



Formerly known as The Cyprus School of Molecular Medicine.
The name "The Cyprus Institute of Neurology & Genetics" is effective as of September 2022

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Dear Prospective Student,

It is my pleasure to welcome you to The Cyprus Institute of Neurology and Genetics (CING).

The Cyprus Institute of Neurology and Genetics, as a Center of Excellence and a Referral Center in basic and applied research in biomedical and clinical sciences, combines its three pillars: services, research and education, in order to produce novel knowledge in biology and diseases with the aim of upgrading the quality of life of its patients. This has been its scope since its establishment in 1990; to offer high-level services to its patients, the society and to our country as a whole. This will continue to be its scope.

The Cyprus Institute of Neurology and Genetics as an academic center operated its autonomous postgraduate school in 2012 and this year we celebrate 10 years of its operation. As you may probably know, our school was called "The Cyprus School of Molecular Medicine". As of this year, our school is named after the name of our Institute and this is the result of the recognition and establishment of our school in the academic community and its potential for further development, by providing new academic programs in the broad areas of the activities of the Institute. I am very proud of what has been achieved so far and I look forward for more successes!

Through our Master and Doctoral programs, our students receive a unique education in the areas of neurology, genetics and biomedical sciences with direct application in the area of Health. Our students learn how to weave together theory and practice, thus experiencing the real work environment first-hand. This way, our students contribute and play a vital role in our research programs. Our students are the next generation of scientists!

We are committed to ensuring high quality, rigorous academic programs that will challenge our students. You can explore the academic programs described in our Prospectus or you may visit our website for more information. You can always get in touch with our Faculty and the Education Office for assistance.



#### PROFESSOR LEONIDAS A. PHYLACTOU

Provost
Chief Executive Officer and Medical Director
of the Cyprus Institute of Neurology and Genetics

Dear Prospective Students,

I am proud to introduce you to the School of the Cyprus Institute of Neurology and Genetics (CING). The CING School, established in 2012, offers postgraduate education to a relatively small number of MSc and PhD students through cutting edge programmes, much sought by students worldwide. We offer our Medical Genetics, Molecular Medicine and Neuroscience programmes at both the MSc and the PhD levels and our Biomedical Research programme at the MSc level only.

These programmes offer a unique teaching and learning environment that triggers the students' passion and stimulates their interest and imagination. The CING School provides the springboard for training the next generation of scientists in an environment that fosters excellence and ensures a high calibre of education.

Please take time to go through our prospectus. You will soon appreciate that our innovative MSc and PhD programmes cover a broad spectrum of exciting disciplines and are based on a combination of taught courses and research carried out in our highly advanced laboratories. The CING programmes are specialised, but there is multi-disciplinarity and complementarity within each programme to expose you to the latest advances in the field and inform you about the challenges that lay ahead. Our academic staff is experienced and passionate about their work, so we promise you a high calibre education that will impact your life and shape your future career. A unique feature of our programmes is that students are exposed to the everyday applications of new knowledge and thus obtain first-hand experience on real-life diagnostic and research applications. CING School students are exposed to quality education and execute their projects alongside experienced scientists and doctors working at the Cyprus Institute of Neurology and Genetics. Our programmes are intense and comprehensive in areas with rapid advances. They aim to stimulate the students and present the great potential genetics and molecular biology hold for significant advances in the medical field. Students benefit from the vast experience gained by the CING staff/Faculty, who have extensive expertise in these challenging fields.

Many scholarships are also available to MSc and PhD students, allocated based on academic merit. In addition, CING students benefit from the ERASMUS+ mobility actions, and we are proud that many of our graduates are employed soon after graduation. For further information about our programmes do not hesitate to contact our very able staff in the academic office.

I invite you to join the CING School community and experience first-hand the organisation's professionalism, stimulating, and challenging environment.

My sincere wishes for a fruitful continuation of your studies and career!



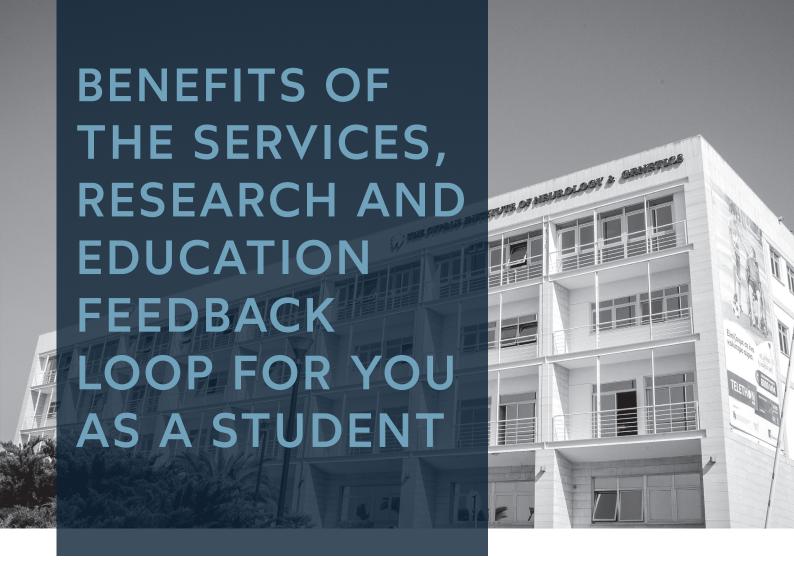
PROFESSOR KYPROULA CHRISTODOULOU Dean

# THE CING: THIS IS WHAT WE DO

#### **RESEARCH - SERVICES - EDUCATION**

The CING is considered to be the most advanced tertiary medical academic center in Cyprus in the health sector and has provided education and training to doctors, scientists, students and paramedical personnel for over three decades. The Academic Faculty is comprised of leading scientists and clinicians, who are devoted to safeguarding the wellbeing of the local, regional and international communities. The institute has established partnerships with outstanding international institutions and welcomes students, faculty and staff of all nations.

- CING Established in 1990, as a bi-communal, non-profit, private, academic, medical organisation
  - Vision: To function as an International Centre of Excellence and a Regional Referral Centre in the areas of Neurology, Genetics, Biomedical, Medical and related Sciences.
  - Mission: To pursue excellence in medical and clinical laboratory services, in advanced research and in education in the areas of Neurology, Genetics, Biomedical, Medical and related Sciences, for the benefit of patients and society.
  - Purpose: The CING provides specialised services and research which aim towards early detection and prevention of disease, the provision of high quality medical services and improvement in the quality of life of the community.
    - The Institute is dedicated to lessening the suffering of patients and their families and preventing diseases through patient care, research, education and prevention programmes.
  - Specialist Research Departments: dedicated to specific research areas dealing with neurological and genetic conditions such as muscular dystrophy, multiple sclerosis, epilepsy, chromosomal abnormalities, thalassaemia, cystic fibrosis, neurogenetics and all other aspects of molecular biology and genetics such as molecular virology, mental retardation, cardiovascular disease and stroke.
  - Services: The Institute provides services, upon request, to all Doctors, Clinics, Hospitals, Lawyers and the Police Authorities. The CING plays a key role in the fight against crime by providing specialised DNA services to the police authorities and expert court testimony for criminal and civil investigations.



A unique feature of the Institute is the combination of services, research and education. In biomedical sciences and medicine the ultimate aim of research is to solve medical problems and improve the health and quality of life of our fellow citizens.

The greater the volume of services, the greater the opportunity for scientists to come into contact and address emerging clinical problems;

# SERVICES PROVIDE OPPORTUNITIES FOR RESEARCH

The larger the volume of material available for research, the higher the possibilities of attracting major research grants. With major grants, better solutions to clinical problems can be found, resulting in the provision of higher quality services, as well as the creation of an innovative educational environment for students.

SERVICES, RESEARCH AND EDUCATION ENTER INTO A POSITIVE FEEDBACK LOOP

# POSTGRADUATE EDUCATION AT THE CING

### NOT JUST LEARNING, BUT A LEARNING EXPERIENCE

The Cyprus Institute of Neurology and Genetics (CING) provides an unrivalled educational experience to the highest achieving students, who can expect to benefit from the real-life work environment of the Institute, while being taught and mentored by leading Biomedical Scientists and Neurologists in Cyprus, as they work alongside them in their respective laboratories.

The CING's postgraduate programmes attract students with research interests related to the expertise of the Institute. The programmes are headed by the Provost of the School who is also the Chief Executive Officer and Medical Director of the CING and the Chairman of the Scientific Council of the Institute.

# POSTGRADUATE EDUCATION AT THE CYPRUS INSTITUTE OF NEUROLOGY AND GENETICS

- 1990 Since its establishment in 1990, the CING has had an active involvement in educating and hosting students in its laboratories.
- 2011 (October) The CING established its own postgraduate school named the Cyprus School of Molecular Medicine (CSMM) in accordance with the laws of the Ministry of Education, Culture, Sport and Youth of the Republic of Cyprus and based on international standards
- 2012 (September) First students accepted
- 2013 (May) accreditation awarded by the Cyprus National Authority (SEKAP) with effect as of the date of establishment of the CSMM
- 2015 (September) Accreditation awarded by the National Authorities of the Sultanate of Oman
- 2017 (May) Accreditation awarded by the new Cyprus National Authority (DIPAE) with effect as of the date of the establishment of the 3 new MSc/PhD programmes
  - (July) Accreditation awarded by the National Authorities of the Hashemite Kingdom of Jordan
  - (August) Accreditation awarded by the National Authorities of the People's Republic of China
- 2020 Accreditation awarded by the National Authorities of the Republic of Cyprus (DIPAE) for the CSMM programmes for the years 2020-2025
- 2021 Accreditation from the Kingdom of Bahrain
- 2022 (September) The Cyprus School of Molecular Medicine received approval to change its name to the Cyprus Institute of Neurology and Genetics, effective as of the academic year 2022-23.

# HOW WE PREPARE OUR STUDENTS FOR EMPLOYMENT:



In addition to gaining an in-depth knowledge of topics covered by the specialist Departments of the CING, our students also benefit from the Institute's experience as an employer. Each of our programmes and their respective courses have been built to include practical and crucial skills, such as the ability to work diligently and productively on challenging projects, the ability to set goals and successfully manage a study/laboratory schedule, teamwork skills, good communication skills and effective communication of ideas both verbally and in writing, critical thinking, advanced analytical skills, comprehension of problems and ability to propose innovative solutions.

# SKILLS TO HELP YOU SUCCEED IN YOUR FUTURE AS A SCIENTIST, RESEARCHER, ACADEMIC

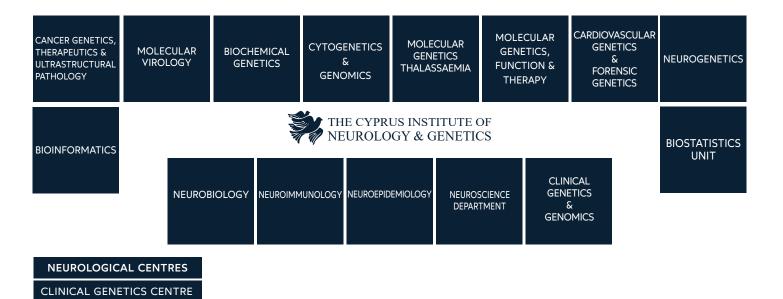
- #1: CAREER SEMINARS
  (CV WRITING, ENTREPRENEURSHIP,
  MOCK INTERVIEWS)
- #2: TRANSFERABLE SKILLS SEMINARS: SCIENTIFIC INTEGRITY, BIOETHICS, BIOINFORMATICS, BIOSTATISTICS, SCIENTIFIC WRITING, GRANT WRITING, PRESENTATION SKILLS, CITATION MANAGEMENT, POSTER AND FIGURE PRESENTATION, CV PREPARATION AND INTERVIEW SKILLS
- ERASMUS MOBILITY
  OPPORTUNITIES DURING STUDIES
  AND AFTER GRADUATION
- #4: EMPLOYMENT OBJECTIVES INTEGRATED WITHIN THE SYLLABUS IN ADDITION TO LEARNING OBJECTIVES
  - #5: WORKING SIDE-BY-SIDE WITH EXPERIENCED SCIENTISTS
- -- #6: WORKING ON REAL LIFE RESEARCH PROJECTS WITH DIRECT IMPACT ON PATIENTS
  - **#7:** 24/7 ACCESS & USE OF THE BEST INFRASTRUCTURE LOCALLY, ISO CERTIFIED

## **OBJECTIVES**

- The establishment of an educational center of excellence for postgraduate programmes of international standing and reputation
- Educating you as a postgraduate student so you can engage in competitive work, enabling you to be inducted into the local and international workforce, scientific and academic community, so as to make valuable contributions to the global socioeconomic landscape
- Guiding you to produce high quality research output from your projects which will contribute towards the improvement of the quality of human life
- Challenging you as a student, through a wide variety of concepts and approaches, while applying international standards of excellence in the fields of Medicine and Biomedical Sciences
- Offering exceptional curricula to you for your studies which will provide the theoretical and applied knowledge necessary to achieve international caliber doctoral research
- Cooperating with high level international research and educational centers and to promote cooperation and understanding through education, research and innovation
- Bringing together within the same learning environment excellent local and international students through the international visibility of our faculty, staff and students
- Guiding you in developing effective communication skills and helping you to exercise these skills in a competitive environment
- Promoting the Institute as a center of excellence for students and scholars internationally

# BENEFIT FROM A MULTIDISCIPLINARY RESEARCH ENVIRONMENT

As a student at the CING, you will have the opportunity to choose a project for your thesis from a plethora of research disciplines, within our highly specialised departments.



### INFRASTRUCTURE

The Departments of the Cyprus Institute of Neurology and Genetics have state-of-the-art equipment which is used for specialised diagnostic services and research activities.

Our postgraduate students have access to this extensive infrastructure while carrying out their research projects in our Departments. Some of the equipment has been purchased as a result of awards from competitive research funding and is unique in Cyprus.

Indicatively, CING equipment includes:

PCR machines, real-time PCR machines, heating and cooling incubators, regular and deep freezers, light microscopes, fluorescence microscopes, time-lapse microscope, confocal microscope, electron microscope, flow cytometer, cell incubators, cell culture biological cabinets, chemical cabinets, DNA microarray facility, automated DNA sequencing facility, mouse facility, laser capture microdissector, automated DNA extractor, benchtop centrifuges, ultracentrifuge, automated nucleic acids imaging facility, Next Generation Sequencing (NGS) equipment for DNA analysis and Mass Spectrometer platforms MS/MS for analysis and identification of proteins.

# THE HIGHEST STANDARDS FOR YOUR EDUCATION

## **CING QUALITY ASSURANCE & ACCREDITATION**

The Cyprus Institute of Neurology and Genetics (CING) is committed to offering professional services of the highest quality, in full compliance with its quality management system. The services provided are characterized by high quality standards in all aspects and at all levels (i.e. highly trained personnel, specialised treatment/patient care, clinical equipment, environment, etc.)

The procedures and policies followed by CING personnel, comply with the requirements for quality control and competences, where applicable, as these are specified in the International Standards:









Since 1998 the Cytogenetics and Genomics Department has been awarded the Accreditation Certificate of College of American Pathologists (CAP).

Since 29th November 2013 the Laboratory of Forensic Genetics has been awarded the Accreditation Certificate of CYS-CYSAB ISO 17025.

Since 20th June 2014, five Departments of CING have been awarded the Accreditation Certificate of CYS-CYSAB ISO 15189.

The accredited departments are: Biochemical Genetics, Cytogenetics and Genomics, Electron Microscopy/Molecular Pathology, Molecular Virology, and Neurogenetics.

Since January 2015, another two Departments of CING have been awarded with the CYS-CYSAB ISO 15189.

The accredited departments are: Molecular Genetics, Function & Therapy and Molecular Genetics Thalassaemia.

Since January 2019 CING has been awarded with the CHKS International Accreditation Programme for Healthcare organizations for its processes and standards, which meet international best practice standards regarding healthcare services.

The Clinical Sector (including but not limited to: outpatient, inpatient, physiotherapy, pharmacy, Social Services, EMG Lab, NPHL lab, NPL lab, etc.).

#### CING DEPARTMENTS PARTICIPATE IN EXTERNAL QUALITY SCHEMES AND PROFICIENCY **TESTING, SUCH AS:**

- European Research Network for evaluation and improvement of screening, Diagnosis and treatment of Inherited disorders of Metabolism (ERNDIM)
- Willink Biochemical Genetics Unit, UK
- Reference Institute for Bioanalytics (RfB)
- College of American Pathologists (CAP)
- European Molecular Genetics Quality Network (EMQN)
- United Kingdom National External Quality Assessment Service (UKNEQAS)
- Cytogenetic European Quality Assessment (CEQA)
- Association for the promotion of quality assurance INSTAND
- Quality control for Molecular Diagnostics (QCMD)
- German DNA Profiling (GED-NAP) Proficiency tests



# PROGRAMMES OF STUDY

### MSc & PhD PROGRAMMES

MSc & PhD MOLECULAR MEDICINE MSc & PhD MEDICAL GENETICS

MSc NEUROSCIENCE MSc BIOMEDICAL RESEARCH

Accreditation has been awarded for all programmes via the official accreditation bodies of the Republic of Cyprus, with effect as of the date of establishment and they are re-evaluated every five years

All programmes begin in September of each year

Language of instruction: English

THE VIBRANT ENVIRONMENT OF THE CING, PROVIDES THE IDEAL SETTING FOR YOU AS A POSTGRADUATE STUDENT TO BENEFIT FROM A MULTI-DIMENSIONAL LEARNING EXPERIENCE.

### AS A STUDENT AT THE CING YOU WILL

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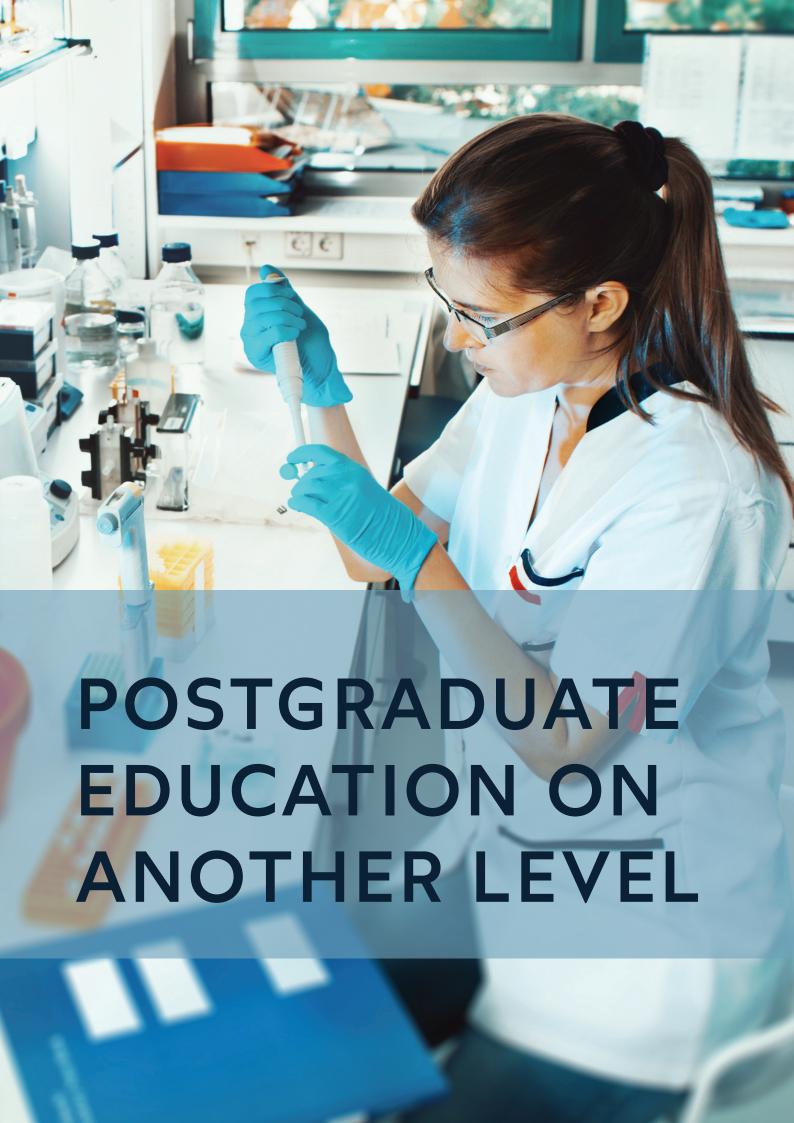
ENJOY A
COMPREHENSIVE
EDUCATIONAL
EXPERIENCE
COMBINING

RESEARCH SERVICES EDUCATION BE TAUGHT BY LEADING

RESEARCHERS, SCIENTISTS AND NEUROLOGISTS IN CYPRUS EXPERIENCE AN
EXCEPTIONAL
WORK
ENVIRONMENT
SUPPORTED

THROUGH COMPETITIVE RESEARCH GRANTS GAIN A POSTGRADUATE DEGREE IN A

REAL WORK ENVIRONMENT



# MSc (Masters) Programmes

MSc MOLECULAR MEDICINE MSc MEDICAL GENETICS MSc NEUROSCIENCE MSc BIOMEDICAL RESEARCH

#### PROGRAMME STRUCTURE = COMBINATION OF:

MANDATORY AND ELECTIVE TAUGHT COURSES

RESEARCH PROJECT OR LIBRARY PROJECT WITHIN THE DEPARTMENTS OF THE CING

#### **CRITERIA APPLICABLE TO THE CURRENT PROGRAMMES OF STUDY:**

(may be subject to change for future programs)

Students must successfully complete and pass all course examinations and the MSc Thesis Examination to be awarded an MSc degree.

# **MSc Molecular Medicine**

TOTAL of 90 ECTS must be completed successfully to acquire the MSc title in Molecular Medicine

- 50 ECTS from the taught courses (4 mandatory courses + 1 elective course) + 40 ECTS from the research or library project
- 10 ECTS per course/research/library module (excluding MRP102A/B and MLP102A/B, worth 15 ECTS each)

**Full-Time:** 13 months

Part-Time: 24 months (minimum of one course per semester, among those offered in the referred semester)

# FULL TIME SCHEDULE

## AUTUMN **SEMESTER**

30 ECTS must be completed in this semester, comprised of:

**2 MANDATORY COURSES** +1 ELECTIVE COURSE

#### 2 MANDATORY COURSES (You will take both of these courses)

MOLECULAR BASIS OF MONOGENIC DISEASES MM101 MOLECULAR BASIS OF COMPLEX DISEASES MM102

1 ELECTIVE COURSE (You will select one of these courses as your elective)

CYTOGENETICS AND GENOMICS MG102

METHODOLOGIES & TECHNOLOGIES APPLIED IN MEDICAL GENETICS MG103

CELLULAR AND MOLECULAR NEUROSCIENCE NEURO101

**BRAIN AND BEHAVIOUR NEURO102** 

MOLECULAR VIROLOGY AND IMMUNOLOGY MVI

**BIOINFORMATICS BMI101** 

# SPRING **SEMESTER**

30 ECTS must be completed in this semester, comprised of:

**2 MANDATORY COURSES** +1 PROJECT MODULE

(either Research or Library)

2 MANDATORY COURSES (You will take both of these courses)

NEUROSCIENCES AND NEUROGENETICS MM103 / NEURO103

GENE AND CELL THERAPY MM104

#### 1 RESEARCH MODULE or 1 LIBRARY MODULE

(You will begin either your Research Project or your Library Project, depending on the route you have selected)

MSC RESEARCH PROJECT PART I MRP101 MSC LIBRARY PROJECT PART I MLP101

# SUMMER **PERIOD**

15 ECTS must be completed

1 RESEARCH MODULE or 1 LIBRARY MODULE

(You will continue your Research Project or Library Project and report preparation)

MSC RESEARCH PROJECT PART II MRP102A

MSC LIBRARY PROJECT PART II MLP102A

**TIME SCHEDUL** 

# TIME SCHEDULE

#### **PERIOD SEPTEMBER-OCTOBER**

in this semester

15 ECTS must be completed in this semester

#### 1 RESEARCH MODULE or 1 LIBRARY MODULE

(You will continue your Research Project or Library Project, report preparation and thesis examination)

MSc RESEARCH PROJECT PART III MRP102B MSc LIBRARY PROJECT PART III MLP102B

<sup>\*</sup>For part-time schedule, enquire with the Education Office

# **MSc Medical Genetics**

TOTAL of 90 ECTS must be completed successfully to acquire the MSc title in Medical Genetics

- 50 ECTS from the taught courses (4 mandatory courses + 1 elective course) + 40 ECTS from the research or library project
- 10 ECTS per course/research/library module (excluding MRP102A/B and MLP102A/B, worth 15 ECTS each)

**Full-Time:** 13 months

Part-Time: 24 months (minimum of one course per semester, among those offered in the referred semester)

# FULL TIME SCHEDULE

## AUTUMN **SEMESTER**

30 ECTS must be completed in this semester, comprised of:

**2 MANDATORY COURSES** +1 ELECTIVE COURSE

#### 2 MANDATORY COURSES (You will take both of these courses)

CYTOGENETICS AND GENOMICS MG102

METHODOLOGIES & TECHNOLOGIES APPLIED IN MEDICAL GENETICS MG103

#### **1 ELECTIVE COURSE** (You will select one of these courses as your elective)

MOLECULAR BASIS OF MONOGENIC DISEASES MM101

MOLECULAR BASIS OF COMPLEX DISEASES MM102

CELLULAR AND MOLECULAR NEUROSCIENCE **NEURO101** 

**BRAIN AND BEHAVIOUR NEURO102** 

MOLECULAR VIROLOGY AND IMMUNOLOGY MVI

**BIOINFORMATICS BMI101** 

# SPRING **SEMESTER**

2 MANDATORY COURSES (You will take both of these courses) **MOLECULAR GENETICS MG101** 

BIOCHEMICAL BASIS OF GENETIC DISEASES MG104

30 ECTS must be completed in this semester, comprised of:

**2 MANDATORY COURSES** +1 PROJECT MODULE

(either Research or Library)

#### 1 RESEARCH MODULE or 1 LIBRARY MODULE

(You will begin either your Research Project or your Library Project, depending on the route you have selected)

MSc RESEARCH PROJECT PART I MRP101 MSc LIBRARY PROJECT PART I MLP101

# **TIME SCHEDUL**

FULL TIME SCHEDUL

**TIME SCHEDUL** 

# SUMMER

#### 1 RESEARCH MODULE or 1 LIBRARY MODULE

(You will continue your Research Project or Library Project and report preparation)

MSc RESEARCH PROJECT PART II MRP102A

MSc LIBRARY PROJECT PART II MLP102A

# **PERIOD**

15 ECTS must be completed in this semester

#### **PERIOD SEPTEMBER-OCTOBER**

15 ECTS must be completed in this semester

#### 1 RESEARCH MODULE or 1 LIBRARY MODULE

(You will continue your Research Project or Library Project, report preparation and thesis examination)

MSC RESEARCH PROJECT PART III MRP102B MSC LIBRARY PROJECT PART III MLP102B

<sup>\*</sup>For part-time schedule, enquire with the Education Office

TOTAL of 90 ECTS must be completed successfully to acquire the MSc title in Neuroscience

- **50 ECTS** from the taught courses (3 mandatory courses + 2 elective courses) + **40 ECTS** from the research or library project \*When selecting your elective courses in the Autumn & Spring semester, take no more than one course from the MM codes
- 10 ECTS per course/research/library module (excluding MRP102A/B and MLP102A/B, worth 15 ECTS each)

Full-Time: 13 months

Part-Time: 24 months (minimum of one course per semester, among those offered in the referred semester)

FULL TIME SCHEDULE

# AUTUMN SEMESTER

30 ECTS must be completed in this semester, comprised of:

2 MANDATORY COURSES +1 ELECTIVE COURSE

#### 2 MANDATORY COURSES (You must take both of these courses)

CELLULAR AND MOLECULAR NEUROSCIENCE NEURO101

BRAIN AND BEHAVIOUR **NEURO102** 

#### 1 ELECTIVE COURSE (\*You must select one of these courses as your elective)

MOLECULAR BASIS OF MONOGENIC DISEASES MM101

MOLECULAR BASIS OF COMPLEX DISEASES **MM102** 

CYTOGENETICS AND GENOMICS MG102

METHODOLOGIES & TECHNOLOGIES APPLIED IN MEDICAL GENETICS MG103

MOLECULAR VIROLOGY AND IMMUNOLOGY MVI

**BIOINFORMATICS BMI101** 

## SPRING SEMESTER

30 ECTS must be completed in this semester, comprised of:

1 MANDATORY COURSE +1 ELECTIVE COURSE

+1 PROJECT MODULE

(either Research or Library)

1 MANDATORY COURSE (You must take this course)

NEUROSCIENCES AND NEUROGENETICS MM103/NEURO103

1 ELECTIVE COURSE (\*You must select one of these courses as your elective)

GENE AND CELL THERAPY MM104

**MOLECULAR GENETICS MG101** 

BIOCHEMICAL BASIS OF GENETIC DISEASES MG104

#### 1 RESEARCH MODULE or 1 LIBRARY MODULE

(You will begin either your Research Project or your Library Project, depending on the route you have selected)

MSc RESEARCH PROJECT PART I **MRP101**MSc LIBRARY PROJECT PART I **MLP101** 

# SUMMER PERIOD

15 ECTS must be completed

#### 1 RESEARCH MODULE or 1 LIBRARY MODULE

(You will continue your Research Project or Library Project and report preparation)

MSc RESEARCH PROJECT PART II **MRP102A**MSc LIBRARY PROJECT PART II **MLP102A** 

FULL TIME SCHEDULE

FULL TIME SCHEDULE

# -ULL TIME SCHEDULE

#### PERIOD SEPTEMBER-OCTOBER

in this semester

15 ECTS must be completed in this semester

#### 1 RESEARCH MODULE or 1 LIBRARY MODULE

(You will continue your Research Project or Library Project, report preparation and thesis examination)

MSc RESEARCH PROJECT PART III **MRP102B**MSc LIBRARY PROJECT PART III **MLP102B** 

<sup>\*</sup>For part-time schedule, enquire with the Education Office

# **MSc Biomedical Research**

#### STUDENTS WILL TAKE ELECTIVE COURSES ONLY

No library projects available, projects are research-based only

TOTAL of 120 ECTS must be completed successfully to acquire the MSc title in Biomedical Research

- 50 ECTS from the taught courses (5 elective courses) + 70 ECTS from the research project
- 10 ECTS per course/research module

**Full-Time:** 24 months (taught courses & research project)

Part-Time: 36 months (minimum of one course per semester, among those offered in the referred semester)

#### YEAR 1

# AUTUMN SEMESTER

30 ECTS must be completed in this semester,

**3 ELECTIVE COURSES** 

comprised of:

FULL TIME SCHEDULE

FULL TIME SCHEDULE

FULL TIME SCHEDUL

FULL TIME SCHEDUL

 ${\bf 3}~{\bf ELECTIVE}~{\bf COURSES}~(You~must~select~three~of~these~courses~as~your~electives)$ 

MOLECULAR BASIS OF MONOGENIC DISEASES MM101

MOLECULAR BASIS OF COMPLEX DISEASES MM102

CYTOGENETICS AND GENOMICS MG102

METHODOLOGIES & TECHNOLOGIES APPLIED IN MEDICAL GENETICS MG103

CELLULAR AND MOLECULAR NEUROSCIENCE **NEURO101** 

BRAIN AND BEHAVIOUR **NEURO102** 

MOLECULAR VIROLOGY AND IMMUNOLOGY MVI

**BIOINFORMATICS BMI101** 

#### YEAR 1

## SPRING SEMESTER

30 ECTS must be completed in this semester, comprised of:

1 PROJECT MODULE

+ 2 ELECTIVE COURSES

1 RESEARCH MODULE (You will begin your Research Project)

MSc RESEARCH PROJECT PART I MBR101A

**2 ELECTIVE COURSES** (You must select two of these courses as your electives)

NEUROSCIENCES AND NEUROGENETICS MM103/NEURO103

GENE AND CELL THERAPY MM104

**MOLECULAR GENETICS MG101** 

BIOCHEMICAL BASIS OF GENETIC DISEASES MG104

#### YEAR 2

# AUTUMN SEMESTER

**3 RESEARCH MODULES** 

(You will continue your Research Project and report preparation)

MSc RESEARCH PROJECT PART I MBR101 B/C/D

completed in this semester

30 ECTS must be

YEAR 2

# SPRING SEMESTER

30 ECTS must be completed in this semester

#### **3 RESEARCH MODULES**

(You will continue and complete your Research Project, report preparation, report submission and examination)

MSc RESEARCH PROJECT PART II MBR102 A/B/C

<sup>\*</sup>For part-time schedule, enquire with the Education Office

# PhD (Doctoral) Programmes

PhD MOLECULAR MEDICINE PhD MEDICAL GENETICS PhD NEUROSCIENCE

#### PROGRAMME STRUCTURE = COMBINATION OF:

- MANDATORY AND ELECTIVE TAUGHT COURSES PROVIDING THE NECESSARY THEORETICAL KNOWLEDGE
- RESEARCH PROJECT BASED IN THE LABORATORIES OF THE CING
  - PUBLICATION IN A PEER-REVIEWED JOURNAL
  - REPORT PREPARATION
  - REPORT SUBMISSION AND EXAMINATION
- ▶ PROGRAMMES AVAILABLE ON A FULL TIME (4-6 YEARS) & PART TIME (6-8 YEARS) MODE OF STUDY For part time schedule refer to the Education Office

#### CRITERIA APPLICABLE TO THE CURRENT PROGRAMMES OF STUDY:

(may be subject to change for future programmes)

Students may register for additional research/writing modules, (during the final two years), if additional time is required for completion of the project.

Students must successfully complete and pass all course examinations, the PhD Thesis Examination and have at least one first author publication in a peer-reviewed journal to be awarded a PhD degree.

# PhD Molecular Medicine

**50 ECTS** from the taught courses (4 mandatory & 1 elective) of the programmes and a minimum of **190 ECTS** from the research part of the programmes must be completed while enrolled on one of the CSMM's PhD programmes for Full-Time mode of study:

- 10 ECTS per course taken
- It is compulsory to register for at least **30 ECTS** per semester until the completion of 240 ECTS (or until year 4)
- Research work is carried out during Years 1-4 of study
- All students are required to complete their research modules, prior to registering for the PhD thesis report and examination modules

#### YEAR 1 **2 MANDATORY COURSES** MOLECULAR BASIS OF MONOGENIC DISEASES MM101 MOLECULAR BASIS OF COMPLEX DISEASES MM102 AUTUMN 1 ELECTIVE COURSE OR 1 RESEARCH MODULE FULL TIME SCHEDULE (You will select either to begin your Research Project or to take one elective course) **SEMESTER RESEARCH MODULE** 30 ECTS must be PhD Research Project Part I DRP101 completed in this semester, comprised of: **ELECTIVE COURSES** 2 MANDATORY COURSES CYTOGENETICS AND GENOMICS MG102 + either. METHODOLOGIES & TECHNOLOGIES APPLIED IN MEDICAL GENETICS MG103 1 ELECTIVE COURSE or CELLULAR AND MOLECULAR NEUROSCIENCE NEURO101 1 RESEARCH MODULE BRAIN AND BEHAVIOUR **NEURO102** MOLECULAR VIROLOGY AND IMMUNOLOGY MVI

SPRING
SEMESTER

YEAR 1

**TIME SCHEDULE** 

**2 MANDATORY COURSES** 

**BIOINFORMATICS BMI101** 

NEUROSCIENCES AND NEUROGENETICS MM103 / NEURO103

GENE AND CELL THERAPY MM104

30 ECTS must be completed in this semester, comprised of:

completed in this semester, comprised of:

2 MANDATORY COURSES

+ either:
1 ELECTIVE COURSE or
1 RESEARCH MODULE

1 ELECTIVE COURSE OR 1 RESEARCH MODULE

(You will select either to begin your Research Project or to take one elective course)

**RESEARCH MODULE** 

PhD RESEARCH PROJECT PART I DRP101

**ELECTIVE COURSES** 

**MOLECULAR GENETICS MG101** 

BIOCHEMICAL BASIS OF GENETIC DISEASES MG104

	YEAR 2	PhD RESEARCH PART II <b>50 ECTS</b>
DULE	60 ECTS must be completed in this year	
'IME SCHE	YEAR 3	
	60 ECTS must be completed in this year	PhD RESEARCH PART III <b>60 ECTS</b>
	YEAR 4	PhD RESEARCH PART IV <b>30 ECTS</b>
60 ECTS must be completed in this year		

<sup>\*</sup>For part-time schedule, enquire with the Education Office

# **PhD Medical Genetics**

50 ECTS from the taught courses (4 mandatory & 1 elective) of the programmes and a minimum of 190 ECTS from the research part of the programmes must be completed while enrolled on one of the CSMM's PhD programmes

- 10 ECTS per course taken
- It is compulsory to register for at least 30 ECTS per semester until the completion of 240 ECTS (or until year 4)
- Research work is carried out during Years 1-4 of study
- All students are required to complete their research modules, prior to registering for the PhD thesis report and examination modules All students are required to complete their research modules, prior to registering for the
- PhD thesis report and examination modules

#### **2 MANDATORY COURSES** YEAR 1

CYTOGENETICS AND GENOMICS MG102

METHODOLOGIES & TECHNOLOGIES APPLIED IN MEDICAL GENETICS MG103

## AUTUMN **SEMESTER**

30 ECTS must be completed in this

semester, comprised of: **2 MANDATORY COURSES** 

+ either:

1 ELECTIVE COURSE or 1 RESEARCH MODULE

#### 1 ELECTIVE COURSE OR 1 RESEARCH MODULE

(You will select either to begin your Research Project or to take one elective course)

#### **RESEARCH MODULE**

PhD Research Project Part I DRP101

#### **ELECTIVE COURSES**

MOLECULAR BASIS OF MONOGENIC DISEASES MM101 MOLECULAR BASIS OF COMPLEX DISEASES MM102 CELLULAR AND MOLECULAR NEUROSCIENCE NEURO101

BRAIN AND BEHAVIOUR **NEURO102** 

MOLECULAR VIROLOGY AND IMMUNOLOGY MVI

**BIOINFORMATICS BMI101** 

#### YEAR 1

#### **2 MANDATORY COURSES**

**MOLECULAR GENETICS MG101** 

BIOCHEMICAL BASIS OF GENETIC DISEASES MG104

## SPRING **SEMESTER**

30 ECTS must be completed in this semester, comprised of:

2 MANDATORY COURSES

+ either:

YFAR 2

1 ELECTIVE COURSE or 1 RESEARCH MODULE

#### 1 ELECTIVE COURSE OR 1 RESEARCH MODULE

(You will select either to begin your Research Project or to take one elective course)

#### **RESEARCH MODULE**

PhD RESEARCH PROJECT PART I DRP101

#### **ELECTIVE COURSES**

NEUROSCIENCES AND NEUROGENETICS MM103 / NEURO103

GENE AND CELL THERAPY MM104

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		PhD RESEARCH PART II <b>50 ECTS</b>	
FULL TIME SCHEDULE	60 ECTS must be completed in this year	PhD THESIS PROGRESS REPORT AND EXAMINATION <b>10 ECTS</b>	
	YEAR 3		
	60 ECTS must be completed in this year	PhD RESEARCH PART III <b>60 ECTS</b>	
	YEAR 4	PhD RESEARCH PART IV <b>30 ECTS</b>	
	60 ECTS must be completed in this year	PhD THESIS AND EXAMINATION <b>30 ECTS</b>	

<sup>\*</sup>For part-time schedule, enquire with the Education Office

# PhD Neuroscience

**40 ECTS** from the taught courses (3 mandatory & 1 elective) of the programmes and a minimum **200 ECTS** from the research part of the programmes must be completed while enrolled on one of the CSMM's PhD programmes

- 10 ECTS per course taken
- It is compulsory to register for at least **30 ECTS** per semester until the completion of 240 ECTS (or until year 4)
- Research work is carried out during **Years 1-4** of study
- All students are required to complete their research modules, prior to registering for the PhD thesis report and examination modules

	YEAR 1	2 MANDATORY COURSES
		CELLULAR AND MOLECULAR NEUROSCIENCE <b>NEURO101</b>
		BRAIN AND BEHAVIOUR <b>NEURO102</b>
TIME SCHEDULE	AUTUMN SEMESTER	1 ELECTIVE COURSE OR 1 RESEARCH MODULE (You will select either to begin your Research Project or to take one elective course)
	30 ECTS must be completed in this	RESEARCH MODULE PhD Research Project Part   DRP101  ELECTIVE COURSES
	semester, comprised of:	MOLECULAR BASIS OF MONOGENIC DISEASES MM101
FULL	2 MANDATORY COURSES + either:	MOLECULAR BASIS OF COMPLEX DISEASES MM102
	1 ELECTIVE COURSE or	CYTOGENETICS AND GENOMICS <b>MG102</b>
	1 RESEARCH MODULE	METHODOLOGIES & TECHNOLOGIES APPLIED IN MEDICAL GENETICS MG103
		MOLECULAR VIROLOGY AND IMMUNOLOGY <b>MVI</b>
		BIOINFORMATICS <b>BMI101</b>

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**FULL TIME SCHEDULE** 

## 1 MANDATORY COURSE

# SPRING SEMESTER

NEUROSCIENCES AND NEUROGENETICS MM103 / NEURO103

(You will either select to begin your Research Project together with one elective

30 ECTS must be completed in this semester, comprised of:

course or to take 2 modules of research)

1 MANDATORY COURSE + either:

PhD RESEARCH PROJECT PART I **DRP101** 

1 ELECTIVE COURSE & 1 RESEARCH MODULE or 2 RESEARCH MODULES PhD RESEARCH PROJECT PART II **DRP102A** 

**ELECTIVE COURSES & RESEARCH MODULES** 

#### **ELECTIVE COURSES**

**RESEARCH MODULE** 

GENE AND CELL THERAPY **MM104**MOLECULAR GENETICS **MG101** 

BIOCHEMICAL BASIS OF GENETIC DISEASES MG104

Щ	YEAR 2	PhD RESEARCH PART II <b>40 ECTS</b>
	60 ECTS must be completed	PhD THESIS PROGRESS REPORT AND EXAMINATION 10 ECTS
	in this year	PhD RESEARCH PART III <b>10 ECTS</b>
CHEI	YEAR 3	PhD RESEARCH PART III <b>50 ECTS</b>
IME SC	60 ECTS must be completed in this year	PhD RESEARCH PART IV 10 ECTS
<b>⊢</b>	YEAR 4	PhD RESEARCH PART IV <b>30 ECTS</b>
FUL	60 ECTS must be completed in this year	PhD THESIS AND EXAMINATION <b>30 ECTS</b>

<sup>\*</sup>For part-time schedule, enquire with the Education Office



# **COURSES**

The Cyprus Institute of Neurology and Genetics has over three decades of experience in research, services and education. As a result our Courses incorporate specific employment objectives which are fundamental to increasing your employability upon graduaton.

#### **EACH COURSE STRUCTURE COMBINES:**

# LEARNING OBJECTIVES

(theoretical knowledge)



EMPLOYMENT OBJECTIVES

(practical skills)

**INCREASING YOUR EMPLOYABILITY** 

#### **European Credit Transfer System (ECTS)**

All Programmes use the European Credit Transfer System (ECTS) which takes into consideration the workload for:

#### a) class attendance b) homework c) exam preparation.

In order to be awarded their title, students must successfully complete all courses included in their Programme's curriculum including any other MSc or PhD degree requirements such as their Library or Research/Lab project (thesis) or PhD examination and produce at least one academic publication.

ECTS course exemptions may be granted subject to review on a case by case basis and upon application. For information, contact the Education Office.

Our students have access to an online service portal (Extranet) which facilitates the learning experience. It allows faculty and students to communicate and share educational material, view assessment results, statistics and academic transcripts. Also, registration and payment are only possible through Extranet. Students are provided with a unique username and password at the beginning of the academic year which allows them to navigate through the portal. Students are expected to attend all necessary lectures, tutorials and seminars. Based on guidelines/permission from the Cyprus National Authorities, lectures and tutorials may take place online where necessary as in the case of the recent pandemic.

#### Adding and Dropping Courses

Students have the right to add or drop a course within a certain period at the beginning of each semester. More information regarding the exact dates to add or drop a course is available in the academic calendar.

#### The course descriptions which follow will give you an insight into the material covered within each course

- Courses are composed of two lectures per week (duration 90 minutes each) and one tutorial per week (duration 60 minutes each)
- The total number of lectures per academic semester is 26 for each course and 13 tutorials for each course
- Sessions/courses may run in parallel

#### MM101: MOLECULAR BASIS OF MONOGENIC DISEASES

COORDINATOR: MARINA KLEANTHOUS, PROFESSOR

The course Molecular Basis of Monogenic Diseases is aimed at all postgraduate students with an interest in inherited diseases and their diagnosis, genetics, mechanisms and molecular therapy.

Individually, monogenic (or: single-gene) disorders are rare but taken together affect about 1 per cent of the population. Moreover, owing to their accessibility to genetic and functional assays, monogenic disorders have contributed disproportionately to the development of modern tools and methods in genetics and to our knowledge of human gene function in health and disease.

The scope of this course is to describe the modes of inheritance and the molecular mechanisms of monogenic diseases. Drawing on specific examples of human disorders, the course will further provide an overview of tools to study and understand monogenic diseases, with an emphasis on new technologies for gene discovery, genotyping and functional genomics, and including advanced therapies and bioinformatics. Laboratory workshops and problem-solving exercises within the course will help internalise the course content and connect it to real-life diagnostic and research work. In the same vein, attention will be given to the more applied aspects of monogenic diseases, such as disease management, current therapeutic and prevention approaches, and the prediction of disease severity based on primary genotype and on the presence of genetic modifiers and other biomarkers.

#### MM102: MOLECULAR BASIS OF COMPLEX DISEASES

COORDINATOR: MICHALIS PANAGIOTIDIS, PROFESSOR

Complex diseases are multifactorial, polygenic disorders that develop as a result of interactions of multiple genes, with each other, as well as with the environment. This comprehensive lecture course will discuss current aspects in the field of complex disorders with emphasis on molecular mechanisms involved in their pathogenesis and therapeutic management. Overall, despite the complicated pathogenic mechanisms that operate towards the development of complex diseases, our understanding of their molecular basis has been greatly improved in recent years.

This course will present the potential that genetics and molecular biology hold for the understanding of complex diseases (e.g., cancer, cardiovascular, skin, gastrointestinal and respiratory disorders, among others) as well as current concepts of the underlined molecular mechanisms of their pathogenesis and therapeutic management. Various study designs, the use of new technologies (e.g., high throughput genotyping, functional genomics, proteomics, model organisms and bioinformatics) as well as exposure to cutting-edge knowledge (e.g., on pharmacogenomics, personalized medicine, molecular diagnostics, biomarker discovery, etc.,) together with real-life applications in contemporary medicine will be covered, at lectures, when applicable. Lastly, relevant clinical (e.g., demographics, risk factors, early diagnosis, prevention, therapy, use of biomarkers, etc.,) and histological aspects regarding disease severity will be also examined.

#### MM103/NEURO103: NEUROSCIENCES & NEUROGENETICS

ACTING COORDINATOR: ELENA PANAYIOTOU WORTH, ASSISTANT PROFESSOR

The purpose of the course is to provide a foundation and a stimulus for the understanding of the structure and function of the central and peripheral nervous system so that the molecular basis of neurological disease is better understood. Basic knowledge on molecular biology methodologies and the scientific basis of Neurogenetics will be covered. Great emphasis will be given to correlating basic scientific principles to disease causation and symptoms in the nervous system.

The course will cover the anatomy and functional organization of the central and peripheral nervous system at macroscopic, microscopic and sub-cellular level. Common disease mechanisms participating in neurodegeneration such as oxidative stress, apoptosis, protein aggregation, mitochondrial dysfunction will be outlined and subsequently illustrated in a variety of human neurological disorders. Similarly the contribution of some cellular organelles in the pathophysiology of neurological disease will be illustrated. Throughout the course great emphasis will be made to correlate clinical phenotype with the molecular basis of disease which will also include genetic and epigenetic aspects. Lastly a variety of animal models will be examined to illustrate some of the principles of translational medicine.



#### MM104: GENE AND CELL THERAPY

COORDINATOR: LEONIDAS PHYLACTOU, PROFESSOR

The course of Gene and Cell Therapy includes the main topics of the fields of Gene and Cell Therapy. The majority of diseases, inherited or acquired could be candidates for gene and cell therapy. Until now, several approaches have been developed towards this direction. Some of these have been tested in patients but the majority of them are at the research level, since gene and cell therapy are recent disciplines of the biomedical field

The initial aim of the course is the understanding of the various ways of delivering genetic material in cells and organisms. The genetic "tools" which are currently used for gene and cell therapy will then be described and analysed. A big portion of the course will also deal with the various strategies developed for gene and cell therapy of diseases such as muscular dystrophies, cancer, inherited and infectious diseases.

Finally, gene and cell therapy clinical trials will be described and discussed in the classroom. The course is designed to understand firstly the concepts and tools for gene and cell therapy and then their application in the various strategies against diseases. The students will then comprehend and put together all knowledge received through presentations of research papers and acquaintance and discussions of gene and cell therapy clinical trials. Tutorials will be used to answer specific questions and to deepen students' understanding through group discussions with the aid of research papers.

#### **MG101: MOLECULAR GENETICS**

COORDINATOR: MARIOS CARIOLOU, PROFESSOR

The course in Molecular Genetics will focus on monogenic and multifactorial diseases as well as forensic genetics, bioethics and phylogenetics. Selected areas of emphasis will cover classical, genetic and epigenetic risk factors for cardiovascular diseases such as atherosclerosis, lipid disorders, thrombosis, aortic aneurysms including the generation of polygenic risk scores for disease management. Furthermore, genetic defects leading to disorders of sexual differentiation, premature and delayed puberty will be addressed. The role of genetic polymorphisms in athletic performance and related bioethical issues will also be discussed.

The course will include lectures on the use of genetics in human identification for forensic purposes including crime related investigations, kinship analyses, missing persons and disaster victim identification. Data analysis, interpretation and basic statistical methods used in forensic genetics will also be covered. The course will be completed by the presentation of interesting bioethical issues resulting from the advancement of genetics in health and/or forensic related areas and how genetic studies undergo bioethical review in Cyprus.

#### **MG102: CYTOGENETICS & GENOMICS**

COORDINATOR: CAROLINA SISMANI, ASSOCIATE PROFESSOR

The aim of this course is to provide in-depth education to students in the area of Human Cytogenetics and Genomics. The course will cover all aspects of human cytogenetics and genomics and will include methodologies from conventional cytogenetics such as tissue culture, techniques for the visualization of chromosome aberrations, karyotype analysis and FISH (Fluorescence in Situ Hybridization) to more cutting-edge technologies used in molecular cytogenetics and genomics such as array-CGH (Comparative Genomic Hybridization) and NGS (Next Generation Sequencing).

The course will also cover the mechanism of formation of chromosomal abnormalities, their pathogenicity and clinical interpretation. Therefore, chromosomal abnormalities will be discussed from both the clinical as well as the cytogenetic aspect. Emphasis will also be given in the current research involving the field of cytogenetics and genomics.

The lectures of this course include topics such as, laboratory methodologies, analysis of chromosomes, preimplantation, prenatal and postnatal analysis, chromosomal disorders and syndromes, cancer cytogenetics, genomic disorders, molecular mechanisms, genetic variation, non-invasive prenatal diagnosis, NGS and many other topics. The course includes lectures, tutorials, workshops, presentation of actual cases and referrals to current bibliography.

#### MG103: METHODOLOGIES & TECHNOLOGIES APPLIED IN MEDICAL GENETICS

COORDINATOR: KYPROULA CHRISTODOULOU, PROFESSOR

The field of Medical Genetics requires that human samples are properly and efficiently analysed. The aim of this course is to enable students to understand in-depth, critically discuss, implement and competently interpret and present results of a wide range of methods and techniques that are applied in Medical Genetics.

The course will consist of lectures, tutorials, workshops and literature studies. Each lecture will be focused on one major methodology or technology and relevant application examples will be presented and discussed. Methodology and technology to be covered includes: Nucleic acids extraction and separation, PCR amplification, real-time PCR, restriction enzymes and their applications, SNP analysis, microsatellite genetic markers and fragment analysis, DNA sequencing, blotting techniques, cell culture, microscopy, MLPA analysis, haplotype and linkage analyses, association studies, genetic risk assessment, next generation sequencing, gene expression profiling - microarrays technology, -omics technologies and bioinformatics for genomic data analysis.

#### MG104: BIOCHEMICAL BASIS OF GENETIC DISEASES

COORDINATOR: PETROS PETROU, ASSISTANT PROFESSOR

The course is mainly focused on a large and heterogenous group of rare genetic disorders, known as Inborn Errors of Metabolism (IEMs). IEMs are primarily caused by inherited deficiencies of enzymes resulting in the disruption of biochemical pathways, implicated either in the biosynthesis or breakdown of important molecules. The course aims at providing postgraduate students with a comprehensive background and understanding of the biochemical consequences of enzyme dysfunction and the resulting cell and organ pathology. The topics covered in this course deal with the major pathways of intermediary metabolism and discuss genetic, biochemical, cellular and clinical aspects of related disorders. Inherited enzymatic deficiencies and their effects on the function of subcellular organelles such as lysosomes, peroxisomes and mitochondria will be further highlighted.

Students will also be introduced to principles, methodology and instrumentation currently applied in laboratory investigation of IEMs, including the latest technological advances and will obtain hands-on experience in selected diagnostic procedures.

The course further reviews current approaches, challenges and new trends in the management of IEMs and discusses the concept of newborn screening for their early detection, along with the associated benefits, pit-falls and dilemmas.

#### **NEURO101: CELLULAR AND MOLECULAR NEUROSCIENCE**

COORDINATOR: KLEOPAS KLEOPA, PROFESSOR

The aim of this course is to provide an in-depth understanding of basic cellular and molecular processes underpinning brain function. The unique aspects of nervous system development, cellular architecture, excitability and homeostasis will be highlighted. Examples of neurological disorders resulting from genetic or acquired nervous system disturbances at the cellular and molecular level will further emphasize their importance and provide a link between basic and clinical neuroscience.

In addition to the theoretical basis, the course will include practical aspects of research in the neuroscience laboratory such as imaging, microscopy, DNA recombination and generation of disease models, as well as bioinformatics and computation neuroscience methods, all needed for pursuing a career in neuroscience research.

This course will provide complementarities with the other core courses within the Neuroscience MSc/PhD programme in order to offer a complete coverage of the field. Transferable skills will also be acquired through focused school-wide lectures.

# COURSE Description: Descript

#### **NEURO102: BRAIN AND BEHAVIOUR**

ACTING COORDINATOR: ELEFTHERIOS PAPATHANASIOU, ASSISTANT PROFESSOR

The main emphasis of this course will be twofold. On the one hand it will review and discuss the basic structure of the nervous system and the way its nature and pattern of physiological functioning influence normal and abnormal behaviour; neuronal functioning and its effects on neurotransmitters, structural and anatomical features of the nervous system, hormonal and endocrine functioning and the interrelationships between various biological systems in the regulation of behaviour.

On the other hand it will review and discuss the physiological bases and current research in a number of selected behaviours and neurological/psychiatric conditions such as sleep, eating, reproduction, aggression, memory, communication and mental disorders.

#### **Topic areas**

Physiological, anatomical and communicative functions of neurons in the central nervous system / Structures and anatomical features of the brain, especially those parts related to behaviour / The neural and/or hormonal bases of selected behaviours / Interrelationships between various parts of the brain in the regulation of behaviour / Contemporary literature in physiological bases of behaviour / Current research in physiological neuropsychology and comparisons with results of contemporary research with other published information.

#### **MVI: MOLECULAR VIROLOGY AND IMMUNOLOGY**

COORDINATOR: GEORGE KRASHIAS, ASSISTANT PROFESSOR

The course Molecular Virology and Immunology includes the main topics in the fields of Virology and Immunology. This course has a dual purpose: to provide an integrated and more advanced understanding of viruses in general and their role in disease pathogenesis, focusing on understanding the molecular basis of these processes; and secondly to provide broad knowledge of the basic concepts in cellular and molecular immunology. Emphasis will also be given to understanding the viral survival strategies and the immune mechanisms that result in elimination of viral pathogens.

An overview of available approaches (vaccines and antiviral drugs) for providing protection and treatment against viral diseases and of various cutting edge methodologies currently used for the diagnosis and monitoring of viral infections will also be provided by this course. Tutorials held throughout the course will address specific questions, helping students to broaden the knowledge acquired during lectures through group discussions and the use of original research papers.

Finally, the workshops will be used to improve students' communication skills through oral presentations and small group discussions. The course does not require any previous knowledge in virology and immunology.

#### **BMI101: BIOINFORMATICS**

COORDINATOR: GEORGE SPYROU, PROFESSOR

Bioinformatics is a new multidisciplinary field that includes the development and implementation of computational methods and tools suitable to handle, decipher and interpret the plethora of biomolecular data derived nowadays, acting as a bridge between bioinformation and biological knowledge extraction. It is recognized that bioinformatics are fuelling the rise of translational research and the success of molecular medicine. The aim of the course is to enable students to get familiar with a significant number of bioinformatics tools and databases, understand the computational methods behind them, be able to exploit in-depth the capabilities of the tools, implement and competently interpret and present the results of a wide range of bioinformatics analyses, critically discuss the current limitations and design the next generation of tools

#### PREPARATORY COURSE - INTRODUCTION TO MOLECULAR BIOMEDICAL SCIENCES

COORDINATOR: CARSTEN W. LEDERER, ASSISTANT PROFESSOR

This preparatory course precedes the main CSMM postgraduate course programme and provides necessary background information for the main courses. It is organised as 9 lecture sessions with associated tutorials, covering the fundamentals of cell and molecular biology, biochemistry, immunity, medical genetics, disease mechanisms and methods in molecular biosciences.

Attendance and successful completion of a written course exam are compulsory for most course participants from non-biomedical backgrounds. The course is also highly recommended as a vocabulary primer for participants originating from non-English-speaking institutions and as an update for participants who graduated a number of years ago. Moreover, attendance may benefit anyone registered for the main CSMM postgraduate programmes.

# NOTE:

# ARE YOU READY FOR THE NEXT STEP?

# ADMISSION CRITERIA,

# APPLICATION PROCEDURE & REGISTRATION

#### **MINIMUM ADMISSION CRITERIA:**

A **BACHELOR'S DEGREE** from a recognized accredited institution, in a related field.

**ENGLISH LANGUAGE CERTIFICATION** or other accepted International Standard, if the previous degree obtained was not in English

#### **2 REFERENCES**

#### **APPLICATION ANNOUNCEMENT**

The application period launches at the beginning of each year and is announced via e-mail, the school's website and through various media channels

#### APPLICATION PROCEDURE

Ready to make your application? Visit www.cing.ac.cy/csmm/ to create a user account on the Extranet system. This is where you will complete the relevant details about your educational background and upload the required documents, along with the names and contact details of two Academic Referees.

# YOU WILL NEED TO UPLOAD THESE DOCUMENTS

A Completed Online Application Form
CV and High School Leaving Certificate
Academic and/or Professional References
Academic Transcripts
English Language Certificate (see above)

Copy of I.D/Passport

#### NEXT STEPS...

After you have submitted your online application, you will receive a notification email. Thereafter, you will receive another email informing you whether your application has proceeded to the interview stage.

#### **INTERVIEWS**

The interview is an integral part of the admissions process and is an opportunity for you to convince the Admissions Committee about your suitability for your chosen programme. The interview takes around 15-20 minutes, in person or on online.

#### **DECISION TIME**

In the days following your interview, you will receive an email with the Admissions Committee's decision as to whether your application was successful. If you are made an offer, then you will have a set period of time in which to decide whether you will accept the offer and submit the relevant Admissions documents and initial payment.

#### **WELCOME TO THE CING!**

Some students may be required to take the Preparatory Course in August, otherwise we will see you at our Orientation Event in mid-September, a week before term begins. We look forward to welcoming you!

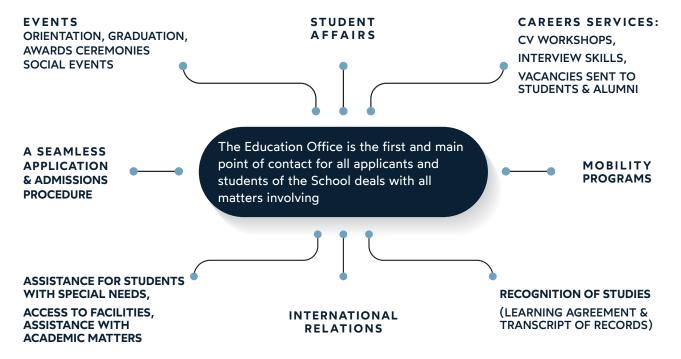
You must ensure to make the 40 euro application fee payment per selected programme via the JCC payments portal (this is the last step on your online application form) so that your application will be complete, valid and ready for evaluation by our Admissions Committee.

**IMPORTANT:** Students are bound by the existing rules, regulations and policies common to all CING employees and also by the student policies. Information can be found in the Student Handbook.

# YOUR MAIN POINT OF CONTACT

## **EDUCATION OFFICE**

The personnel of the Education Office are committed to enriching the student experience and promoting a full and active student life. We provide the necessary support and resources to ensure that all students will enjoy their experience at the CING to the maximum.



# THE EDUCATION OFFICE IS COMMITTED TO SUPPORTING STUDENTS THROUGHOUT THEIR STUDIES INCLUDING:

**Providing advice, support and guidance** to international and home applicants and students of the CING regarding the application procedure, mobility programmes, visa and entry information, accommodation and living in Cyprus.

**Arranging contact with Academic Mentors for Advice and Guidance:** All students are assigned an Academic Advisor who is responsible to advise students on academic issues. In addition, students are also assigned a Research/Library Advisor who provides supervision regarding their final thesis (research project or library project).

**Arranging assistance with counselling support and special needs:** The CING is committed to offering practical solutions to any of the students' special needs, such as access to CING facilities, or assistance on their academic issues.

#### **EDUCATION OFFICE STAFF**

MANAGER: MARIA LAGOU (marial@cing.ac.cy, +357 22392842)

#### **OFFICERS (OPERATIONS & ADMISSIONS)**

MARIA IOANNOU AVGOUSTI (mariaa@cing.ac.cy, +357 22392844)

IRIS VOGAZIANOU (irisv@cing.ac.cy, +357 22392841)

**SCIENTIFIC SECRETARY:** ELEFTHERIA IOANNOU (eleftheriai@cing.ac.cy, +357 22392840)

LIBRARIAN: MARIA ELLINA (ellina@cing.ac.cy, +357 22392670)

#### I.T. OFFICER

(itsupport@cing.ac.cy, +357 22392888)

# INTERNATIONAL **STUDENTS**

At the CING we welcome a diverse and international student community. Since our establishment, we have attracted interest and registered students, as well as mobility participants from all over the world.

## Information if you are joining us from overseas

#### **ABOUT CYPRUS**

Cyprus is geographically located in the north-eastern corner of the Mediterranean Sea, at the crossroads of 3 continents, Europe, Asia and Africa, 75km south of Turkey, 90km west of Syria and 380km east of the Greek island of Rhodes. It covers an area of 9,251 sq. km which makes it the third largest island in the Mediterranean Sea after Sicily and

English is widely spoken in Cyprus and regularly used in commerce and govern-

#### **DIPLOMATIC MISSIONS OF THE REPUBLIC OF CYPRUS ABROAD:**

Detailed information regarding the Embassies and High Commissions of the Republic of Cyprus abroad can be obtained from the Ministry of Foreign Affairs.

#### TRAVEL DOCUMENTS

Travelling to Cyprus requires certain documents which vary, depending on nationality. A valid passport is required for a stay of up to 90 days for all tourists, except citizens of EU, Switzerland, Iceland, Liechtenstein and Norway, who may enter Cyprus with the use of their national identity card provided that it bears a photo.

Some non-EU third country nationals require a visa. Further information can be obtained from the Ministry of Foreign Affairs.

#### LEGAL POINTS OF ENTRY

The legal points of entry into the Republic of Cyprus are the airports of Larnaca and Paphos and the ports of Larnaca, Limassol, Latsi and Paphos, which are situated in the area under the effective control of the Government of the Republic of Cyprus.

Entry into the territory of the Republic of Cyprus via any other port or airport in which the Government of the Republic does not exercise effective control (Turkish-occupied areas) is illegal.

#### **HEALTH INSURANCE AND SERVICES**

All E.U. students who have a European Medical Card E111 are entitled to free medical and pharmaceutical care by public hospitals in Cyprus, upon presentation of the card.

Non-E.U. students, as well as E.U. students who do not possess a European Medical Card, must obtain private medical insurance for in-hospital and outpatient medical treatment in Cyprus.

Non-E.U. students will also need to obtain private medical insurance immediately upon arrival in Cyprus as it is a requirement to obtain a VISA.

# ERASMUS<sup>+</sup> MOBILITY

### **Mobility Opportunities at the CING:**

As an institution which has been awarded the Erasmus Charter for Higher Education, the CING supports mobility of students and staff to improve the quality of higher education by encouraging transnational cooperation between universities and contributing to improved transparency and academic recognition of qualifications and studies throughout the European Union.

Students of the CING participate in mobility programmes with partner institutes internationally. Under regulations of the Erasmus Scheme, graduates are entitled to participate in mobility schemes for up to a year after graduation. This provides a plethora of opportunities for our graduates to gain both work experience and skills in an international setting.

The Education Office provides assistance and support to all participants of mobility programmes. Full details can be found on our website: www.cing.ac.cy/csmm/

### Benefits of Participating in Erasmus mobility:

- Personal, professionall and academic development
- Gain new transferable skills and boost your employability
- Acquire knowledge in new subjects or in teaching methods
- Broaden your horizons physically and mentally!
- Develop cultural awareness and language skills
- Enhance self-confidence and independence
- Improve and gain language skills

# **FACILITIES**



#### **LIBRARY**

The Library consists of reference books, journals and other reference and reading material. Academic staff and students have access to:

- Electronic journals and databases
- Current scientific journals and books
- Printing and photocopying facilities
- Student PCs and laptop stations
- Meeting area
- WI-Fi access



#### **ACCOMMODATION**

Students can choose from a great range of private apartments and houses within walking distance of the CING. The Education Office may assist students in finding their accommodation for the duration of their studies. It is advised to begin searching for accommodation as early as possible.



#### LOCAL AREA

The local area within the proximity of the CING is buzzing with activity due to the student population, as well as the businesses/offices operating within the area. Amenities within a short distance include a mall, various shops, coffee shops, restaurants, clubs, banks etc. Monthly living expenses are estimated to be between €680–€850 including rent.



#### **CAFETERIA**

A cafeteria operates within the CING premises with subsidised prices for all employees and students. The Cafeteria offers hot and cold beverages, a selection of sweet and savoury snacks, salads as well as a lunch buffet.



#### **PUBLIC TRANSPORT**

The Transportation Organization of Nicosia District, runs a regular bus service within the local area and other parts of Nicosia as well as to the city centre. Corresponding organizations also run routes in other cities and towns across Cyprus, allowing you to explore the island comfortably and affordably!



#### SUSTAINABILITY

The CING is committed to participating in sustainability efforts towards the 17 Sustainable Development Goals (SDGs) of the UN. As an example, throughout the premises of the CING, we have implemented recycling facilities for various materials. Our efforts extend beyond recycling, to a number of the goals and can be viewed in detail on the School's website.

We are registered members of the Association for the Advancement of Sustainability in Higher Education (AASHE) as well as the Sustainable Development Solutions Network Cyprus and the global Sustainable Development Solutions Network (SDSN), in order to co-operate with other education and research institutions to improve our collective efforts for a sustainable future.



# SCHOOL GOVERNANCE

Provost The Chief Executive Officer and Medical Director of the Cyprus Institute of Neurology and Genetics, Prof. Leonidas A. Phylactou, is the ex-officio Provost of the School and has the overall supervision of operations.

The Provost of the School oversees all external relations and is responsible for promoting the expansion of the School.

Dean The Dean has the academic responsibility of of the School. Prof. Kyproula Christodoulou is the appointed Dean.

Director of Finance and Administration The Financial and Administrative Director of the CING, Mr. Marios Flouros, is the ex-officio Financial and Administrative Director of the School, who has the responsibility for the financial and administrative work.

Student Representatives Open channels of communication with the student population are very important to us and we highly encourage student representation. At the beginning of each Academic year, the students of each programme are requested to elect their class representative. The elected Class Representatives will then go on to elect their Student President and they will represent the students in various activities, while serving as intermediaries between the students, the faculty and the administration.

#### SCHOOL COUNCIL

Prof. Leonidas A. Phylactou Chairperson

**Constantinos Pattichis** 

Representative of the Board of Directors (Member)

**Stelios Violaris** 

Representative of the Board of Directors (Member)

Prof. Kyproula Christodoulou Dean of the CSMM (Member) **Prof. Marina Kleanthous** *CSMM Faculty (Member)* 

Prof. Marios Cariolou

CSMM Faculty (Member)

Prof. Kleopas Kleopa

CSMM Faculty (Member)

Prof. Carolina Sismani

CSMM Faculty (Member)

**Elected Student Representative** (Member)

### **SCHOOL COMMITTEES**

#### **ACADEMIC COMMITTEE**

Prof. Kyproula Christodoulou (Chairperson)

Prof. Marios Cariolou

Prof. Carolina Sismani

Prof. Kleopas Kleopa

Prof. Marina Kleanthous

Student Representative

#### QUALITY ASSURANCE COMMITTEE

Prof. Leonidas A. Phylactou (Chairman)

Mr Stelios Stylianou

(Representative of the Board of Directors)

Prof. Kyproula Christodoulou

Prof. Christina Christodoulou

Dr. Carolina Sismani

Mr. Marios Flouros

Mrs. Maria Lagou

Student Representative

Ms. Maria Theocharidou

### ADMISSIONS COMMITTEE

One faculty representative from each academic programme of study.

#### **ADMINISTRATION COMMITTEE**

Prof. Leonidas A. Phylactou (Chairperson)

Prof. Kyproula Christodoulou

Mr. Marios Flouros

Student Representative

#### DISCIPLINARY COMMITTEE

Prof. Kyproula Christodoulou (Chairperson)

Prof. Marios Cariolou

Prof. Marios Pantzaris

Student Representative

# LEARN FROM EXPERIENCE

#### FACULTY MEMBERS & ACADEMIC STAFF

At the Cyprus Institute of Neurology and Genetics, our students are taught and supervised by the leading Neurologists, Geneticists and Biomedical Scientists in Cyprus. Our Faculty Members and Academic Staff have a range of research interests with vast experience in their respective fields, which they have gained as members of the Departments of the Institute and in other posts where they have studied and served internationally.

Our Faculty and Academic Staff are active members and contributors of the international scientific community through their research collaborations, international networks, conferences and partner projects. This cumulative knowledge is the driving force behind the learning experience at the CSMM. Further to the decision of The Cyprus Agency of Quality Assurance and Accreditation in Higher Education, the qualifications of Faculty can be found on the School's website www.cing.ac.cy/csmm/

#### **FACULTY**

Leonidas Phylactou, Professor, Provost Kyproula Christodoulou, Professor, Dean Marios Cariolou, Professor Christina Christodoulou, Professor Anthi Drousiotou, Professor Andreas Hadjisavvas, Professor Marina Kleanthous, Professor Kleopas Kleopa, Professor Mihalis Panagiotidis, Professor Marios Pantzaris, Professor Carolina Sismani, Professor George Spyrou, Professor Carsten Lederer, Associate Professor Eleni Papanicolaou-Zamba, Associate Professor Petros Petrou, Associate Professor Evy Bashiardes, Assistant Professor George Krashias, Assistant Professor Paschalis Nicolaou, Assistant Professor Elena Panayiotou Worth, Assistant Professor Eleftherios Papathanasiou, Assistant Professor Irene Sargiannidou, Assistant Professor Kyriacos Kyriacou, Emeritus Professor Savvas Papacostas, Emeritus Professor Violetta Anastasiades, Emeritus Assistant Professor



#### PROGRAMME COORDINATORS

The Programme Coordinators are responsible for the management and coordination of the specific programmes of the School.

MOLECULAR MEDICINE: PROF. MARINA KLEANTHOUS
MEDICAL GENETICS: PROF. CAROLINA SISMANI
NEUROSCIENCE: PROF. KLEOPAS KLEOPA

**BIOMEDICAL RESEARCH: PROF. MARIOS CARIOLOU** 

# INVESTING IN YOUR FUTURE

#### **TUITION FEES**

Education is an investment in your future and the CING is committed to offering an accessible education to all successful applicants.

Students will be informed by the Education Office about the exact payment deadlines of each semester.

FEE TYPE	AMOUNT €	DETAILS
MSc Molecular Medicine	8,000	
MSc Medical Genetics	8,000	
MSc Neuroscience	8,000	-
MSc Biomedical Research	10,550	
PhD Tuition Fees	please see note 3 below	
Application Fees	40	Per application
Registration Fees	25	Per registration
Late Registration Fees	25	Per late registration
Late Payment Fees	25	Per late payment
Technology Fees (internet & email use)	10	Per registration
Transcript Fees	5	Per additional copy
Graduation Fees	50	-
Preparatory Course Fees	300	-

#### **NOTES:**

- 1. Health Insurance cover is recommended for all students
- 2. International students are required to have health insurance for themselves as well as for their spouse and children.
- 3. The total cost for the PhD Programmes (Euro 20,750) is divided over the duration of 4 years. The cost for the 1st year of studies amounts to Euros 5,450 (see below for scholarships for years 2-4).

#### **SCHOLARSHIPS & GRANTS**

#### **PUBLICLY-FUNDED GRANTS**

CSMM students are entitled to apply for a publicly-funded grant based on the Government's assessment criteria.

#### **CSMM SCHOLARSHIPS**

- A number of full and partial scholarships to cover tuition fees are awarded to MSc and PhD students based on academic criteria.
- For the academic year 2022-23, tuition fee scholarships will be provided to students from other countries.
- In addition to the above, various types of scholarships are available specifically for PhD students, for years 2, 3 and 4 which may cover costs of consumables and/or a monthly allowance and/or tuition fees.
- For the academic year 2022-23 all PhD students will have tuition fee scholarships for years 2-4 and also a monthly allowance of at least 500 euros (exemptions apply).
- The exact amount and number of scholarships offered is always subject to the yearly budget of the School.

# **IMPORTANT DATES**

#### **CALENDAR FOR THE ACADEMIC YEAR 2022-2023**



COMMON DATES / DEADLINES FOR ALL PROGRAMMES - MSC & PHD (YEAR 1)				
			MSc Programmes (Molecular Medicine / Medical Genetics / Neuroscience)	
	Autumn Semester	Spring Semester	Summer Period	Final Semester
Registration for Preparatory Course	June - Early Aug 2022	-	-	
Preparatory Course	Mid Aug - Early Sept 2022	-	-	
Registration Period	Late Aug - Mid Sept 2022	Jan 2023	Early June 2023	Mid Aug. 2023
Late Registration Period	Mid Sept 2022	Late Jan 2023	-	
Beginning of Courses / Project	Late Sept 2022	Early Feb 2023	Early June 2023	Beginning Sept. 2023
Deadline to ADD / DROP Course / Project	Early Oct 2022	Mid Feb 2023	-	
Last Days of Lectures	Mid Dec 2022	Mid May 2023	-	
Examinations	Jan 2023	Mid - Late May 2023	Mid Sept 2023	Mid - End Sept 2023
Holidays	Late Dec 2022 - Early Jan 2023	Mid Apr - Early May 2023	-	

PUBLIC HOLIDAYS 2022		
01 October	Independence Day	
28 October	Greek National Day	
24 December	Christmas Eve	
25 December	Christmas Day	
26 December	Boxing Day	
31 December	New Year's Eve	

PUBLIC HOLIDAYS 2023	
01 January	New Year's Day
06 January	Epiphany Day
27 February	Green Monday
25 March	Greek Independence Day
01 April	National Day
13 April	Holy Thursday (Half Day)
14 April	Good Friday
17 April	Easter Monday
01 May	Labour Day
5 June	Whit Monday
15 August	Assumption Day

# **TELETHON**

TELETHON constitutes an annual, international, charitable institution which began in the USA and quickly spread to European countries including France, Italy, Belgium, Luxemburg, Germany and Switzerland amongst others. TELETHON enlists the efforts of hundreds of thousands of volunteers and has touched the hearts of millions of people all around the world. Its main aim is to support patients, but also to discover, through research, the most suitable and effective treatment of neuromuscular, genetic, and other diseases.

#### **TELETHON IN CYPRUS**

TELETHON was organized for the first time in Cyprus in 1994, and has been organized every year since then by the Cyprus Institute of Neurology and Genetics (CING) and the Cyprus Muscular Dystrophy Association.

#### **TELETHON'S MAIN AIMS ARE:**

- To provide financial support to the Cyprus Muscular Dystrophy Association
- To finance research programs of the CING including upgrading of necessary equipment
- To inform the public regarding CING's achievements and its contribution to health care in our country

#### **FUNDRAISING**

TELETHON carries out a number of fundraising initiatives throughout the year, including events and sales of items contributed by volunteers. The most important events of Telethon, take place every June and these are the annual televised Telemarathon and the annual concert and gala at the Presidential Palace in Nicosia.

Our students are highly encouraged to get involved in TELETHON activities!

You can make a donation to TELETHON throughout the year, volunteer to assist with events or even organise your own event/sale in aid of TELETHON.

For further information contact the TELETHON Office: 22 392 608



LEGAL RESPONSIBILITY  The person legally responsible for the postgraduate School of the Cyprus Institute of Neurology and Genetics is Prof Leonidas A. Phylactou, Provost of the School.
PROSPECTUS APPROVAL  The prospectus has been approved by the Ministry of Education, Culture, Sport and Youth of the Republic of Cyprus, by their letter dated 28/01/2022.



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