UMF
IULIU HAŢIEGANU
UNIVERSITY OF
MEDICINE AND PHARMACY
CLUJ-NAPOCA

"Iuliu Haţieganu" University of Medicine and Pharmacy Cluj-Napoca

DOCTORAL SCHOOL

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About the University

The “Iuliu Haţieganu” University of Medicine and Pharmacy (UMFIH) is the institution with the longest tradition in medical education in Transylvania, founded in Cluj-Napoca since 1776, during the Austro-Hungarian empire, by Empress Maria Theresa.

At the end of the First World War, in the context of the unification of Transylvania with Romania, it became a Romanian university.

After 1990, the University of Medicine and Pharmacy was named after Professor and Rector Iuliu Haţieganu, one of the founders of Romanian medical education in Transylvania.

Due to increasing demand for medical education in Cluj, English and French lines of study were initiated in 1997 and 2000, respectively, with lectures and teaching activities in preclinical years of study being delivered exclusively in these languages.

In **2011**, the Romanian Ministry of Education (ME), through UEFISCDI (its higher education and research financing unit), classified higher education institutions in Romania. UMFIH was classified as an **advanced research and education** university, which allowed the university to develop studies at bachelor, masters, and doctoral levels. The studies curriculum classification by the ME placed our university in category A (top position), which was confirmed by the increasing number of students choosing our university.

At present, UMFIH enrolls almost 9,000 students, 3,000 of which are international students from over 62 countries: ~6,200 are undergraduates (bachelor level), ~2,500 residents, ~200 master students and 454 Ph.D. students.

Doctoral Studies

Doctoral studies represent the 3rd cycle of university studies and grant the qualification on the 8th level in the European Qualifications Frame (EQF) and in the National Qualifications Frame. Our university provides only **scientific doctorate**, focused on learning through research, aiming at developing human resources for research-development-innovation.

Doctoral Curriculum

"Iuliu Haţieganu" University of Medicine and Pharmacy IOSUD provides and coordinates scientific doctoral curricula having a duration of 4 years with attendance or reduced attendance, according to the Romanian law. The doctoral studies are managed by the Doctoral School based on three main domains of practice and research: medicine, dental medicine and pharmacy. At the end of the university scientific doctoral studies and after the Ministry of Education and Scientific Research has issued an official order, UMFIH IOSUD grants the Ph.D. degree in the fields of medicine, dental medicine and pharmacy.
A number of 118 Ph.D. supervisors actively enrolled in "Iuliu Haţieganu" University of Medicine and Pharmacy IOSUD in September 2022: 88 Medicine, 20 Pharmacy and 10 Dental Medicine.

Medicine

Cardiology
Cellular and molecular biology
Clinical pharmacology
Dermatology
Diabetes
Endocrinology
ENT
Hematology
Histology
Hygiene
Immunology - Oncology
Infectious diseases
Internal Medicine
Medical biochemistry
Medical genetics
Medical informatics
Medical oncology
Microbiology
Neonatology
Nephrology
Neurology
Neurosurgery
Obstetrics-Gynecology
Oncological surgery
Ophthalmology
Orthopedics
Pathophysiology
Pediatrics
Physiology
Pneumology
Psychiatry
Public health
Radiology and Medical Imaging
Surgery
Urology

Pharmacy

Drug analysis
Pharmaceutical biochemistry
Pharmaceutical biophysics
Pharmaceutical botany
Analytical chemistry
Pharmaceutical chemistry
General and inorganic chemistry
Organic chemestry
Dermatopharmacy and Cosmetology
Pharmacognosy
Pharmacology, Physiology and Physiopathology
Pharmaceutical technology
Toxicology

Dental Medicine

Periodontology
Preventology
Dental propedeutics
Dental radiology
Oral rehabilitation
ENT Surgery
OMF surgery

Doctoral Curriculum

Ph.D. supervisors no longer fully employed (age-related retirement) become consultant supervisors and are considered active until they no longer have Ph.D. candidates under supervision. Afterwards they become honorary professors and are no longer taken into account by statistics.

A total of **716 PhD students** were enrolled in Doctoral School at the beginning of the academic year 2022-2023

Domain	No. of active PhD students	No. PhD students in extended	Total
Medicine	364	214	**578**
Dental Medicine	39	23	**62**
Pharmacy	51	25	**76**
TOTAL	454	262	**716**

The Doctoral School objectives are:

- Organization and development of a quality specific formative process dedicated to the acquisition of knowledge and practical abilities that are mandatory for achieving high performance scientific research;
- Formation of critical thinking that would allow the objective assessment of their own research as well research work by others;
- Training and support for Ph.D. students in their research work toward the dissertation;
- Providing assistance to Ph.D. students in their final stages of research and dissertation writing;
- Formation of abilities required for the development and management of scientific research projects;
- Creation and development of a framework that would train the Ph.D. student for the climate of competitiveness;
- Support and counseling of the Ph.D. supervisors, as leaders in education for scientific research.

The mission and values of the Doctoral School are:

- Development of a friendly environment for doctoral research;
- Development and support of a structured research frame for Ph.D. students;
- Constant increase of the doctoral research value;
- Development of doctoral research in direct relation to the research development strategy of the university.

Doctoral Curriculum

Doctoral studies ensure the **development of additional competences in scientific research**, knowledge and application of research methods and techniques, scientific communication and publication of research results, assumption of responsibilities in the elaboration of a research project, as well as the ability to critically assess other research. Inter-university partnerships in doctoral curricula strengthen the links with European High Education and Research structures, the final objective being the enhancement of research quality and joint recognition of academic degrees.

The doctoral curriculum is taught only by the Doctoral School under the coordination of a Ph.D. supervisor; it includes training based on **advanced university studies** (1st year) and individual training programs in scientific research (2nd, 3rd and 4th years). The advanced university studies in the 1st year include 4 types of **training activities**:

1. Training for research – mandatory courses

1) Scientific research methodology; 2) Scientific research ethics. Academic integrity; 3) Standards of scientific publication and publication ethics; 4) Scientific documentation. Scientometrics; 5) Design and management of grants; 6) European legislation in research; 7) Evidence based-medicine. Poster and oral communication – rules, solutions, tricks. Preparation and public defense of the doctoral thesis; 8) Medical biotechnology

2. Optional modules (every student chooses a full module or a number of individual courses cumulating 8 ECST): 1) Functional genomics (in Oncology) and fundamental research; 2) Neurosciences; 3) Clinical (medical-surgical) research; 4) Research in dental medicine; 5) Research in pharmaceutical sciences, and 6) Aula Magna Conferences

3. Research project

The first educational activity is the training for research, which includes lectures and practical work meant to prepare students for research activities. The education program by advanced university studies includes 8 subject areas that are relevant for training in scientific research, one being dedicated to the in-depth study of research methodology. There are also 2 subjects on scientific research ethics and standards of scientific publication and publication ethics.

At the students' request and based on the evaluation of the Doctoral School by the students, specific course modules were introduced for the most important research fields of UMFIH. Every Ph.D. student may choose one of these modules, thus personalizing their doctoral study path, with emphasis on the specific research theme (neurosciences, nanomaterials, nanomedicine, functional genomics in oncology, medicine, pharmaceutical sciences, dental medicine). The courses of each module are taught by our academic staff and also by invited lecturers who are associated academic staff of our university.

At the end of the 1st year of advanced training, the Ph.D. students develop a **research project** designed as an **application for a grant** for young researchers project, in which they present the main objectives and research methodology before the supervisory committee.

In the **2nd to the 4th years** of doctoral studies, the students present **three scientific reports**, as stipulated in the doctoral study contract, to the supervisory committee (usually at the end of years 2 and 3), and also present their dissertation to the same committee for review and recommendations, before submitting it officially to the Doctoral School.

"Iuliu Haţieganu" University of Medicine and Pharmacy supports doctoral research through internal grants.

Research Resources

Starting with 2008, the **Department for Research, Development and Innovation** functions within the university; it is a support unit that manages research-development actions and projects, ensuring that the priority research pathways are followed. The unit benefits from specialized personnel who ensure technical and financial control of the active projects (Structural funds, PNII, PNIII, PC7, Horizon 2020 and other European projects); it centralizes the results of finished projects, offers assistance for the validation of standards and patents and coordinates competitions for internal research grants.
The University has the most complex and modern simulation center for medicine in the country, made after the model of similar centers in the USA and Israel: **The Center for Practical Abilities and Simulation in Medicine.**

At the same time, there are other **centers of excellence and/or research:**

- Research Center for Functional Genomics, Biomedicine and Translational Medicine
- Laboratory of Bioelectrochemistry and Separation Techniques
- Research Center for Advanced Medicine MEDFUTURE
- Department of Human Assisted Reproduction
- Natural and Synthesis Products Biocompatibility Research Center BIOCOM
- Research Center for Experimental and Applied Toxicology
- Oral Radiology and Maxillofacial Imaging Center
- Department of Oral Rehabilitation
- Tissue Engineering Research Center
- Pharmacology, Pharmacogenetic and Immune-Pharmacology Translational Research Center
- IRGH "Prof. Dr. O. Fodor" Laboratory of Immunology and Allergy Cluj-Napoca
- Pathophysiology Research Center
- Department for Research and Education in Ultrasonography and Digestive Imaging
- Research laboratory for the optical properties of dental structures and dental materials
- Center for applied studies in Pediatric Dentistry
- Testing Center for adhesive and resistance of biomaterials used in direct restorations and endodontic fillings
- Orthopedics, Trauma and Sports Medicine Research Center – OTSMRC
- Neurosciences Translational Research Center
- Pharmaceutical chemistry
- Ophthalmology Discipline
- Radiology
- Department of Morphological Sciences-Histology
- Laboratory of Pharmaceutical Technology and Biopharmacy
- Center for preclinical pharmacological and post-marketing pharmacovigilance studies
- Medical Genetics Regional Center, Pediatrics 1 Department
- Research Center in Hepato-Biliary and Pancreatic Surgery
- Research Laboratory Endocrinology
- Laboratory of Experimental Hematology
- Centre for Experimental Medicine
- Medical Genetics Department
- Microbiology Laboratory
- Cluster of Medical Informatics & Related Areas
- Department of Medical Rehabilitation
- Center for Practical Skills and Simulation in Medicine (CPSSM)
- Department of Pathology
- Department of Molecular Sciences
- Applicative Periodontal Regeneration Research Unit (Periodontology Department)
- Center of Biomedical Sciences applied in Orthopedics
- Center of Excellence in Dermato–Oncology and Genetic Dermatoses
- Cardiology Rehabilitation

Quality Assurance System

The Ph.D. students represent an important human resource for the Doctoral School, therefore their scientific education must bring the forefront abilities of independent research in close connection with the economic environment, in order to enable rapid social and economic insertion and adjustment. Our objectives are:

- Development of a training process that enables acquisition of **knowledge and practical skills**, which would lead to high performance scientific research.
- Awareness of the importance of **originality** in scientific work, with emphasis on preventing plagiarism. Development of systems supporting originality, the **Code of good practices in research**.
- Training and support for producing high quality dissertations, with publication during doctoral studies of **original articles in WoS indexed** journals, preferably in the Q1 and Q2 IF quartiles.
- Increase of scientific performance of students by encouraging them to participate in **international mobilities** financed by university grants and projects.
- Assurance of the Ph.D. students **training for education**, especially for those wishing to pursue a university career.
- Support for developing **an organizational structure of the Ph.D.** students that would represent a partner of the Doctoral School.
- Development of the human resource by training and forming research **team leaders.**
- Reinforcement of research and training through **international collaborations**, facilitating common projects on similar subjects with renowned research centers in order to carry out cohort multicentric studies with high value information.
- Stimulation **of competition among PhD students** in order to obtain financing for participating in scientific meetings or research grants.
- Stimulation to participate in **international scientific projects.**
- Attracting international students by **joint doctoral research** and doctoral studies in English

International Neuroscience Doctoral School

The UMFIH International Ph.D. Neuroscience Program was launched in 2015 by professor Dafin F. Muresanu, chairman of the UMFIH Neurosciences Department.

The program's curriculum is adapted dynamically each year, based on emerging neuroscientific trends, gathering fields such as neurorecovery of cerebrovascular diseases, neurotrauma, neuroepidemiology, somnology, neurosonology, or neuroprotection under a comprehensive educational umbrella that includes courses related to basic science, clinical insights, as well as advanced research skills and methods.

The program's international faculty has been enriched since its inception by contributions of visiting professors from Harvard University/USA, Tel-Aviv University/Israel, University of Krems/Austria, University of Siena/Italy, University of Oakland/USA, University of Debrecen/Hungary, University of Bern/Switzerland and many more academic partners from across the globe.

Scientific Visibility

The Web of Science (WoS) database, which includes over 12,000 scientific journals, is one of the best sources for assessing the quality of scientific workload. We have undertaken a study based on the **bibliometric indicators achieved for the time span of 2016-2020**.

Total Publications
3,174
2001 2020

h-index
57
Averege citations per item
9.34

Sum of times cited
29,657
Without self citations
26,646

Citing articles
24,873
Without self citations
23,681

Figure 1. Data regarding the University's scientific publications (Original article and Review) during 2016-2020

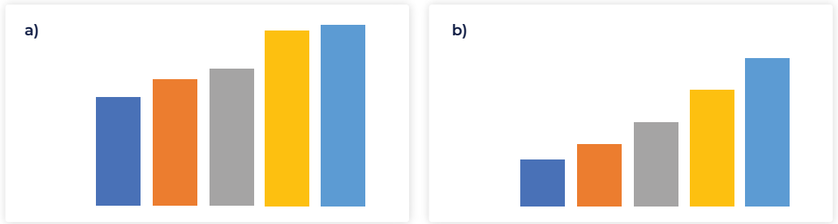

Figure 2. a) Articles published in the last 5 years; b) the evolution of citations during the last 5 years for articles published between 2016-2020

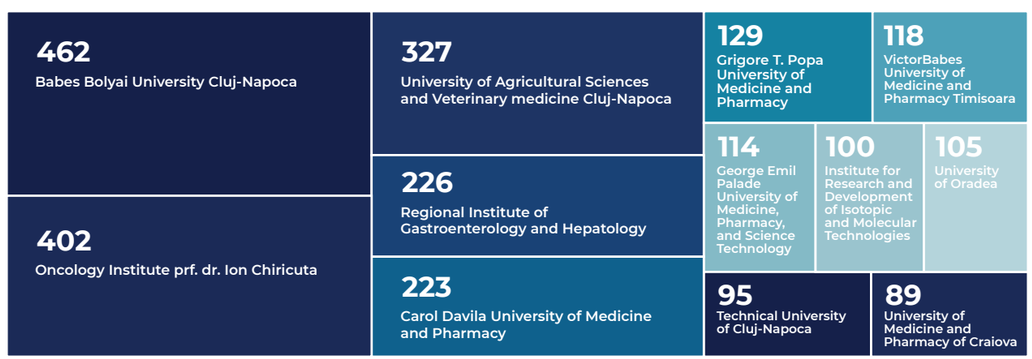

Figure 3. Top 10 UMFIH partnerships

Figure 4. Domains of UMFIH publications;

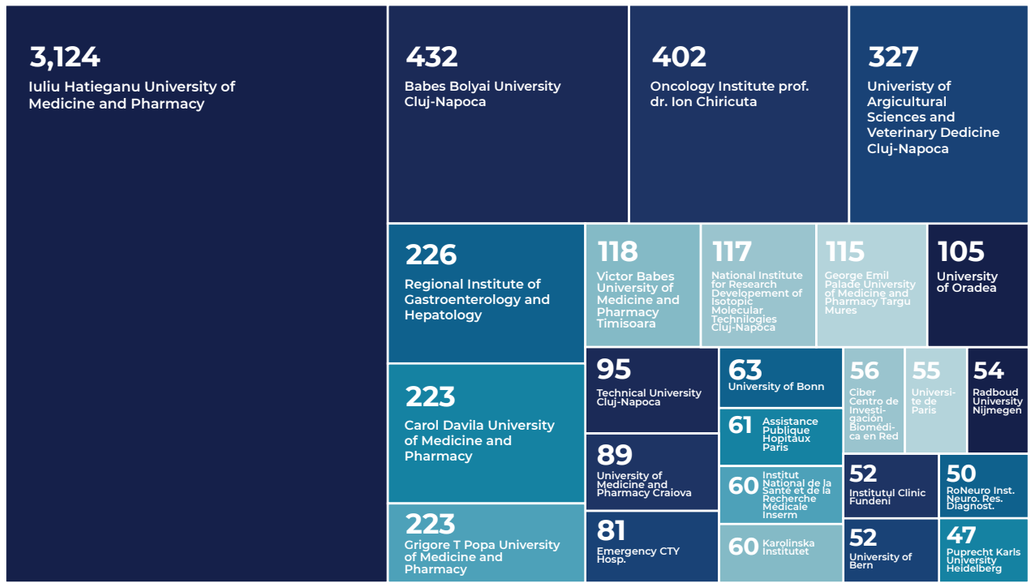

Figure 5. UMFIH partnerships;

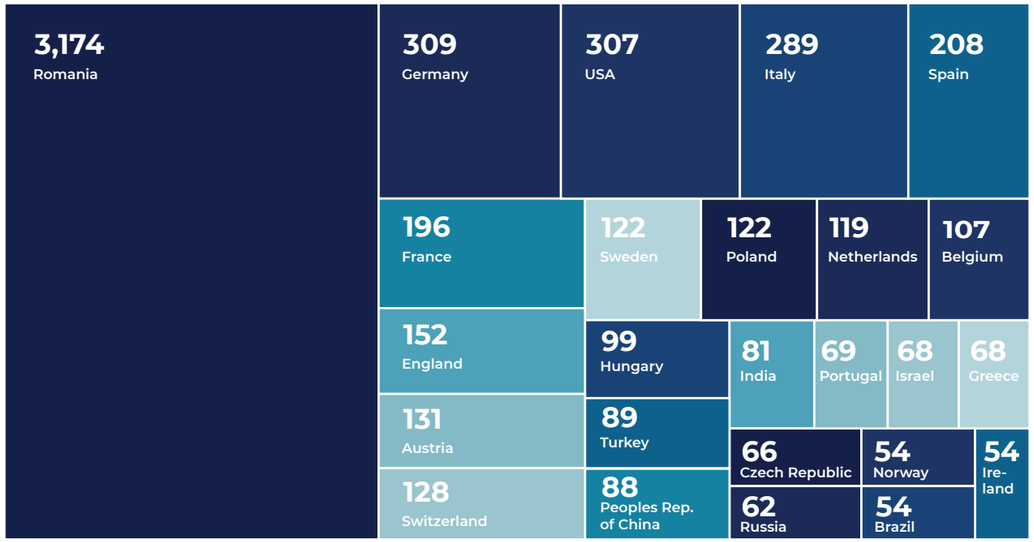

Figure 6. International partnerships

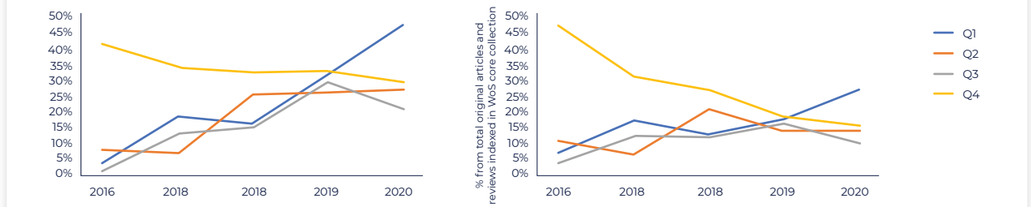

Figure 7. WoS indexed original article and review publications distribution according to the journal quartile

Indicator	2000-2020	2016-2020
Number of publications	7800	4208
H-index	90	57
Citations in total	71276	30941
Citations without self-citations	63569	27660
Percentage of self-citations	10.8	10.6

Table Bibliometric indicators of UMPhIH (collection date 09.05.2021)

The Rector and the Senate President of the university awarding the Ph.D. diplomas, September 2022

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