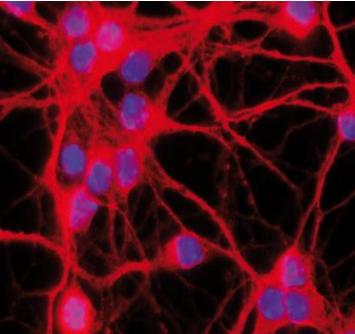


## MASTER 2 in BioHealth Engineering International track



### WHO IS IT FOR?

- Students from the first year of Master's programme (M1) « Ingénierie de la Santé »
- Students who have validated 4 years of higher education in biology, chemistry- biology...
- Students who validated 5 years of Pharmacy studies – industrial or research track
- MD or PharmD students with a strong scientific background, students in veterinary medicine
- Students in life sciences engineering
- Other profiles, after examination by the selection committee

### COURSE UNITS

#### FIRST SEMESTER (late August – January / 30 ECTS)

##### Mandatory subjects

- Computer-based medicine for chronic diseases (late August) at the European Scientific Institute (ESI), Archamps \*
- Methods and means for bio-health research
- Language (French or English)

##### Elective subjects (not exhaustive)

- Innovative projects in biotechnologies (Grenoble School of Management)
- Proteomics for health research
- Innovative cell and gene therapies
- Biomarkers and *in vitro* diagnostics
- Current and future perspectives for the control of infectious agents
- Animal experimentation
- Micro and nanotechnologies for health
- Genetics and epigenetics of infertility
- Pharmacological repositioning
- Artificial Intelligence for Health subjects (large range of choices)

#### SECOND SEMESTER (January – June, July / 30 ECTS)

6-months internship in a company, a lab or at the hospital, in France or elsewhere  
Thematic school (10 days): either Safer Nanomaterials, or Precision Oncology \*

\* The costs for both thematic schools, in the first and second semesters, are fully born by the tuition fees.

#### **Master in Health Engineering – international or French-speaking tracks**

- Offered and organised by the Faculties of Medicine and Pharmacy of Grenoble
- 120 students in 2003 / More than 450 students in 2020, of which:
  - 40% of students from health curricula (medicine, pharmacy, midwifery, imaging and radiology, physiotherapy, ...)
  - 60% of students from scientific and engineering Bachelor's programmes
- 6 tracks for the 1<sup>st</sup> year of Master's programme (in French), 14 for the 2<sup>nd</sup> year
- Fields covered: biotechnologies / MedTech / pharmaceutical engineering / environment-health relationships
- 550 speaker each year: lecturers from universities and/or hospitals, from the industry, academic researchers, hospital workers ...



## MASTER 2 in BioHealth Engineering / International track

### PROSPECTS

Our multidisciplinary, two-summer school programme offers diverse perspectives in all areas of health.

#### Examples of prospects

- Pursuing doctoral thesis studies (around 40% of students are doing a thesis in France or elsewhere)
- Executive in hospital and industrial teams in the health sector
- Research engineer in academia
- Creation of start-ups in the field of engineering for health

### SPECIFIC FEATURES OF THE INTERNATIONAL BHE TRACK

- Participation of a multicultural group of foreign students from 5 continents
- Excellence through fundamental, clinical and transversal research in Academic, Hospital, Industry and Business environments, enriched by international collaborations
- Three BioHC Schools jointly offered by UGA, Universitat de Barcelona (UB), Università degli Studi di Napoli Federico II (UNINA), and the European Scientific Institute (ESI), focused on research training and entrepreneurship
- Opportunities offered by our involvement in the European Erasmus Mundus Be In Precision Medicine (BeINPM) and EIT Health programs

### ALUMNI



#### **MARTIN (2017-2018)**

- Master 1 – Health Engineering / Sciences and Management of Biotechnologies track, UGA
- Master 2 – Health Engineering / BioHealth Engineering international track: Innovation and Entrepreneurship in Biomedical Engineering (Universitat de Barcelona, Spain)

*Research internship, cancer and nutrition team (Laboratory of Fundamental and Applied Bioenergetics, UGA / INSERM)*

- 2021: PhD student, nutrition and cancer (Lab. of Fundamental and Applied Bioenergetics)



#### **SOHA (2017-2018)**

- Master 1 in Human Biology (Lebanese University)
  - Master 2 – Health Engineering / BioHealth Engineering international track, UGA
- Research internship: angiogenesis and adrenocortical carcinoma cell-derived exosomal microRNAs (INSERM, CEA Grenoble)*
- 2021: PhD student, development of a novel anti-cancer strategy for adrenocortical cancer (INSERM, CEA Grenoble)

#### CONTACT and INFORMATION

<https://licences-masters-sante.univ-grenoble-alpes.fr/masters/masters-internationaux/>

- **Educational manager**  
Ahcène BOUMENDJEL – [ahcene.boumendjel@univ-grenoble-alpes.fr](mailto:ahcene.boumendjel@univ-grenoble-alpes.fr)

- **Administrative information**  
[MasterBHE@univ-grenoble-alpes.fr](mailto:MasterBHE@univ-grenoble-alpes.fr)

- **Useful websites**  
To apply for our Erasmus Mundus BeINPM programme  
<https://www.beinprecisionmedicine.eu/>

- Chemistry-Biology-Health Graduate School  
<http://grad-chembiohealth.univ-grenoble-alpes.fr/>