE

KEYWORDS
IPS, RETINA, TRANSPLANT

What is Biomedical Sciences about?

MARCH 15 2017 - 3:39PM SAVE PRINT LICENSE ARTICLE

Yoghurt may help some forms of depression, study says

Sarah Berry 34 reading now Show comments

SHARE TWEET MORE

Not only can we improve our mood with food, researchers believe yoghurt may be able to help depression.

In the new study, researchers from the University of Virginia School of Medicine found that feeding yoghurt – or the live bacteria found in yoghurt, lactobacillus – to mice with "depressive-like behaviour" or "despair behaviour," reversed their symptoms.

The Sydney Morning Herald
NEWS SITE OF THE YEAR

Sites ABC

NEWS

Just In Australia World Trump's America Business Sport Arts Analysis & Opinion Progra

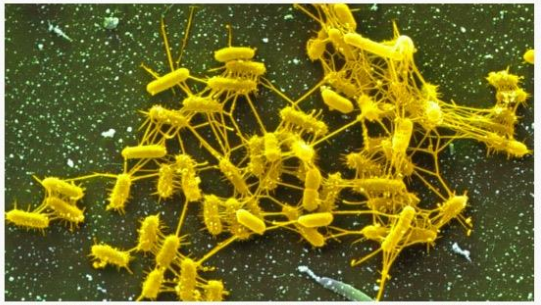
Science Technology News Space

Gut microbes linked to movement disorders in mice predisposed to Parkinson's disease

Share on Facebook Share on Twitter

ABC Science By Karl Gruber

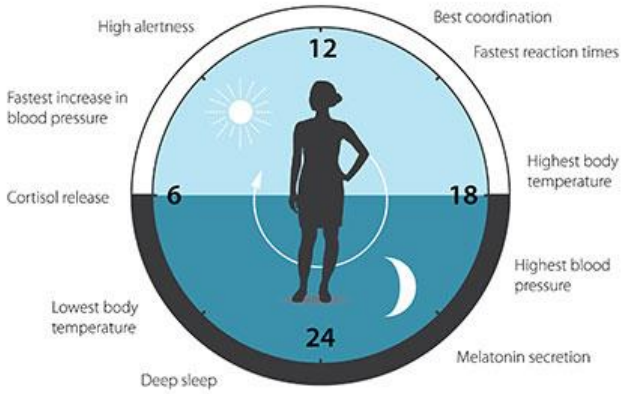
Posted 1 December 2016 at 8:24 pm



Mice with gut bacteria transplanted from people with Parkinson's disease displayed movement disorders (Getty Images: Science Photo Library)

Changes to gut microbes can influence the development of Parkinson's-like movement disorders, according to a study of mice predisposed to the neurological condition.

What is Biomedical Sciences about?



The circadian clock anticipates and adapts our physiology to the different phases of the day

The Nobel Prize in Physiology or Medicine 2017
Jeffrey C. Hall, Michael Rosbash, Michael W. Young

What is Biomedical Sciences about?

Maastricht UMC+

What are you searching for?

Latest news

Back

News

About Maastricht UMC+

Patients & visitors

Research

Education

Referring physician

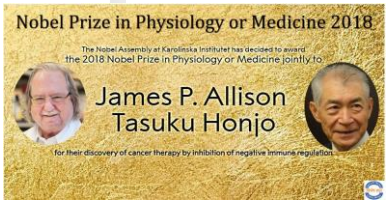
News | 10 March 2015

Maastricht new start-up will develop innovative anti-cancer therapy

Latest news › News › *Maastricht new start-up will develop cancer*

Spinoff Maastricht University / Maastricht UMC +

This week the new company CiMaas BV officially launched, which focuses on the development of cellular immunotherapy for certain groups of cancer patients. The company continues to work with two products: a vaccine against cancer based on the patient's own immune cells and production of so-called donor natural killer cells. The funds are clinically tested in patients within the foreseeable future. CiMaas (Cellular Immunotherapy Maastricht) is a spin-off from the University of Maastricht / Maastricht University Medical Centre + (Maastricht University / Maastricht UMC +).



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Why Biomedical Sciences in Maastricht?

- You can tailor the programme to a large extend to your own interest
- Multidisciplinary education with teachers from hospital, research and business
- Biomedical challenges of now and the future go from bed to bench and back
- Competency based education
- Similar programmes elsewhere exist, but have usually a very specialized focus and limited choice

Admissions

- **Relevant university domains are**:

Biology, Biomedical Sciences, Biomedical Technology, Biotechnology, Health Sciences (Biology and Health), Life Sciences, Medical Natural Sciences, Medicine, Molecular Life Sciences, University College (depending on courses followed)

- **Relevant non-university domains are**:

Biological and Medical Laboratory Research, Applied Sciences (Science & Life), Biometry, Biotechnology

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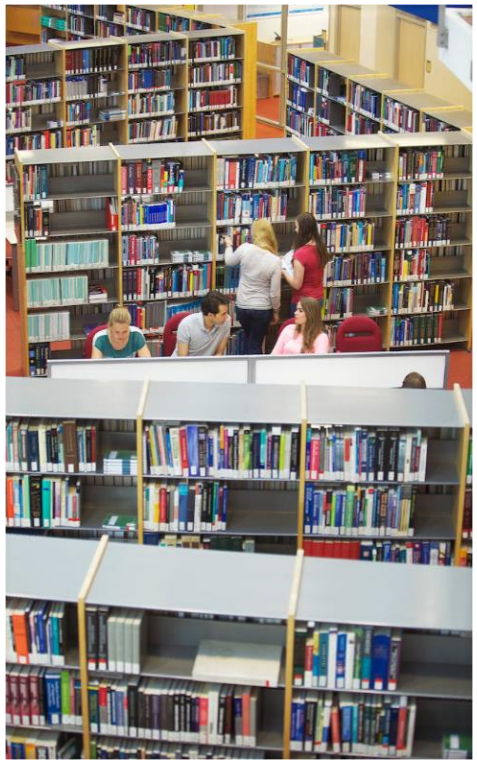
Application deadlines to start in September 2019

- Students who apply for a UM-wide scholarship
  up to and including 1 February 2019
- Non-EU/EEA-students
  up to and including 1 May 2019
- EU/EEA-students
  up to and including 1 June 2019



Admission related questions?
Please visit the stand from the Board of Admission

Lay-out of the Programme

- Period 1: common course:
  - **Overview field of BMS challenges**
  - **Help select specialisation**
- Six real, distinguished specialisations
- One denominator: translational research
- Mix between Academic and Industrial Orientation
- 40 weeks of structured education in year 1
- Year 2: 40 weeks Internship in Academia or Industry

Survival Skills/ Competencies

- Critical thinking: asking the right questions
- Collaboration across networks
- Agility and adaptability
- Initiative and entrepeneurship
- Effective oral and written communication: have to know how to think and reason
- Accessing and analysing info
- Creativity, curiosity and imagination
- Integrity

Mentorship

- **Guidance on academic matters**
  - **Concerning master and afterwards (PhD or what else ?)**
- **Guidance on competencies**
  - **Formulating SMART learning goals, gathering of evidence**
  - **(just one general form)**
- **4 regular meetings in Year 1, 2 meetings in Year 2**

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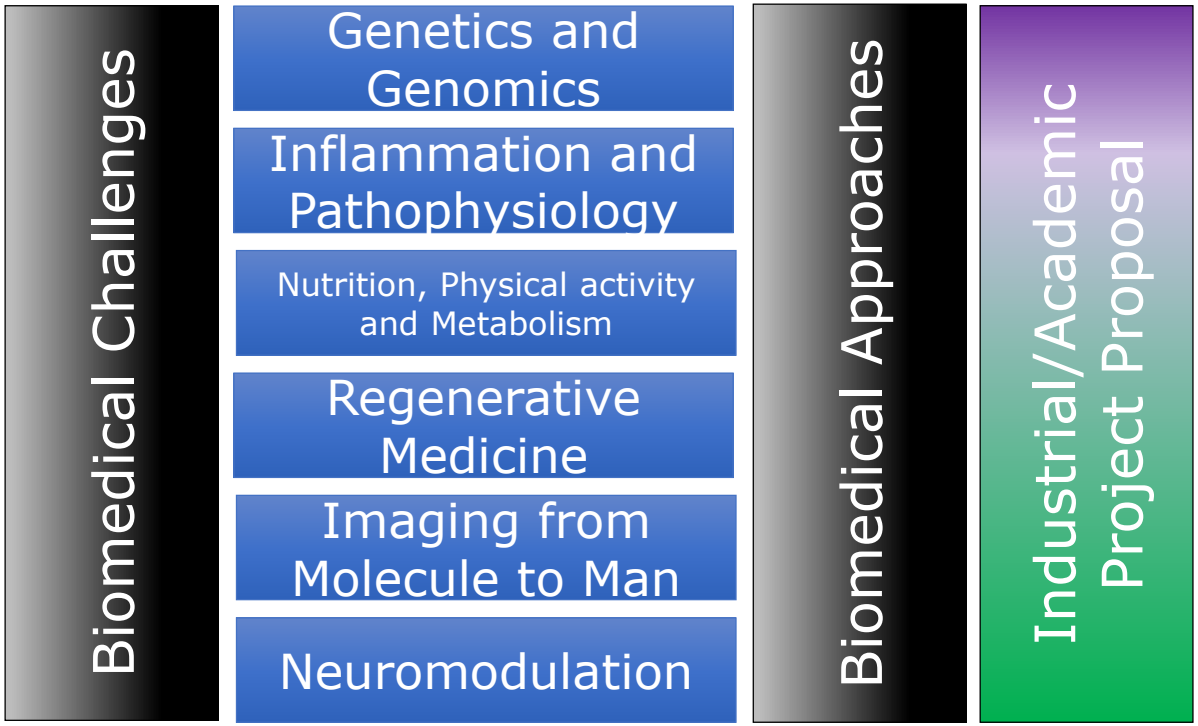
Course outline Year 1



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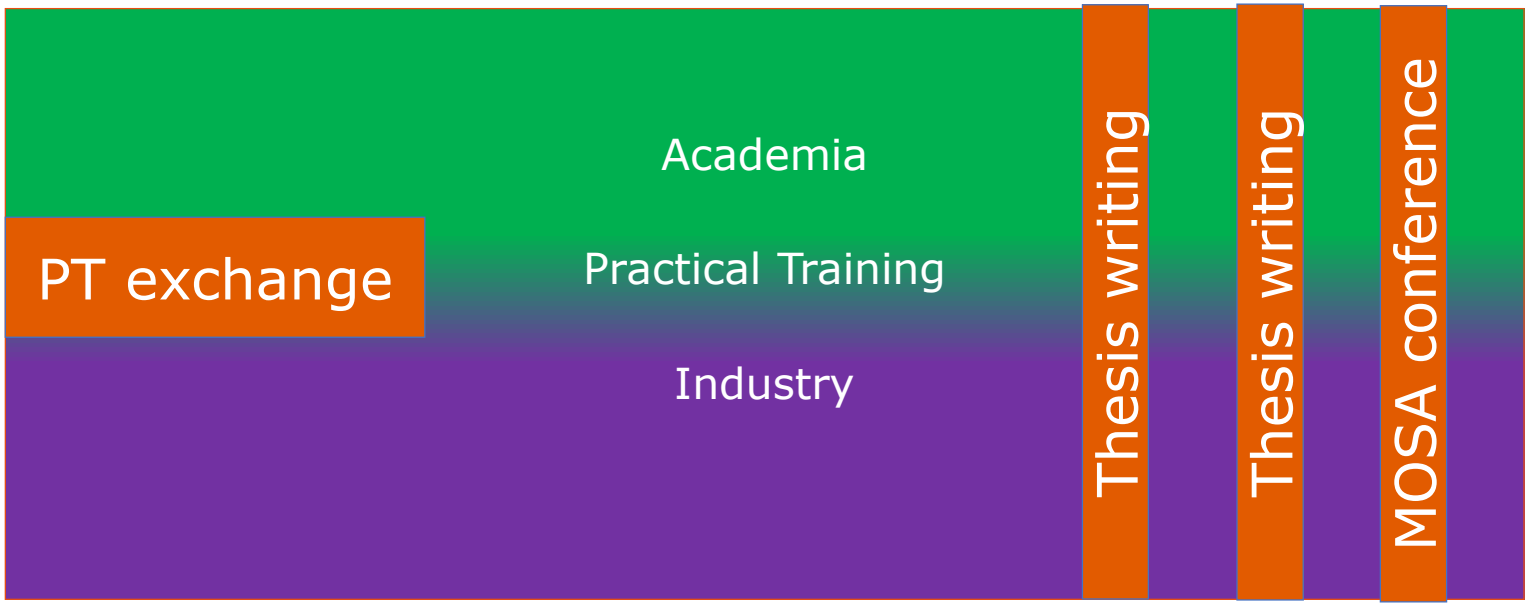
Course Outline Year 2



Programme Details

First year Education

- Student centered learning
- Journal Clubs
- Workshops
- Group Work
- Presentation Skills
- Collaboration
- Expert Lectures

Second Year Education

- Individual practical training
- Collaboration/ exchange with students in other labs

Biomedical Challenges

Allergy Alzheimer

Asthma Cancer

Cardiovascular disease

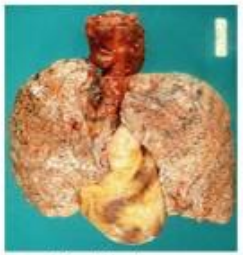
Chronic inflammation

COPD, AIDs

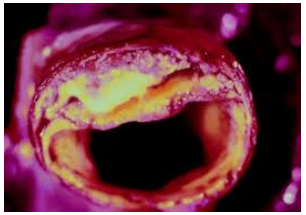
Metabolic Syndrome

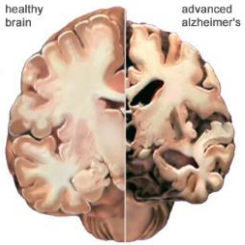
Neurodegeneration

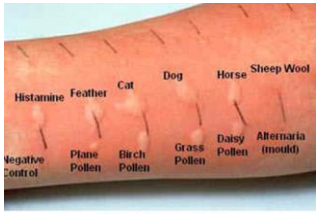
Sick Lung



Healthy Lung







Skin Allergy Test

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MBS1001 Biomedical Challenges

Challenges in medicine and biomedical sciences

- In-depth investigation of **three diseases**
- Newly developed **diagnostics and therapies**
- The **frontier** and state-of-the-art of science
- Scientific **Integrity**

- Starting point for the 6 specializations
    - Definitive choice in week 4

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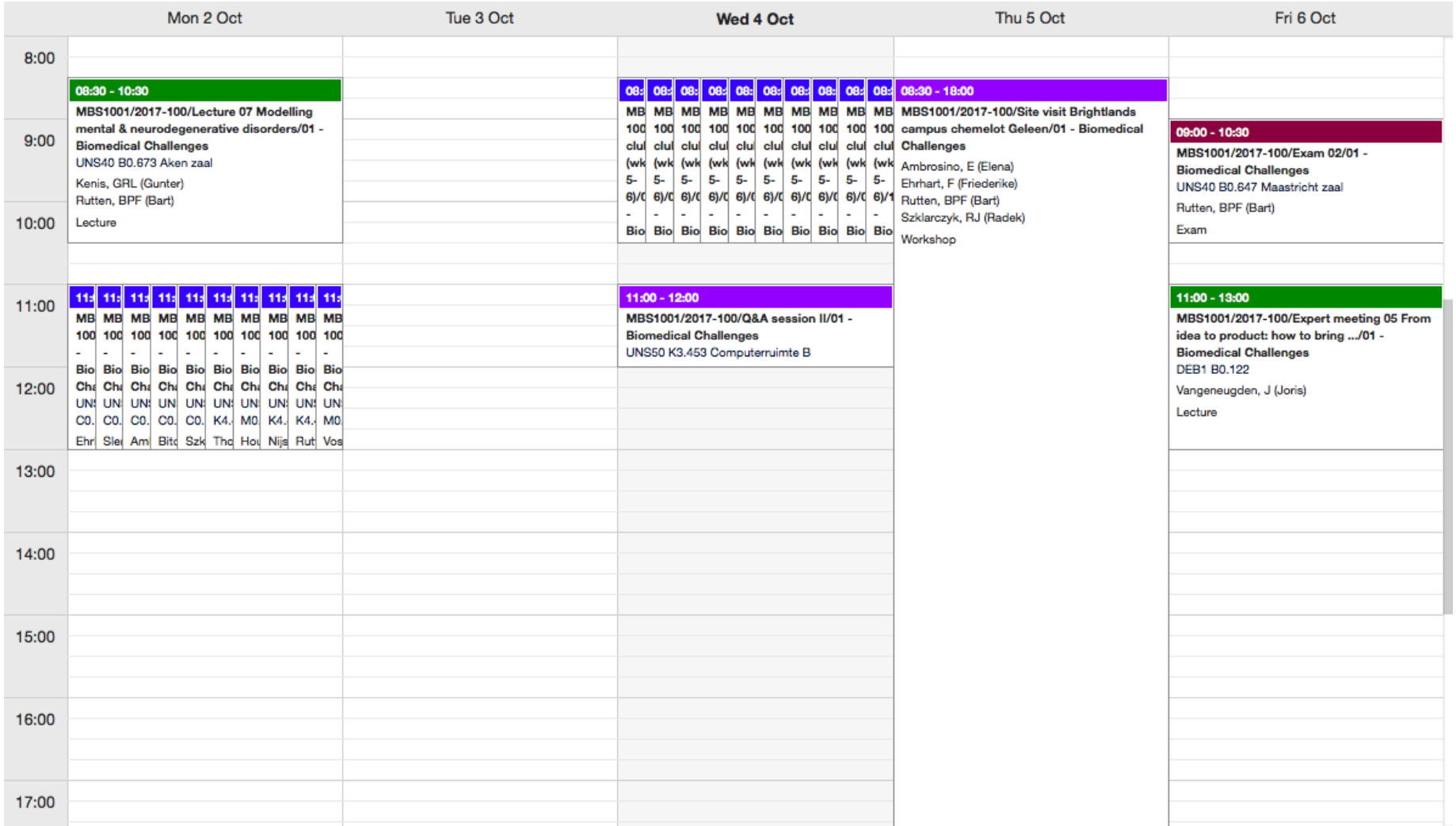
A weekly timetable



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6 Specialisations

For Tekst and Video's:

https://www.maastrichtuniversity.nl/education/partner-program-master/master-biomedical-sciences/specialisations

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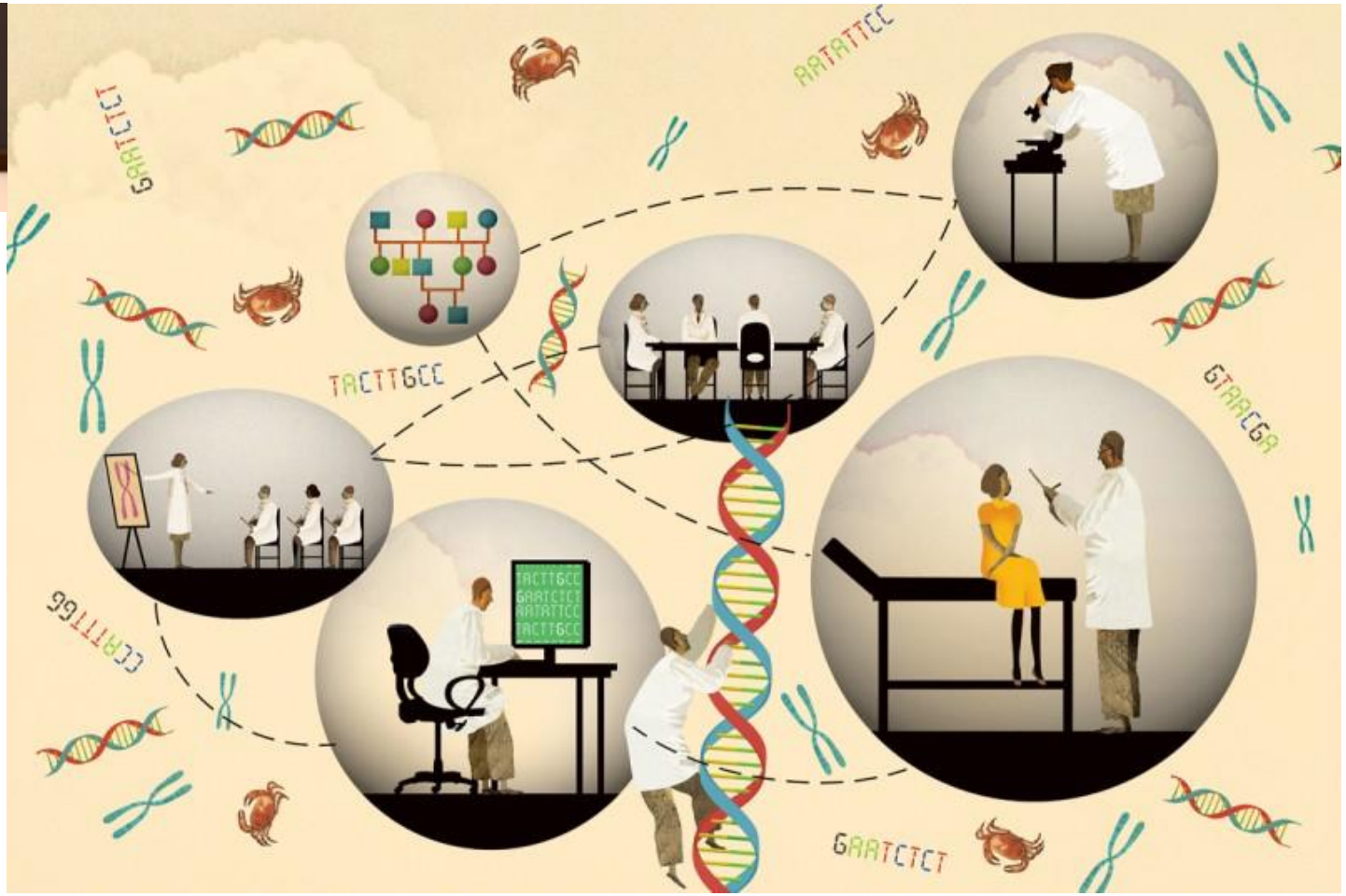
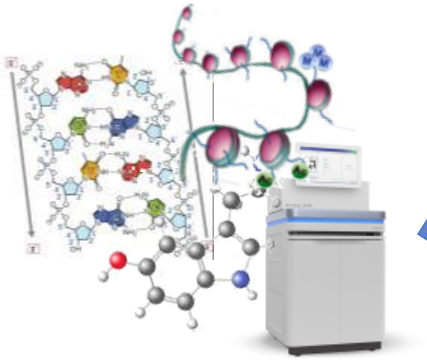
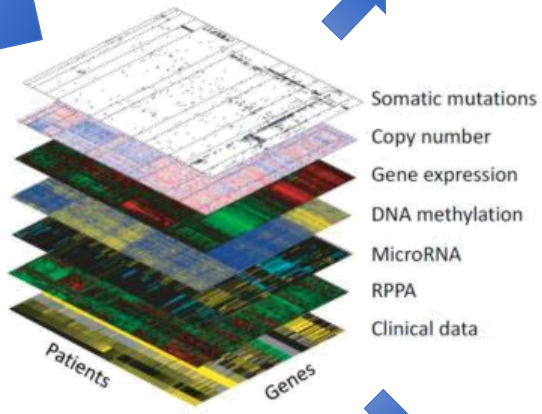
Specialisation
Genetics & Genomics



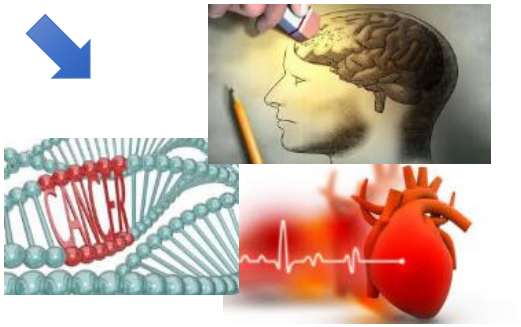
Measurements and Technologies



Model Systems



Toxins, Nutrients, Forensics



Clinical Genetics & Genomics

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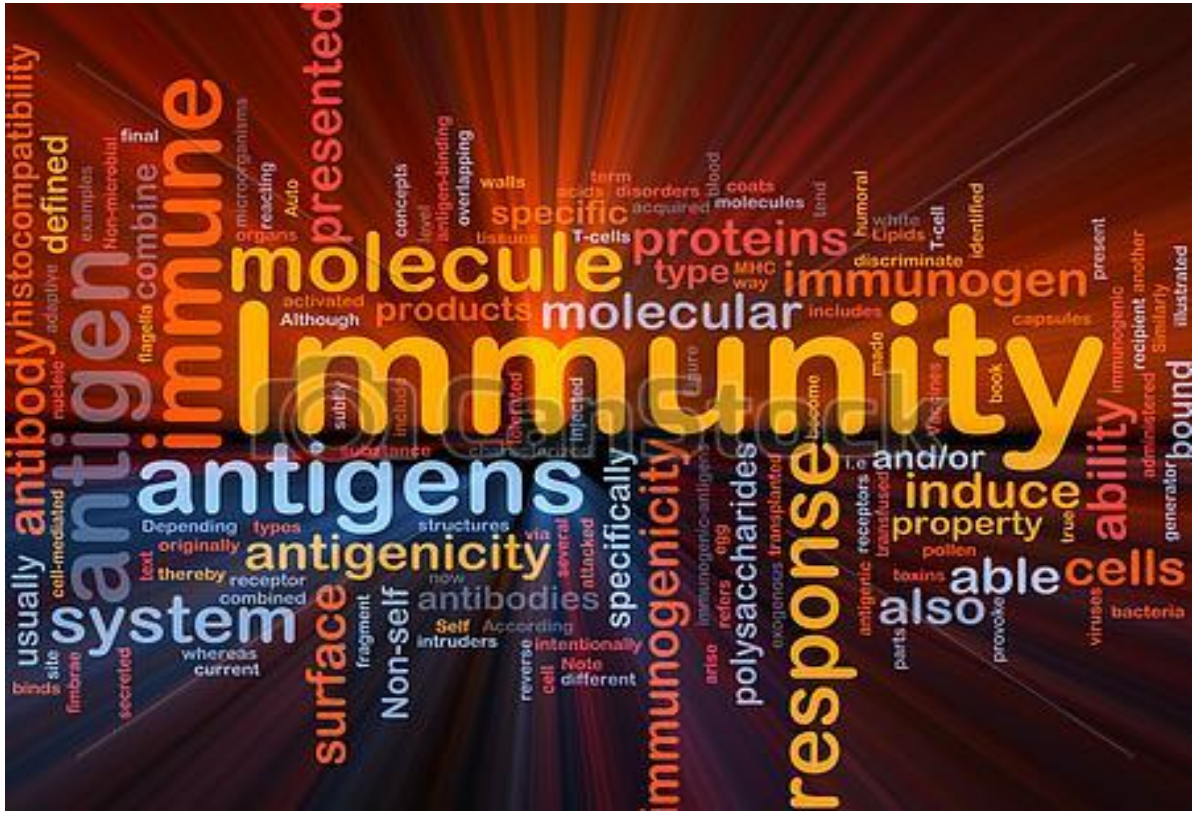
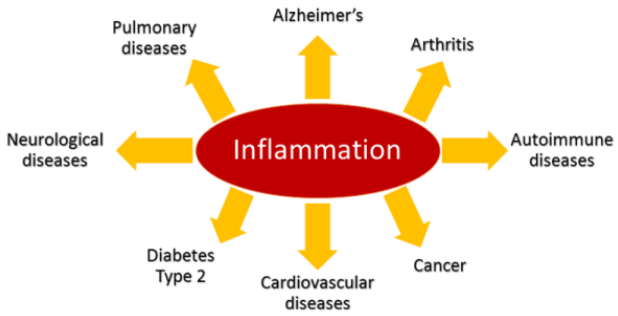
Specialisation Inflammation and Pathophysiology



MBS1201 and 1202: General aim

To understand pathophysiology
The study of structural and functional cha nges in
tissue and organs that lead to disease.



To evaluate different types of therapies, vaccination and immune system effector functions

To engineer the immune system in treatment of disease

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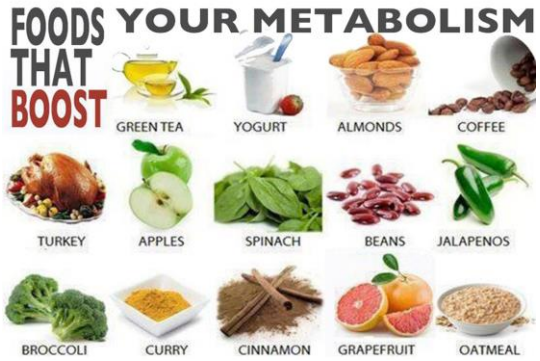
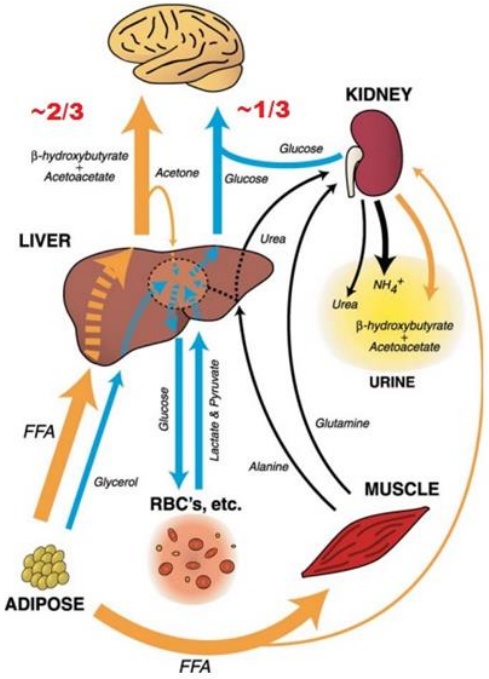
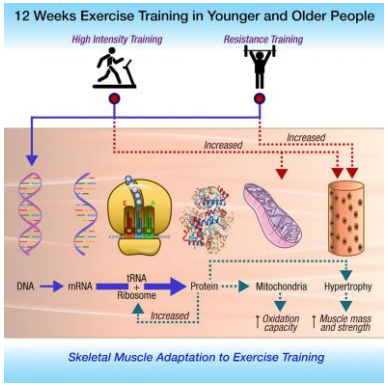
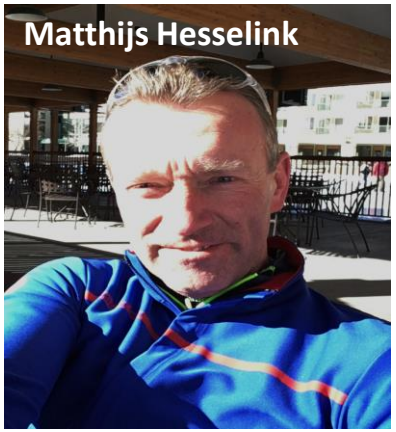
Specialisation Nutrition, Physical Activity and Metabolism









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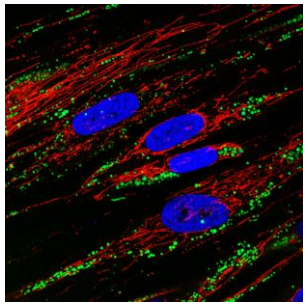
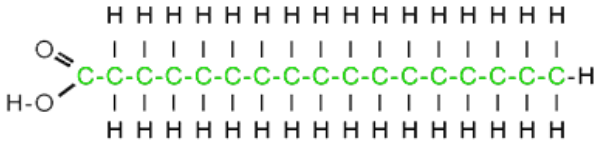
Nutrition, Physical Activity and Metabolism

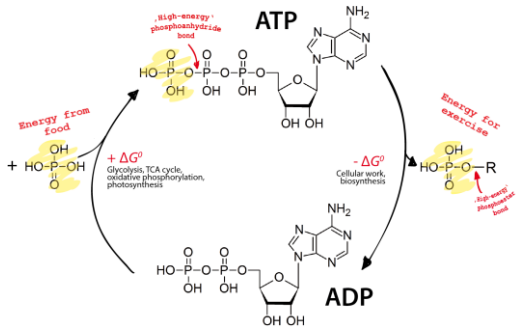
Highly prevalent westernized disorders find common ground in derailed metabolism

Aims

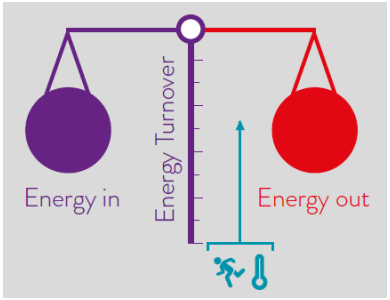
- to understand the (patho)physiology and the mechanisms underlying metabolic derailments
- to provide the basis for design & optimization of preventive and therapeutic nutritional and life-style interventions to improve metabolic health





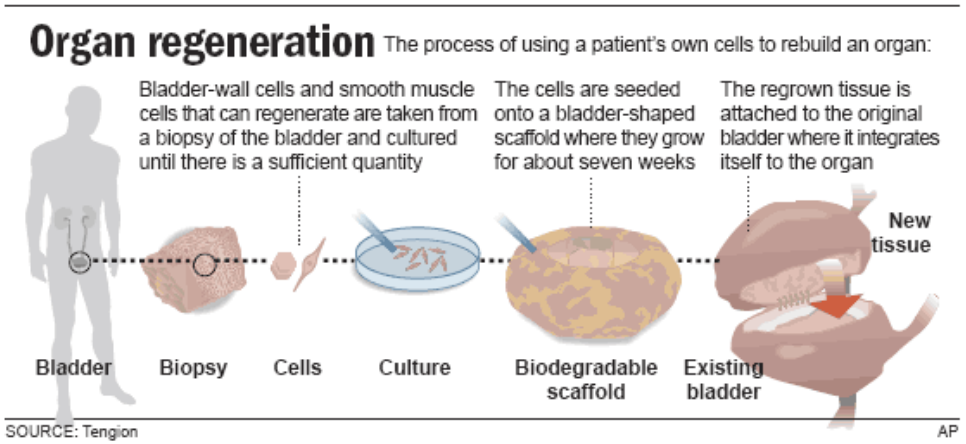


meal 3 gram ^{13}C-lipids



Specialisation Regenerative Medicine

Basic understanding of RM as a translational science and its constituting disciplines



The science and technology of Regenerative Medicine

- **molecular processes of wound healing**
- **(stem) cell regenerative** approaches
- **organoid technology**
- composition **extra-cellular matrix** (ECM)
- different **biomaterials**
- **processing technologies** fabricating scaffolds
- **microfabrication techniques**
- **bioreactors** and **organ-on–a-chip**.
- **cell-material interface**

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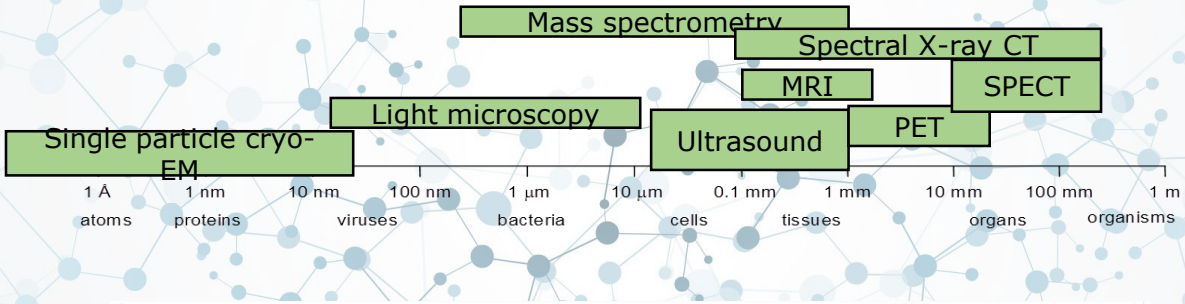
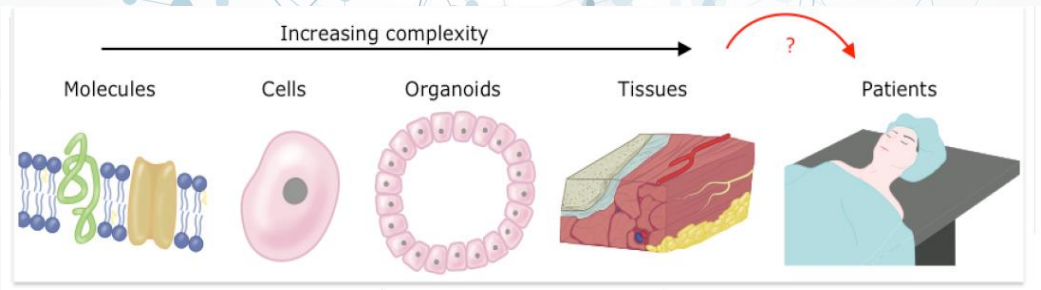
Specialisation
Imaging from molecule to man

Tiffany Porta

General objectives

Prepare students for a future with broad expertise of **biomedical imaging to understand and treat disease**





An interdisciplinary and translational education in biomedical imaging

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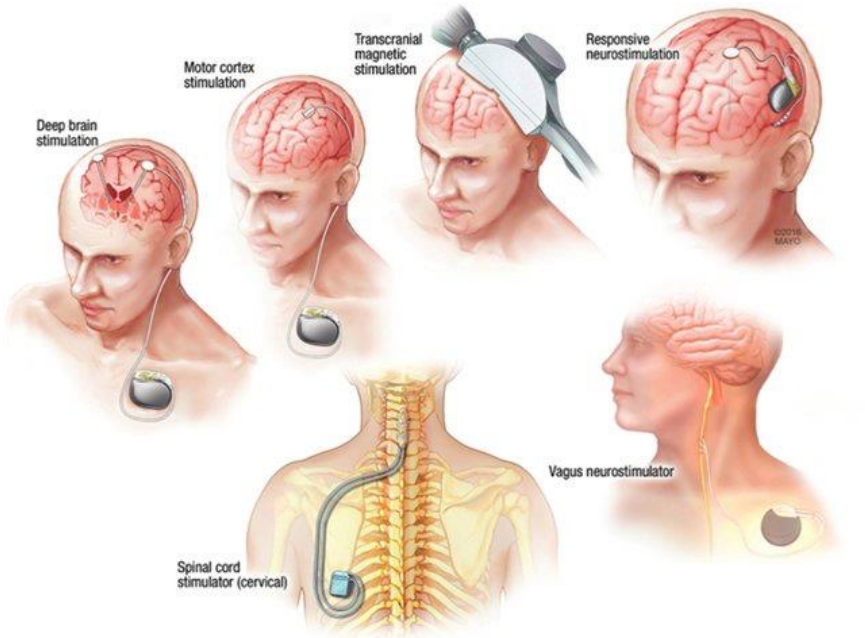
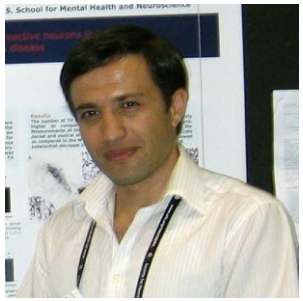
Specialisation Neuromodulation



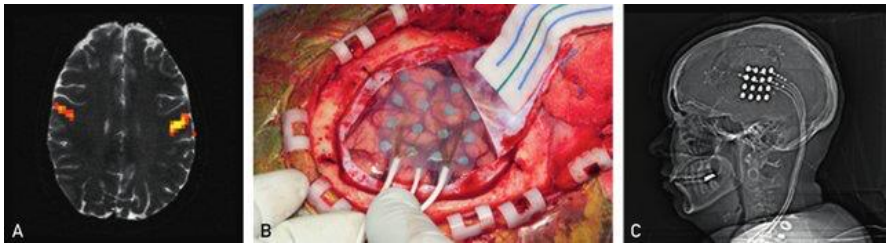
Edwards et al. Mayo Clin Proc 92: 1427, 2017

Ali Jahanshai

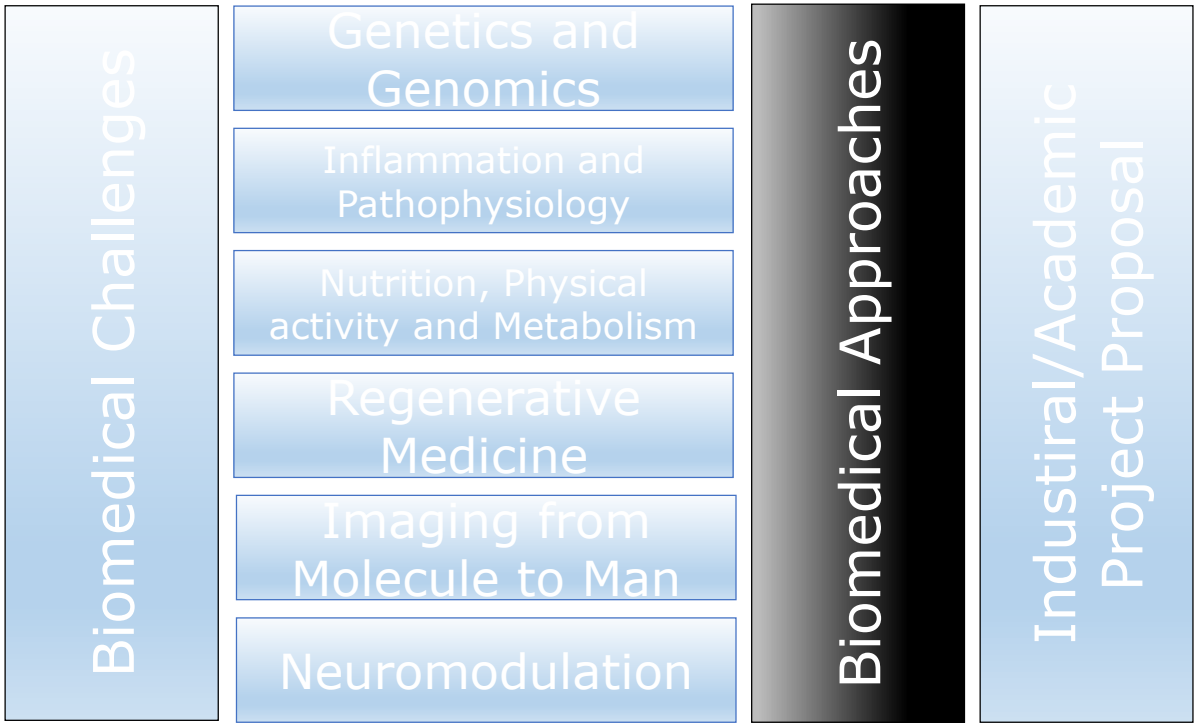


The science and technology of Neuromodulation

- neuromodulation has the potential to change the neuroscience landscape
- detailed knowledge of neuroanatomy and neurophysiology
- a wide spectrum of invasive and non-invasive techniques
- manipulation of the central nervous system from micro to macro level



Course outline Year 1



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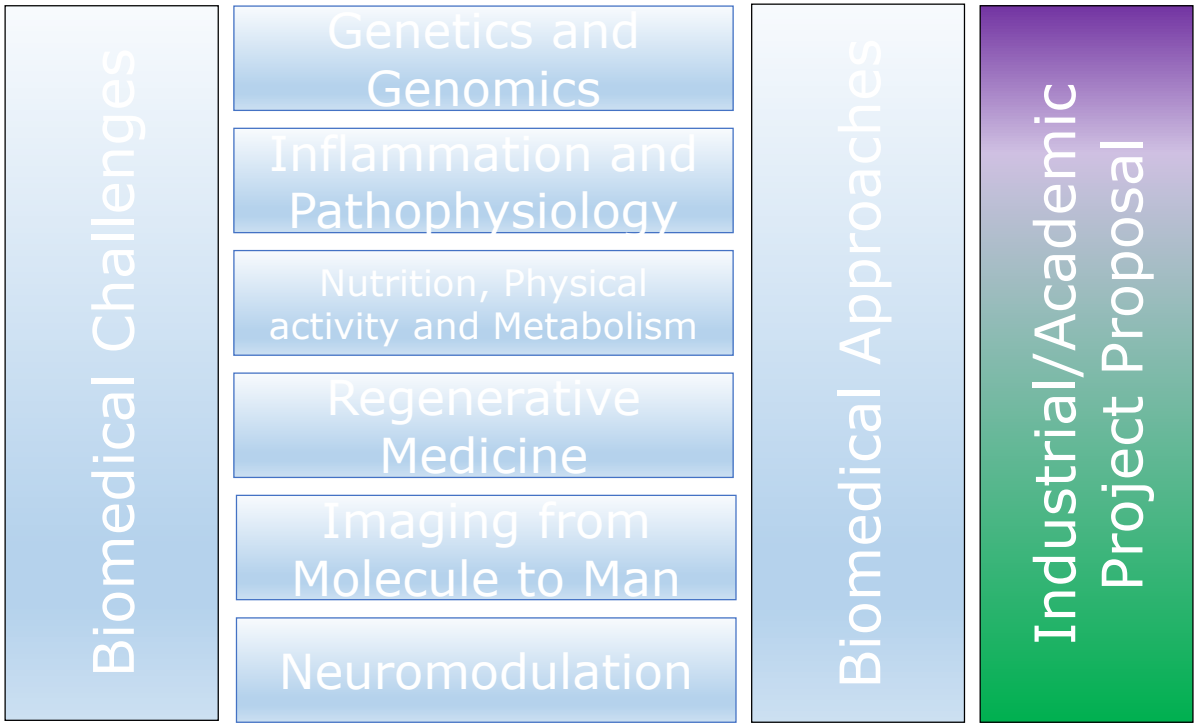
MBS1002: Biomedical Approaches

- Cutting edge biomedical omics approaches
- Electronic resources essential to omics data analysis and biomarker identification and utilization
- The role of univariate and multivariate statistics methods
- Construct an experimental design and power analysis
- Basic biomedical methodology concerning animal testing and human trials
- Execute research data management plans

Course outline Year 1



Course outline Year 2

40 weeks

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Options to go abroad

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Double Degree; Year 2

Tohoku University
Sendai

neuro science

Maastricht University

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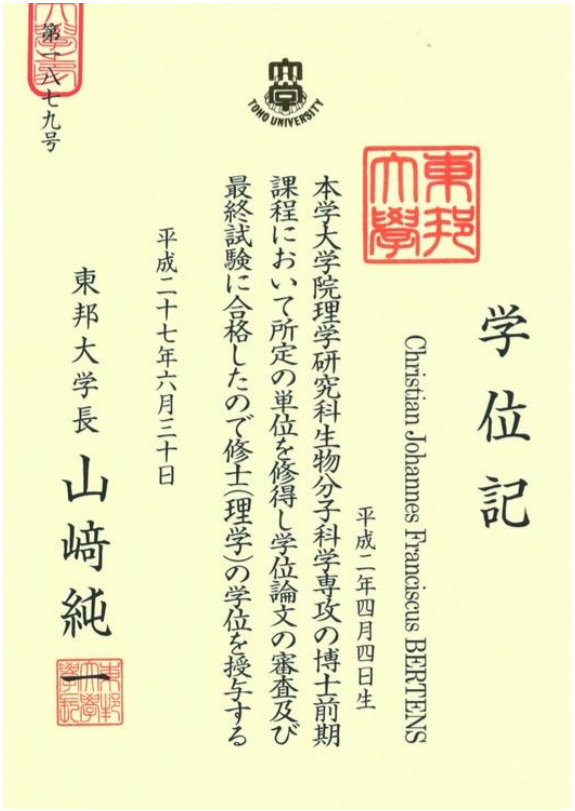
Double Degree; Year 2

Kyoto Prefectural University of Medicine

neuro science

Diploma



第二六七九号

TOHO UNIVERSITY

東邦大學

学位記

Christian Johannes Franciscus BERTENS

平成二年四月四日生

本学大学院理学研究科生物分子科学専攻の博士前期課程において所定の単位を修得し学位論文の審査及び最終試験に合格したので修士(理学)の学位を授与する

平成二十七年六月三十日

東邦大学長 山﨑純一

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Exchange; Year 2
Establishing DDP

Daegu, South Korea

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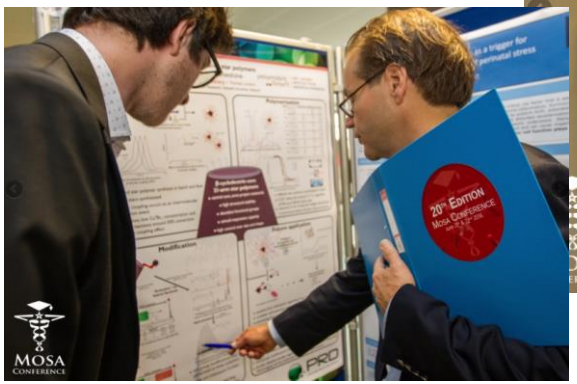
Participation in Conferences

MOSA CONFERENCE

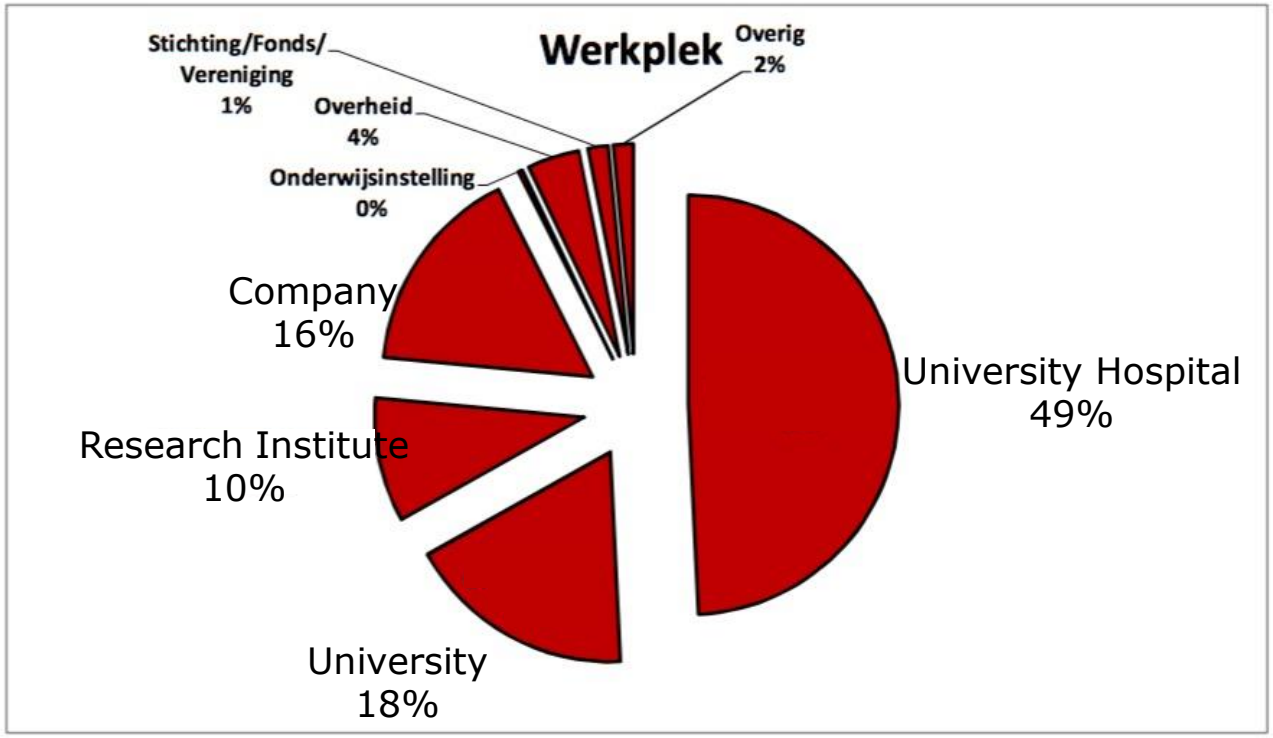



What the future might bring…

Career perspectives

prospects on labour market are good-excellent !

Career opportunities



NIBI enquête afgestudeerde masters biowetenschappen
Afgestudeerd na 1 januari 2012, peildatum zomer 2015

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Hi, my name is Raphael from Austria
Biomedical Sciences master's student

Follow me on Facebook and find out about my progress and experience during the master

www.facebook.com/MasterChallengeRaphael/

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@sahelixmaastricht

www.sahelix.nl

- SA Helix is the Study Association for Biomedical Sciences in Maastricht.
- We organize study-related activities in English, course opening parties and other activities

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#mylifeatfhml
#UMMOD19

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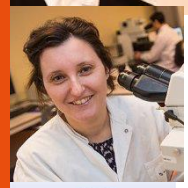
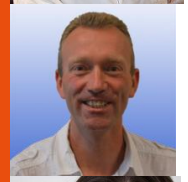
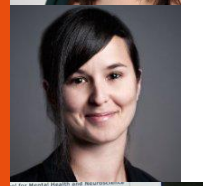
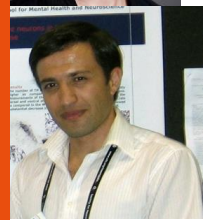
Meet ..
coordinators at the market

Genetics and Genomics	11:30:12.10	14.30-15.10	Luikzaal
Inflammation and Pathophysiology	11:30:12.10	14.30-15.10	Coen Hemkerzaal
Nutrition, Physical Activity and Metabolism	11:30:12.10	14.30-15.10	Keulenzaal
Imaging from Molecule to Man	12.15-12.55	15.15-15.55	Coen Hemkerzaal
Neuromoldulation	12.15-12.55	15.15-15.55	Keulenzaal
Regenerative Medicine	12.15-12.55	15.15-15.55	Heerlenzaal

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Questions?

Thank you for your presence and interest in the Master Biomedical Sciences

For more information on the double degree master's programme
DDP Japan, Exchange South Korea
Dr W. Germeraad
Dr N. Senden
contact us via: n.senden@maastrichtuniversity.nl

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Good luck with your study selection and see you in Maastricht!

https://www.maastrichtuniversity.nl/education/partner-program-master/master-biomedical-sciences-0/courses-curriculum

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