



EUGLOH

EUGLOH
Cotutelle Handbook

2021

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Short introduction of the EUGLOH Universities

University Paris-Saclay

Lund University

Ludwig Maximilian University of Munich

University of Porto

University of Szeged



Paris-Saclay University

Paris-Saclay University is one of the largest French and European universities, both for the quality of its educational offer and its teaching staff, for the visibility and international recognition of its 275 research laboratories and their teams, as well as for the attention paid, on a daily basis and by all its staff, to the welcome, support, interculturality and development of its 48,000 students.

Paris-Saclay University is made up of 3 universities, 4 grandes écoles (AgroParisTech, CentraleSupélec, Institut d'Optique Graduate School, ENS Paris-Saclay), a prestigious mathematics institute (Institut des Hautes Études Scientifiques) and is supported by 6 of the most powerful French research organisations (CEA, CNRS, INRAE, Inria, Inserm and Onera). It is associated with two universities (University of Versailles Saint-Quentin-en-Yvelines and University of Evry) which will merge in the coming years (2025) and whose campuses adjoin the Saclay plateau and its valley.

Its students, professors/researchers, administrative and technical staff and partners live in a privileged environment, a few kilometres from Paris, where all the sciences, technologies (platforms), academic excellence, agriculture, historical heritage and a dynamic economic fabric are developed. Paris-Saclay University is a leading institution located in a vast territory where it is good to study, live and work. Website: <https://www.universite-paris-saclay.fr>.

On 15 August 2021, Shanghai Jiao Tong University published its Academic Ranking of World Universities (ARWU). Paris-Saclay University was ranked 13th globally, confirming the University's position as a world-class research-intensive institution.

Lund University

Lund University was founded in 1666 and is repeatedly ranked among the world's top 100 universities. The University has around 44 000 students and more than 8 000 staff based in Lund, Helsingborg and Malmö. We are united in our efforts to understand, explain and improve our world and the human condition.

Lund is considered one of the most popular study locations in Sweden. The University offers one of the broadest ranges of programmes and courses in Scandinavia, based on cross-disciplinary and cutting-edge research.

The unique disciplinary range encourages boundary-crossing collaborations both within academia and with wider society, creating great conditions for scientific breakthroughs and innovations. The University has a distinct international profile, with partner universities in almost 70 countries.

Lund University has an annual turnover of more than EUR 880 million, of which two-thirds go to research in our nine faculties, enabling us to offer one of the strongest and broadest ranges of research in Scandinavia.

We provide education and research within the following areas: Economics and management; Engineering and technology; Humanities; Theology; Law; Fine arts, music and theatre; Medicine; Science; Social science.

Internationalisation is a prioritised area at Lund University. The primary aim is to increase the quality of the University's operations, among other things by giving our students and employees the best opportunities for international experience and intercultural competence.

This is, for example, done by exchanges for students and staff; recruitment of international students and staff; joint study programmes on masters and doctoral level with foreign universities and 'Collaborative Online International Learning' (COIL).

For more info please visit:

[Home | Lund University](#)



Ludwig Maximilian University of Munich



Ludwig-Maximilians-Universität München is one of the leading research universities in Europe. Since its founding in 1472 it has been committed to the highest international standards of excellence in research and teaching.

LMU Munich now has more than 780 faculty and over 5,800 academic staff members, who pursue research and provide tuition for the university's undergraduate and graduate students. LMU's 18 faculties cover the whole range of contemporary scholarship, encompassing humanities and cultural studies, law, economics and social sciences, medicine and the natural sciences.

Students will find an extraordinarily wide range of programs on LMU's curriculum. They can choose from more than 300 degree programs, as well as teacher training courses in over 100 major and 140 additional subjects. The university currently caters to some 52,000 students of which about 17% come from abroad.

The expertise and dedication of its faculty and staff are the basis for LMU's distinguished record in research, and for the university's consistently high rating in national and international rankings.

Recognizing that advances in research depend on exchange across disciplinary and national boundaries, LMU maintains an extensive network of contacts with almost 600 institutional partners worldwide. These partnerships take in everything from student exchange schemes through research collaborations to administrative cooperation. The major nodes of this network are located in Europe, North America and Asia. LMU is a founding member of the League of European Research Universities (LERU) and has entered into strategic research collaborations with internationally renowned institutions such as the University of Cambridge, the Harvard Medical School, the University of California at Berkeley or the leading universities in China within the "LMU-China Academic Network (LMU-ChAN)". In addition to its international contacts, LMU places great weight on its participation in national research networks – whether devoted to individual disciplines or involving representatives of disparate fields.

For more info please visit: www.lmu.de/en

University of Porto

Founded in 1911, the University of Porto (U.Porto) is a benchmark institution for Higher Education and Scientific Research in Portugal and one of the top 200 European Universities, according to the most relevant international ranking systems. It has over 33.000 students (19% international, including mobility), over 2.000 academics & researchers FTE and over 1.600 administrative staff.

U.Porto combines high quality education focused on individual vocations and talents as well as market needs with the claim to being the greatest birthplace of science in Portugal. It is a major producer of science in the country, responsible for nearly 25% of the Portuguese scientific articles indexed in the ISI Web of Science. U.Porto is committed to delivering social value with the talent and innovation from its 14 faculties, 1 business school and 48 research centres. It has the richest academic community in Portugal and brings together the country's highest ranked students, a highly qualified scientific and teaching staff and a growing number of international students, teachers and researchers.

Being open to the community and business is the main trademark of the U.Porto. The University is itself an important driving force for economic, social, cultural and scientific development in Northern Portugal and in the country as a whole. By having the most complete offer in learning programmes available for Higher Education in Portugal, U.Porto's 15 schools provide unique conditions to pursue an outstanding academic

record which will be valued in the job market. Indeed, education at U.Porto aims at employability and an immediate inclusion in the job market. U.Porto curricula responds to market needs and focus on "hands on" learning, which is in permanent contact with professionals from various institutions. These goals are totally in line with the general objectives of the Erasmus+ Programme, contributing to sustainable growth, quality jobs and social cohesion, to driving innovation, and to strengthening European identity and active citizenship.

A further trait of the University concerns its strong commitment towards society. Indeed, it has been consolidating its social responsibility through the promotion of volunteering projects, the intensification of the interaction with several local/regional associations in the organisation of cultural, social and artistic activities.

Internationalisation is one of U.Porto's strategic pillars and throughout the recent years, the University has succeeded in affirming itself as a truly international HEI, with almost 6.500 international students from more than 100 nationalities, solid alliances and innovative cooperation actions with institutions from all over the world (~2300 active agreements). Every year, U.Porto participates in a vast number of education, training and research projects. Only in the scope of Erasmus+ programme, it has coordinated and collaborated in over 180 projects since 2014.



University of Szeged

The University of Szeged (Szegedi Tudományegyetem, or also known as SZTE) is a prestigious institution in Hungary, where study fields of all walks of scientific life are represented in 12 faculties and the Teacher Training Centre. SZTE performs outstandingly in international rankings, it is constantly among the best 100 European institutions, according to QS it has been for years the best university in Hungary.

SZTE is one of the largest domestic higher education complexes where about 21,000 university students enrich their knowledge, including nearly 4,400 international students. The University offers quality education on all levels (BA/BSc, MA/MSc, Ph.D.), and 19 Doctoral Schools operate within its organisational framework. International full-time programmes have been offered at the University since 1985; currently more than 60 programmes are in its portfolio in English or in other foreign languages. SZTE has 140+ active bilateral agreements and Memoranda of Understanding with institutions in more than 50 countries worldwide, and it is affiliated with 550 Erasmus+ partner institutions from over 30 EU and eligible countries.

SZTE's main mission – which is inseparable from education – is to maintain its competitive research university character and to ensure a European-level healing work.

Also, being the biggest institution of the Southern part of the Great Hungarian Plain with more than 8,000 employees including 2,200 teachers and researchers, SZTE takes an active role in the social, economic and cultural development of the region.

The University is active in 700 research areas with 19 doctoral schools/110 PhD programmes, 18 research groups supported by the Hungarian Academy of Sciences and 11 HAS-SZTE Momentum Research Groups, several ERC and other research groups covering all scientific fields. Research, Development and Innovation activities of the institution are acknowledged internationally and SZTE is in partnership with numerous industrial enterprises and companies such as the ELI-ALPS Laser Research Centre, one of the largest scientific investments in Europe. Located in southern Hungary, the University of Szeged is a leading workshop of education, science, research, innovation and it has a crucial role in the region's cultural, social and economic activities.

SZTE is committed to providing quality health care, basic and applied research, research & development. Following its traditions, SZTE unites the high-level theoretical foundation with practice based on partnering as well. It considers its main objective to keep up with scientific progress, development of information technology and social demand in order to constantly develop the educational material in the field of a multi-level, multi-language education.

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List of Doctoral Studies at EU-GLOH Universities

University Paris-Saclay

Lund University

Ludwig Maximilian University of Munich

University of Porto

University of Szeged



Paris-Saclay University

Doctoral studies at Paris-Saclay University are coordinated by a body called the Doctoral College, which brings together all of the University's thematic disciplines, from the natural sciences to the humanities and social sciences. <https://www.universite-paris-saclay.fr/en/research/doctorate>

The Doctoral College is headed by a director, assisted by an office and by the Doctoral College Council. It is organized into coordination and pooling areas and project teams, in line with its main responsibilities. It is a colleague in charge of the coordination of the politics and administration aspects. It integrates the doctorate schools and the "Maison du doctorat"

Doctoral schools, most of them thematic, others with a slightly more transversal profile, ensure the follow-up of doctoral students in their thematic field (follow-up of the progress of the thesis, support and follow-up of the doctoral training plan in addition to the research training activity, welcome and information days, various information for doctoral candidates, stimulation of international openness, follow-up of the professional integration, etc.) and articulate their action with that of the Doctoral College. These doctoral schools are themselves part of Graduate Schools, which are broader in scope (e.g. several doctoral schools operating in the field of social and human sciences are grouped together in a SHS Graduate School).

List of the Doctoral school are (more details www.universite-paris-saclay.fr/en/doctoral-schools) :

- Agriculture Food Biology Environment Health
- Astronomie et astrophysique d'Ile-de-France (AAIF)
- Chemical sciences: molecules, materials, instrumentation and bio systems
- Oncology : Biology, Medicine, Health
- Electrical, Optical, Bio-Physics and Engineering (EOBE)
- Hadamard Doctoral School of Mathematics
- Interfaces : materials, systems, uses
- Particles, Hadrons, Energy, Nuclei, Instrumentation, Imaging, Cosmos et Simulation (PHENIICS)
- Physics in Ile de France
- Plant Sciences: from Genes to Ecosystems
- Public Health
- Sciences and Technologies of Information and Communication
- Sciences de l'environnement d'Ile-de-France (SEIF)
- Sciences du sport, de la motricité et du mouvement humain (SSMMH)
- Sciences mécaniques et énergétiques, matériaux et géosciences (SMEMAG)
- Sciences Sociales et Humanités (SSH)
- Signaling and Integrated Networks in Biology
- Structure et dynamique des systèmes vivants (SDSV)
- Therapeutic Innovation
- Waves and Matter

Maison Du Doctorat, which groups together administrative services supporting doctoral-related activities, in particular in charge of organizing and steering doctoral training courses that are transversal to the doctoral schools (transverse skills), deployment of the establishment's policy, developing and organizing the graduation ceremony, organizing calls for PhD students via national and international competitions/calls for proposal, collecting and formatting global statistics relating to doctoral studies at Paris-Saclay university, etc.

These **three levels of authorities** each meet several times a year, articulate their complementary actions, and globally operate an overall action for the benefit of:

- The orientation of the doctoral training policy in accordance with the decisions taken by the university's governance, but also with the wishes and principles supported by the communities;
- A quality approach proven by an ISO-9001 certification;
- The development and evolution of an adapted and evolving information system covering all doctoral needs (ADUM);
- The strengthening of international cooperation in the field of doctoral studies;
- The admission of doctoral students according to clear, predictable, published upstream, transparent processes, free of any bias or discrimination and guided by recruitment excellence;
- The development of cross-disciplinary and cross-disciplinary doctoral training;
- Monitoring the employability and professional integration of PhDs

This action is completed by the work of:

- The assembly of doctoral candidate representatives on the research commission of the academic council and on the doctoral school councils, which brings together the elected representatives of doctoral students and is a forum for consultation, information sharing and exchanges on all issues of interest to its members, on activities and projects common to all doctoral schools and on the subjects discussed at the doctoral policy council
- The Committee of Representatives of the Socio-Economic Environment (CoRSE), which meets once or twice a year, debates and contributes to questions relating to the professional future of doctoral students, transverse doctoral training in relation to professional opportunities and the recognition of the doctorate at Paris-Saclay University by the socio-economic environment.

Lund University

At Lund University, doctoral education is delegated to each of the faculty areas. They have separate websites with information on regulations, syllabi, contact persons etc. Below you will find links to PhD-studies at each faculty area. An overview of PhD-studies at Lund University is available at [PhD studies | Lund University](#)

- School of Economics and Management: **PhD studies | Lund University School of Economics and Management**
- Faculties of Humanities and Theology: **PhD Studies | The joint faculties of humanities and theology (lu.se)**
- Faculty of fine and performing arts: **Doctoral education | Faculty of Fine and Performing Arts (lu.se)**
- Faculty of Engineering: **PhD studies | Lunds tekniska högskola (lth.se)**
- Faculty of Law: Doctoral studies (lu.se)
- Faculty of Medicine: Postgraduate research studies | Faculty of Medicine, Lund University
- Faculty of Science: **PhD studies | Faculty of Science (lu.se)**
- Faculty of Social Science: **PhD studies | Faculty of Social Sciences (lu.se)**

Ludwig Maximilian University of Munich

At LMU Munich, doctoral education is delegated to each of the faculty areas. They have separate websites with information on regulations, syllabi, contact persons etc.

In general doctoral projects may be conducted either in the form of an individually supervised project or within the framework of a structured doctoral program.

Depending on the faculty, the following doctoral degrees are conferred at LMU: Dr. theol., Dr. iur. can., Dr. jur., Dr. oec. publ., Dr. med., Dr. med. dent., Dr. rer. biol. hum., Dr. med. vet., Dr. rer. biol. vet., Dr. rer. nat., Dr. phil., Dr. rer. pol., Dr. rer. soc., Ph.D.

Below you will find links to doctoral studies at each faculty.

- **Faculty of Catholic Theology**
- **Faculty of Protestant Theology**
- **Faculty of Law**
- **Faculty of Business Administration - Munich School of Management**
- **Faculty of Economics**
- **Faculty of Medicine**
- **Faculty of Veterinary Medicine**
- **Faculty of History and the Arts**
 - School of History
 - School of Arts
- **Faculty of Philosophy, Philosophy of Science and Religious Studies**
- **Faculty of Psychology and Educational Sciences**
- **Faculty for the Study of Culture**
- **Faculty of Languages and Literatures**
- **Faculty of Social Sciences**
 - Geschwister Scholl Institute of Political Science (GSI)
 - Munich Graduate School of Sociology (MuGSS)
 - Department of Media and Communication (IfKW)
- **Faculty of Mathematics, Informatics and Statistics**
- **Faculty of Physics**
- **Faculty of Chemistry and Pharmacy**
- **Faculty of Biology**
 - Graduate School of Systemic Neurosciences
- **Faculty of Geosciences**

University of Porto

The U.Porto is composed of 14 Organic Units of Education and Research called faculties or schools. Their mission includes education, research and the provision of services in their specific area of competence. Some of them are self-governed and have scientific, pedagogic, administrative and financial autonomy.

Faculty of Architecture (FAUP)

https://sigarra.up.pt/faup/en/WEB_PAGE.INICIAL

Faculty of Fine Arts (FBAUP)

https://sigarra.up.pt/fbaup/en/WEB_PAGE.INICIAL

Faculty of Sciences (FCUP)

https://sigarra.up.pt/fcup/en/WEB_PAGE.INICIAL

Faculty of Nutrition and Food Sciences (FC-NAUP)

https://sigarra.up.pt/fcnaup/en/WEB_PAGE.INICIAL

Faculty of Sports (FADEUP)

https://sigarra.up.pt/fadeup/en/WEB_PAGE.INICIAL

Faculty of Law (FDUP)

https://sigarra.up.pt/fdup/en/WEB_PAGE.INICIAL

Faculty of Economics and Management (FEP)

https://sigarra.up.pt/fep/en/WEB_PAGE.INICIAL

Faculty of Engineering (FEUP)

https://sigarra.up.pt/feup/en/WEB_PAGE.INICIAL

Faculty of Pharmacy (FFUP)

https://sigarra.up.pt/ffup/en/WEB_PAGE.INICIAL

Faculty of Arts and Humanities (FLUP)

https://sigarra.up.pt/flup/en/WEB_PAGE.INICIAL

Faculty of Medicine (FMUP)

https://sigarra.up.pt/fmup/en/WEB_PAGE.INICIAL

Faculty of Dental Medicine (FMDUP)

https://sigarra.up.pt/fmdup/en/WEB_PAGE.INICIAL

Faculty of Psychology and Education Science (FPCEUP)

https://sigarra.up.pt/fpceup/en/WEB_PAGE.INICIAL

School of Biomedical Sciences (ICBAS)

https://sigarra.up.pt/icbas/en/WEB_PAGE.INICIAL

University of Szeged

Humanities

- **Doctoral School of Educational Sciences**
- **Doctoral School of History**
- **Graduate School in Linguistics**
- **Doctoral School of Literary and Cultural Studies**
- **Doctoral School of Philosophy**

Medical and Pharmaceutical Sciences

- **Doctoral School of Clinical Medicine**
- **Doctoral School of Interdisciplinary Sciences**
- **Doctoral School of Multidisciplinary Medicine**
- **Doctoral School of Theoretical Medicine**

Social Sciences

- **Doctoral School in Economics**
- **Doctoral School of Law and Political Sciences**

Natural and technical sciences

- **Doctoral School of Biology**
- **Doctoral School of Chemistry**
- **Doctoral School of Environmental Sciences**
- **Doctoral School of Geosciences**
- **Doctoral School of Physics**
- **Doctoral School of Mathematics**
- **Doctoral School of Computer Science**

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Short introduction of doctoral schools interested in Cotutelle cooperation (Name of the supervisor with contacts, research topics)

University Paris-Saclay

Lund University

Ludwig Maximilian University of Munich

University of Porto

University of Szeged

Paris-Saclay University

All doctoral schools of the Paris-Saclay University are interested in international cotutelle agreements. As mentioned above, doctoral studies within the Paris-Saclay University are coordinated at a global level by a Doctoral College.

Individual contacts can be made between researchers from partner universities concerning a reciprocal interest in an international cotutelle agreement. The question is then brought, on the side of Paris-Saclay University, to the **international affairs referent of the Doctoral College**, who then guides and helps the whole process.

Paris-Saclay University proposes a generic framework agreement, which is discussed with the partner university, specified if necessary, then signed by the parties after mutual agreement.

Two types of situations are possible:

- An individual agreement based on a single PhD thesis co-supervision;
- A more global framework agreement between the Paris-Saclay University and a partner university, marking a stronger reciprocal commitment, and which makes it possible not to revert to an individual negotiation for any international co-supervision project. Individual cotutelle agreements are still needed in this case, but the framework agreement entails internal publicity, shows a common political will to develop cotutelles, and of course entails administrative simplification, as there is agreement about the general principles of cotutelle and endorsement of a template of individual cotutelle.

This second level is, obviously, the one aimed at with the partners of the EUGLOH European alliance.

Links:

<https://www.universite-paris-saclay.fr/en/recherche/doctorat-et-hdr/international-cotutella-agreement>

<https://www.universite-paris-saclay.fr/en/doctoral-schools>

Contact person: cotutelles-internationales@universite-paris-saclay.fr

rachid.bennacer@universite-paris-saclay.fr;

Pr. Rachid BENNACER Coordinator international Affairs related to Ph.D.

Lund University

At Lund university, PhD education is an individual education. International PhD-collaboration is typically set up on a case-by-case basis based on a dialogue between potential supervisors and faculty areas. Please see links to doctoral schools under chapter 2 in this document. We recommend interested students and parties to establish a contact with a potential supervisor in a suitable scientific area.

Ludwig Maximilian University of Munich

Individual Doctoral Studies

The most common model of doing a doctorate in Germany is the so-called individual doctorate. Generally, candidates are expected to find a supervisor (Doktorvater/Doktormutter) for their doctoral projects themselves. In some disciplines it is also expected that candidates suggest the topic that they want to work on (a proposal draft may be necessary). There is no compulsory curriculum within the individual doctoral studies, although certain achievements supplementary to the dissertation may be required according to the respective doctoral degree regulations. There is no designated time frame for completing individual doctoral studies.

Doctoral Programs

In addition to the individual doctorate LMU Munich offers a wide range of structured doctoral programs. These Doctoral programs (Research Training Groups/Graduate Schools/International Doctoral Programs) are jointly supported by several professors. It is often an association of representatives from related fields. While some doctoral programs focus on a specific research question, others are set up more broadly. The doctoral programs offer the participating doctoral candidates a structured framework for working on their dissertations.

In general, the doctoral candidates are intensively supervised, often by more than one professor. Doctoral programs are also usually geared towards a three-year curriculum with discipline-specific and interdisciplinary courses. They provide opportunities for scientific exchange and networking with other scientists at national and international levels. Many programs provide financing options for participating doctoral candidates.

Candidates interested in joining a doctoral program, should inform themselves on the website of the program with regard to the application requirements and deadlines. Please note that admission to a doctoral program does not automatically include the additionally required acceptance as a doctoral candidate at the faculty. This must be requested separately.

Cotutelle

In certain cases, doctorates can be completed with a university or faculty in another country (cotutelle). Where applicable, more details can be found in the relevant doctoral degree regulations.

International PhD-collaboration is typically set up on a case-by-case basis based on a dialogue between potential supervisors and faculty areas. Please see links to doctoral schools under chapter 2 in this document. We recommend interested students and parties to establish a contact with a potential supervisor in a suitable scientific area.

Alternative to Cotutelle: Bi-national supervision

The doctoral project is supervised both by a university teacher at the home university and an academic adviser at the host institute in Germany (so-called "sandwich model"). The project must be coordinated with both supervisors. Doctoral candidates start their doctoral degree in their home country but subsequently spend research periods in Germany. The doctorate is completed in the home country with participation of the German academic adviser; the doctoral degree is awarded by the home university.

For more information and funding opportunities for bi-national doctoral projects see:

www.daad.de/go/en/stipa57507783

University of Porto

Science and Technology of Polymers	Adélio Miguel Magalhães Mendes	international@fe.up.pt serac@fe..up.pt
Physics Engineering	Adriano da Silva Carvalho	international@fe.up.pt serac@fe..up.pt
Pharmaceutical Sciences	Alberto da Nova Araújo	anaraujo@ff.up.pt
Chemical and Biological Engineering	Alexandra Maria Pinheiro da Silva Ferreira Rodrigues Pinto	international@fe.up.pt serac@fe..up.pt
Aquatic Sciences – Biology and Ecology	Alexandre Manuel da Silva Lobo da Cunha	posgrad@icbas.up.pt
Veterinary Sciences	Ana Colette Pereira de Castro Osório Maurício	posgrad@icbas.up.pt
Language Sciences	Ana Maria Barros de Brito	sri@letras.up.pt sga@letras.up.pt
Geography	Ana Maria Rodrigues Monteiro Sousa	sri@letras.up.pt sga@letras.up.pt
Telecommunications (MAP-tel)	Aníbal João de Sousa Ferreira	international@fe.up.pt serac@fe..up.pt
Digital Media	António Fernando Vasconcelos Cunha Castro Coelho	acoelho@fe.up.pt
Basic and Applied Biology	António Manuel Amorim dos Santos	posgrad@icbas.up.pt
Sport Sciences	António Manuel Leal Ferreira Men- donça Fonseca	afonseca@fade.up.pt
Computer Science	António Mário da Silva Marcos Florido	international@fc.up.pt pos.graduacao@fc.up.pt
Mechanical Engineering	Armando Carlos Figueiredo Coelho de Oliveira	international@fe.up.pt serac@fe..up.pt
Medical Sciences	Artur Manuel Perez Neves Águas	posgrad@icbas.up.pt
Sustainable Chemistry	Baltazar Manuel Romão de Castro	international@fc.up.pt pos.graduacao@fc.up.pt

Public Health	Carla Maria de Moura Lopes	carlal@med.up.pt
Business and Management Studies	Carlos Francisco Ferreira Alves	sa_dout@fep.up.pt
Literary, Cultural and Interart Studies	Carlos Manuel da Rocha Borges de Azevedo	sri@letras.up.pt sga@letras.up.pt
Sociology	Carlos Manuel da Silva Gonçalves	sri@letras.up.pt sga@letras.up.pt
Informatics Engineering	Carlos Manuel Milheiro de Oliveira Pinto Soares	csoares@fe.up.pt
Artistic Education	Catarina Sofia Silva Martins	
	José Carlos de Paiva e Silva	
Science Teaching and Divulgation	Clara Maria da Silva de Vasconcelos	international@fc.up.pt pos.graduacao@fc.up.pt
Molecular and Cell Biology	Claudio Enrique Sunkel Cariola	cesunkel@ibmc.up.pt
Nursing Sciences	Corália Maria Fortuna de Brito Vicente	posgrad@icbas.up.pt
Earth Sciences	Deolinda Maria dos Santos Flores Marcelo da Fonseca	dflores@fc.up.pt
Biomedical Sciences	Eduardo Jorge Sousa da Rocha	erocha@icbas.up.pt
Economics	Elvira Maria de Sousa Silva	sa_dout@fep.up.pt
Environmental Engineering	Fernando Francisco Machado Veloso Gomes	international@fe.up.pt serac@fe..up.pt
Engineering of Refining, Petrochemis- try and Chemistry	Fernando Gomes Martins	international@fe.up.pt serac@fe..up.pt
Biomedical Engineering	Fernando Jorge Mendes Monteiro	fjmont@fe.up.pt
Fine Arts	Fernando José Magalhães Pinto Pereira	posgraduacao@fba.up.pt world@fba.up.pt
Biomedicine	Filipa Abreu Gomes de Carvalho	filipac@med.up.pt
Leadears for Technical Industries	Francisco Manuel Andrade Pires	international@fe.up.pt serac@fe..up.pt
Computer Science (MAP-i)	Gabriel de Sousa Torcato David	international@fc.up.pt pos.graduacao@fc.up.pt

Design	Heitor Manuel Pereira Pinto da Cunha e Alvelos	posgraduacao@fba.up.pt world@fba.up.pt
Law	Helena Maria Machado Barbosa da Mota	hmota@direito.up.pt
Molecular and Oncology Medicine	Henrique Manuel Nunes de Almeida	posgraduacao@med.up.pt
Civil Engineering	Humberto Salazar Amorim Varum	hvarum@fe.up.pt
Spatial Planning	Isabel Maria Fernandes Ribeiro Breda Lacerda Vazquez	international@fe.up.pt serac@fe..up.pt
Engineering and Public Policy	João Alberto Vieira Campos Pereira Claro	jclaro@fe.up.pt
Physics (MAP-fis)	João Manuel Borregana Lopes dos Santos	international@fc.up.pt pos.graduacao@fc.up.pt
Cardiovascular Sciences	Joaquim Adelino Correia Ferreira Leite Moreira	posgraduacao@med.up.pt
Environmental Sciences and Technology	Joaquim Carlos Gomes Esteves da Silva	international@fc.up.pt pos.graduacao@fc.up.pt
History	Jorge Fernandes Alves	sri@letras.up.pt sga@letras.up.pt
Transportation Systems	Jorge Manuel Pinho de Sousa	international@fe.up.pt serac@fe..up.pt
Electrical and Computer Engineering	José Alfredo Ribeiro da Silva Matos	international@fe.up.pt serac@fe..up.pt
Surveying Engineering	Jose Carlos Pinto Bastos Teixeira Silva	international@fc.up.pt pos.graduacao@fc.up.pt
Physical Activity and Health	José Carlos Rodrigues Dias Ribeiro	jrribeiro@fade.up.pt
Advanced Studies in Public Health	José Henrique Dias Pinto de Barros	posgraduacao@med.up.pt
Environmental Contamination and Toxicology	Lúcia Maria das Candeias Guilhermino	lguilher@icbas.up.pt
Heritage Studies	Lúcia Maria Cardoso Rosas	lrosas@letras.up.pt
Clinical and Health Services Research	Luís Filipe Ribeiro de Azevedo	lazevedo@med.up.pt
Animal Science	Luísa Maria Pinheiro Valente	lvalente@icbas.up.pt
Sustainable Energy Systems	João Peça Lopes	jpl@fe.up.pt
Mathematics	Manuel Augusto Fernandes Delgado	international@fc.up.pt pos.graduacao@fc.up.pt
Biology	Manuel Fernandes Ferreira	international@fc.up.pt pos.graduacao@fc.up.pt

Matallurgical and Materials Engineering	Manuel Fernando Gonçalves Vieira	mvieira@fe.up.pt
Advanced Materials and Processing	Manuel Fernando Gonçalves Vieira	mvieira@fe.up.pt
Engineering and Industrial Management	Maria Antónia da Silva Lopes e Carravilla	mac@fe.up.pt
Gerontology and Geriatrics	Maria Constança Leite de Freitas Paúl	paul@icbas.up.pt
Marine Science, Technology and Management	Maria da Natividade Ribeiro Vieira	international@fc.up.pt pos.graduacao@fc.up.pt
Molecular Pathology and Genetic	Maria de Fátima Rodrigues Moutinho Gartner	posgrad@icbas.up.pt
Mining and Geo-resources Engineering	Maria de Lurdes Proença de Amorim Dinis	mldinis@fe.up.pt
Dental Medicine	Maria Helena Raposo Fernandes	cpinto@fmd.up.pt flourenco@fmd.up.pt
Medicine	Maria Leonor Martins Soares David	posgraduacao@med.up.pt
Psychology	Marina Gomes Serra de Lemos	spg@fpce.up.pt srim@fpce.up.pt
Molecular and Cellular Biotechnology Applied to Health Sciences	Mário Adolfo Monteiro da Rocha Barbosa	posgrad@icbas.up.pt
Agrarian Sciences	Mário Manuel de Miranda Furtado Campos Cunha	international@fc.up.pt pos.graduacao@fc.up.pt
Architecture	Marta Maria Peters Arriscado Oliveira	moliveira@arq.up.pt
Astronomy	Nuno Miguel Cardoso Santos	nuno.santos@fc.up.pt
Biodiversity, Genetics and Evolution	Nuno Miguel dos Santos Ferrand de Almeida	international@fc.up.pt pos.graduacao@fc.up.pt
Clinical Nutrition	Nuno Pedro Garcia Fernandes Bento Borges	sacademicos@fcna.up.pt movilidade@fcna.up.pt
Consumer Sciences in Food and Nutrition	Olívia Maria de Castro Pinho	international@fe.up.pt serac@fe..up.pt
Occupational Safety and Health	Olívia Maria de Castro Pinho	international@fe.up.pt serac@fe..up.pt
Experimental and Clinical Pharmacology and Toxicology	Patrício Manuel Vieira Araújo Soares da Silva	posgraduacao@med.up.pt
Philosophy	Paula Cristina Moreira da Silva Pereira	sri@letras.up.pt sga@letras.up.pt
Landscape Architecture and Urban Ecology	Paulo Jorge Rodrigues Farinha Marques	international@fc.up.pt pos.graduacao@fc.up.pt
Human Sexuality	Pedro Jorge da Silva Coelho Nobre	pnobre@fpce.up.pt

Criminology	Pedro Manuel Rocha Almeida	posgrad@direito.up.pt manuela@direito.up.pt
Health Data Science	Pedro Pereira Rodrigues	pprodrigues@med.up.pt
Metabolism- Clinical and Experimental	Raquel Ângela Silva Soares Lino	raqsoa@med.up.pt
Migration and Modernity: Historical and Cultural Challenges	Rui Manuel Gomes Carvalho Homem	sri@letras.up.pt sga@letras.up.pt
Bioethics	Rui Manuel Lopes Nunes	posgraduacao@med.up.pt
Palliative Care	Rui Manuel Lopes Nunes	posgraduacao@med.up.pt
Applied Mathematics (MAP)	Sílvia Marques de Almeida Gama	international@fc.up.pt pos.graduacao@fc.up.pt
Landscape Architecture	Teresa Dulce Portela Marques	international@fc.up.pt pos.graduacao@fc.up.pt
Forensic Sciences	Teresa Maria Salgado de Magalhães	posgraduacao@med.up.pt
Educational Sciences	Tiago Guedes Barbosa do Nascimento Neves	tiago@fpce.up.pt
Neurosciences	Vasco Miguel Clara Lopes Galhardo	posgraduacao@med.up.pt
Chemistry	Victor Armando Pereira Freitas	international@fc.up.pt pos.graduacao@fc.up.pt
Marine Biotechnology and Aquaculture	Vitor Manuel de Oliveira e Vasconcelos	international@fc.up.pt pos.graduacao@fc.up.pt

University of Szeged

1. Humanities

1.1 Doctoral School of Educational Sciences

Edit Katalin Molnár molnar@edpsy.u-szeged.hu http://www.edu.u-szeged.hu/phd/?q=en	Learning and Instruction	http://www.edu.u-szeged.hu/phd/?q=en/node/29
	Educational Assessment and Evaluation	http://www.edu.u-szeged.hu/phd/?q=en/node/30
	Technologies in Education	http://www.edu.u-szeged.hu/phd/?q=en/node/31
	Social and Emotional Education	http://www.edu.u-szeged.hu/phd/?q=en/social_and_emotional_education
	Health Education	http://www.edu.u-szeged.hu/phd/?q=en/node/33
	Psychological Aspects of Development and Education	http://www.edu.u-szeged.hu/phd/?q=en/node/34
	Content Pedagogy	http://www.edu.u-szeged.hu/phd/?q=en/social_and_emotional_education

More information in the official data base of Hungarian PhD programmes: <https://doktori.hu/index.php?menuid=111&lang=EN>

1.2 Doctoral School of Literary and Cultural Studies

Dr. Péter Kasza (associated professor), Department for Classical-Philology and Neo-Latin Studies kasza.peter@szte.hu or petrusfalx@gmail.com	The PhD-programme for Neo-Latin Studies at the University of Szeged welcome cooperation in research, education and change of students and staff.	We offer studies in Neo-Latin Literature in general, with special focus, however, on Latin historiography of Central Europe in a wider European context.
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2. Medical and Pharmaceutical Sciences

2.1 Doctoral School of Clinical Medicine

Institute of Pharmaceutical Chemistry		
Prof. Lóránd Kiss kiss.lorand@szte.hu Dr. Attila Remete remete.attila@pharm.u-szeged.hu	Transformation of cyclic amino acids into bioactive natural products through ring-opening/ring-closing/cross metathesis	The research programme is directed towards: (a) synthesis of potentially bioactive functionalized amino acids by ring-opening/ring-closing/cross metathesis by starting from readily available unsaturated cyclic amino acids. (b) selective and stereocontrolled transformation of readily available cyclic amino acids by ring-opening/ring closing/cross metathesis into potentially bioactive heterocycles or natural products.
Prof. Lóránd Kiss kiss.lorand@szte.hu Dr. Melinda Nonn nonn.melinda@pharm.u-szeged.hu	Selective synthesis of fluorinated building blocks	The number of fluorinated pharmaceuticals on the market is continuously increasing, therefore there is an increasing demand for the synthesis of fluorine containing organic scaffolds. Our research focuses on: (a) selective synthesis of fluorinated building elements with multiple stereocenters (b) synthesis of various fluorinated beta-amino acids as building blocks for the peptides synthesis
Prof. Ferenc Fülöp fulop@pharm.u-szeged.hu Dr. Márta Palkó palko@pharm.u-szeged.hu	New extensions of the ring-chain tautomerism of 1,3-O,N-heterocycles	Quinazolines represent a class of privileged scaffolds that occur in natural alkaloids, some of which exhibit a wide range of biological and pharmacological activities. As part of our ongoing pharmaceutical chemistry related programmes or present aims are the synthesis of their alicyclic analogues. Our research programme is directed towards: (a) Synthesis of heterocyclic compounds across ring-closing reactions by starting from unsaturated bicyclic amino acid derivatives. (b) Investigation of the retro-Diels Alder reactions of the synthesized heterocycles.

Dr. István Szatmári szatmari.istvan@szte.hu	Synthesis and transformations of ortho-quinone methides generated from Mannich bases	In the modified Mannich reaction 2-naphthol and its derivatives as electron rich aromatic compounds reacts with the Schiff-base in situ formed from the corresponding amine and aldehyde. The synthetic potential in this research field is the synthesis and transformations of new type of ortho-quinone methides.
Prof. Zsolt Szakonyi szakonyi@pharm.u-szeged.hu	Stereoselective synthesis of functionalized terpenoids and their application in enantioselective transformations	The aim of the research work is the synthesis of beta-amino acid derivatives as potential bifunctional building blocks, starting from commercially available terpenes. The application of these building blocks in enantioselective syntheses as chiral catalysts and preparation of biologically active 1,3-heterocycles is also the goal of the research work.
Prof. Zsolt Szakonyi szakonyi@pharm.u-szeged.hu	Synthesis of terpene-based bi- and tridentate bioactive molecules, heterocycles and catalysts	The aim of the research work is the synthesis of aminodiol and aminoalcohol type bi- or tridentate chiral building blocks starting from commercially available terpenes. The application of these building blocks in enantioselective syntheses and preparation of 1,3-heterocycles is also the goal of the research work.

Institute of Pharmaceutical Analysis	
Dr. Róbert Berkecz berkecz.robert@szte.hu	Development and application of targeted and non-targeted analytical methods in lipidomics and metabolomics
Dr. Gerda Szakonyi szakonyi.gerda@szte.hu	Characterisation of membrane transporters - application of T4 lysozyme fusion
Prof. István Ilisz ilisz.istvan@szte.hu	Characterisation and evaluation of enantioselective recognition processes by the application of liquid chromatography systems
Institute of Pharmacodynamics and Biopharmacy	
Prof. István Zupkó zupko.istvan@szte.hu	Investigation of antiproliferative and antimetastatic agents of natural products and related analogs against human cancer cells of gynecological origin.

Institute of Pharmacognosy		
Prof. Judit Hohmann hohmann@pharm.u-szeged.hu	Bioactive compounds from Lamiaceae and Asteraceae species as potential agents against microbial infections and antimicrobial resistance	Search for effective compounds against bacterial, fungal and viral infections is one of the main challenges of drug discovery, especially because of the more and more threatening resistance against antibiotics. The aim of the present project is the discovery of new natural products from plants and macrofungi, which may have a contribution to the development of new antimicrobials and microbial resistance reversal agents. Plants to be investigated are selected on the basis of antimicrobiological screenings, the compounds responsible for the activity are isolated by chromatographic techniques using activity-guided isolation process. Antimicrobial screenings of the purified compounds involve resistance reversal effect (efflux pump inhibitory and anti-plasmid), and evaluation of synergism with antibiotics. Analysis of <i>Origanum majorana</i> and an African <i>Vernonia</i> species is presently in progress.

Institute of Pharmaceutical Technology and Regulatory Affairs		
Dr. Rita Ambrus arita@pharm.u-szeged.hu	Development of micro or nanoparticles for pulmonar application	Suggested University: Université Paris-Saclay, Comment: Previous cooperation in this field: Fattal Elias, Tsapis Nicolas
Dr. Rita Ambrus arita@pharm.u-szeged.hu Csilla Bartus	Particle engineering in drug formulation to prepare nano-formulation (milling, cavitation)	Suggested University: Pharmaceutical Sciences at the Faculty of Pharmacy of the University of Porto
Prof. Ildikó Csóka csoka.ildiko@szte.hu Dr. Gábor Katona katona@pharm.u-szeged.hu	Development of protein-based drug delivery systems as smart nano carriers	Suggested University: Ludwig Maximilian University of Munich
Dr. Szilvia Berkó berko@pharm.u-szeged.hu Dr. Mária Budai-Szűcs maria.szucs@pharm.u-szeged.hu	Development of nanostructured lipid carriers for topical application	
Dr. Tamás Sovány t.sovany@pharm.u-szeged.hu Dr. Géza Regdon jr. geza.regdon@pharm.u-szeged.hu	Application of inorganic nanoparticles for drug/protein delivery	Suggested Universities: Ludwig Maximilian University of Munich, Université Paris-Saclay
Dr. Tamás Sovány t.sovany@pharm.u-szeged.hu Dr. Katalin Kristó kristo@pharm.u-szeged.hu	Application of lipid-polymer hybrid nanoparticles for protein delivery	Suggested Universities: Université Paris-Saclay, Lund University

2.2 Doctoral School of Interdisciplinary Sciences

Supervisor: Dr. Regina Molnár (molnar.regina@med.u-szeged.hu)

Name of the lab:	Department of Public Health
Name of hosting team:	Epidemiology Research Group
Head of the hosting team:	Edit Paulik MD, PhD
Description of the lab (Techniques used during the internship):	Epidemiological and sociological researches with the aim of assessing health status, quality of life and the lifestyle, behavioural and environmental factors influencing it. The actual topics include health status and lifestyle of pregnant women; knowledge and attitudes related to antibiotics and vaccinations; acculturation among foreign medical students.
Website:	http://web.med.u-szeged.hu/puhe/
Name of the contact person:	Regina Molnár PhD
E-mail address:	molnar.regina@med.u-szeged.hu
Address of the lab:	H-6720 Szeged Dóm tér 10. HUNGARY
Internship title:	Acculturation among foreign medical student
Internship description:	Health status and health behaviour of students living in an intercultural environment
Study level of the internship students:	MSc, PhD
Preferred training programme, field of interest and research field of the lab:	Epidemiology, sociology
Spoken languages in the hosting team:	English, Hungarian

Name of the lab:	Laboratory of Organic and Pharmaceutical Chemistry
Name of hosting team:	LQOF
Head of the hosting team:	Carlos Afonso
Description of the lab (Techniques used during the internship):	Computer assisted drug design (docking, pharmacophore, QSAR) Microwave assisted organic synthesis (MAOS) Chromatographic methods (CC, TLC, Chromatotron, ...) Spectroscopic techniques (IR, UV, 1H NMR, 13C NMR, COSY, DEPT, HSQC, HMBC) Permeability and stability studies (HPLC) Determination of physico-chemical properties (lipophilicity, solubility, pKa, etc.)
Website:	https://sigarra.up.pt/ffup/pt/web_base.gera_pagina?p_pagina=18380; https://www2.ciimar.up.pt/research.php?team=27
Name of the contact person:	Emília Sousa, Gabriella Spengler
E-mail address:	esousa@ff.up.pt, spengler.gabriella@med.u-szeged.hu
Address of the lab:	Rua de Jorge Viterbo Ferreira, n.º. 228, 4050-313 Porto - PORTUGAL

Internship title:	Drug design and synthesis of potential bioactive compounds
Internship description:	Design and synthesize small molecules against a therapeutic target; purify and characterize the structure of the library of compounds; investigate the stability, solubility and other physicochemical properties; chiral analysis. The phenomenon of multidrug resistance (MDR) is due to the widespread use of antibiotics and biocides, furthermore MDR is responsible for the selection of resistant bacterial strains. The overexpression of multidrug efflux pumps is one of the most important resistance mechanisms in bacteria, because these proteins expel a broad range of antibiotics owing to their poly-substrate specificity. The main goal of using efflux pump inhibitors (EPI) is the improvement of the efficacy of antibiotics. We focus on the screening of EPIs in order to modulate the activity of bacterial MDR efflux pumps, in addition the lead compounds could be applied in combined antimicrobial chemotherapy in order to reverse antibiotic resistance and overcome MDR bacterial infections. The molecules synthesized by Emília de Sousa and her team will be tested as potential efflux pump inhibitors in bacteria and their role to decrease the virulence of bacteria by inhibiting biofilm formation and bacterial communication (quorum sensing) will be investigated.
Study level of the internship students:	Master, PhD
Preferred training programme, field of interest and research field of the lab:	Medicinal Chemistry, Pharmaceutical Analysis. Medical microbiology and experimental chemotherapy.
Spoken languages in the hosting team:	English, Portuguese (French, Spanish)
Model organism:	Gram-positive and Gram-negative reference bacterial strains
Bibliography:	1) Spengler G, Kincses A, Gajdács M, Amaral L. New Roads Leading to Old Destinations: Efflux Pumps as Targets to Reverse Multidrug Resistance in Bacteria. <i>Molecules</i> . 2017 Mar 15;22(3):468. 2) Szemerédi N, Kincses A, Rehorova K, Hoang L, Salardón-Jiménez N, Sevilla-Hernández C, Viktorová J, Domínguez-Álvarez E, Spengler G: Ketone- and Cyano-Sele-noesters to Overcome Efflux Pump, Quorum-Sensing, and Biofilm-Mediated Resistance. <i>Antibiotics (Basel)</i> . 2020 Dec 11;9(12):896.

Name of the lab:	University of Szeged Department of Medical Genetics
Name of hosting team:	Rare Diseases Diagnostics and Research Laboratorium
Head of the hosting team:	Márta Széll D.Sc.
Description of the lab (Techniques used during the internship):	Regional diagnostic laboratory for rare diseases. The identification of new disease-associated mutations. We perform in vitro functional studies to reveal the significance of the newly identified mutations. The visiting students can be involved in these studies. Main techniques: molecular cloning, in vitro mutagenesis, transfection of human cell cultures, analyses of gene and protein expression.
Website:	http://web.med.u-szeged.hu
Name of the contact person:	Éva Ádám PhD
E-mail address:	adam.eva@brc.hu
Address of the lab:	6720 Szeged, Somogyi Béla u. 4
Internship title:	In vitro functional studies of newly identified rare disease-associated mutations.
Internship description:	
Study level of the internship students:	MSc, PhD
Preferred training programme, field of interest and research field of the lab:	MD, Biology
Spoken languages in the hosting team:	English, Hungarian
Supervisor	Dr. Éva Ádám
Name	
Position	senior researcher
Phone	36 704 500 327
Email	adam.eva@brc.hu
Keywords:	Rare diseases, novel mutations
Model organism used max 100 characters:	Human cell cultures
Bibliography:	<p>1) Nagy N, Farkas K, Kemény L, Széll M. Phenotype–genotype correlations for clinical variants caused by CYLD mutations. <i>Eur J Med Genet</i> 2015; 58:271–8.</p> <p>2) Pap ÉM, Farkas K, Széll M, et al. Identification of putative phenotype-modifying genetic factors associated with phenotypic diversity in Brooke-Spiegler syndrome. <i>Exp Dermatol</i> 2020; Online ahe. doi:10.1111/exd.14161.</p> <p>3) J. Danis, E. Kelemen, N. Rajan, N. Nagy, M. Széll and É. Ádám</p> <p>TRAF3 and NBR1 both influence the effect of disease-causing CYLD(Arg936X) mutation on NF- B activity. (<i>Exp. Dermatology</i>, under review)</p>

2.3 Doctoral School of Theoretical Medicine

Supervisor: Dr. Eszter Farkas (farkas.eszter.1@med.u-szeged.hu)

Name of the lab:	Department of Medical Physics Physics and Informatics
Name of hosting team:	Regulation, measurement, and analysis of life processes subprogramme In the Theoretical Theoretical Medicine Doctoral School
Head of the hosting team:	Dr Ferenc Bari MD, PhD
Name of the contact person:	Dr Eszter Farkas PhD DSC
E-mail address:	farkas.eszter.1@med.u-szeged.hu
Address of the lab:	H-6720 Szeged Dóm tér 10. HUNGARY
Internship title:	<ol style="list-style-type: none"> 1. The susceptibility of the brain to spreading depolarization 2. Assessment of lung ventilation and perfusion 3. Neuroprotective strategies in experimental models of cerebral ischemia 4. (Mal)adaptation of the cerebral circulation in the aging brain
Internship description:	<p>1. Acute brain injury gives rise to the spontaneous occurrence of spreading depolarization events, which contribute to the expansion of the lesion, and worsen injury outcome. Since age is an independent risk factor for the occurrence of acute brain injury, such as stroke, the research sets out to assess the age-dependent pattern of the evolution of spreading depolarization</p> <p>2. Ventilation heterogeneity and ventilation/perfusion mismatch is crucial as it concerns the patient's outcome and will fundamentally determine both the life expectation and quality of the individual patients' and the efficiency of health care system. The programme focuses on the assessment of these aspects of the respiratory system by assessing the lung mechanics, capnography indices and related vital parameters.</p> <p>3. The effective treatment of cerebral ischemia remains a considerable challenge, and the discovery of potential targets for novel treatment strategies is essential. The research evaluates the efficacy of novel pharmacological approaches to alleviate neurodegeneration, with particular focus on the integrity of the cerebral blood flow responses to neuronal activation.</p> <p>4. The regulation of the cerebral blood flow response to neuronal activation is subject to adaptational changes with aging. The goal of the research is to evaluate the structural changes of the cerebrocortical blood vessel architecture in the aging brain; and to unravel how the structural alterations may impact on cerebrovascular function.</p>

Study level of the internship students:	MSc, PhD
Spoken languages in the hosting team:	English, Hungarian
Supervisor 1.	
Name:	Dr. Ferenc Bari
Position:	professor
Phone:	+36 62 546-842 (68-42)
Email:	bari.ferenc@med.u-szeged.hu
Supervisor 2.	
Name:	Dr. Eszter Farkas
Position:	professor
Phone:	+36 62 545-791 (57-91)
email:	farkas.eszter.1@med.u-szeged.hu
Supervisor 3.	
Name:	Dr. Ferenc Peták
Position:	Professor, head of Institute
Phone:	+36 62 545-077 (50-77)
email:	petak.ferenc@med.u-szeged.hu

3. Social Sciences

3.1 Doctoral School of Law and Political Sciences

Dr. Zsuzsanna Fejes doktori.iskola@juris.u-szeged.hu	Legal Problems of International Economic Relations
	International and European Labour and Social Security Law
	Trends in European Criminal Justice
	Legal Problems in Comparative Perspective
	Harmonization in European Union Law
	Political Institutions in Global, European and Hungarian Context
	The Challenges of Globalisation and Governance in the Nation States

4. Natural and technical sciences

4.1 Doctoral School of Environmental Sciences

Complex membrane separation methods in food/environmental techniques

Contact person: Dr. Gábor Veréb – **verebg@mk.u-szeged.hu**

Membrane separation processes become more widely used wastewater treatment methods as they provide a chemical-free, efficient alternative to removing contaminants. A major disadvantage of their widespread use is the membrane fouling, which significantly shortens the life of the membrane. The aim of the research is primarily to combine membrane separation with advanced oxidation processes (ozone, Fenton reaction, UV light, and heterogeneous photocatalysis) in the purification of industrial (e.g. food) waters and wastewater in order to reduce membrane fouling. In addition to the development of new wastewater treatment methods, the aim is to study the mechanism of the membrane fouling and advanced oxidation processes, as well as the interactions between the membrane, contaminants and water matrix.

Wastewater/sludge recovery and utilization

Contact person: Prof. Zsuzsanna László- **zsizsu@mk.u-szeged.hu**

One of the major grand challenges in the 21st century is providing sustainable food production and simultaneously reducing agriculture's environmental harm. Due to limited availability of non-renewable resources and thus of major nutrients, like phosphorous and nitrogen, the nutrient recovery from renewable and additionally polluting sources as waste waters would be very beneficial; thus wastewater nutrient recovery is become a promising strategy to sustain fertiliser and food production, and parallel bring benefits to wastewater treatment facilities. The main scope of this topic is to reduce the environmental load of wastewater and sludge of different origins and compositions by develop complex wastewater and waste management process. It can reduce waste and reuse some nutrients by bioadsorption as a valuable soil source.

Microwave energy as intensification method

Contact person: Prof. Cecilia Hodúr – **hodur@mk.u-szeged.hu**

Microwave irradiation is a viable method for enhanced utilization of biomass and extraction of valuable components from agrifood waste and by-products. The main focus is on the analysis of the effects of the parameters of independent and hybrid processes (microwave-coupled chemical and biological processes) and the efficiency of anaerobic digestion of aerobic biodegradation of sludge and lignocellulosic biomass. To detect the physicochemical and biological processes and predict the change of energy dissipation of microwave irradiation, the determination of dielectric parameters and their variation as a function of chemical and structural change are also in the scope of researches

Chemical and Photochemical Advanced Oxidation Processes for Water Treatment

Contact person: Dr. Tünde Alapi **alapi@chem.u-szeged.hu**

The development of efficient and economically viable technologies to meet increasingly demanding quality criteria of waters is a significant challenge for water management with a sustainability impact. Chemical and photochemical advanced oxidation processes (AOPs) offer solutions for treating waters polluted with hazardous or non-biodegradable compounds. Our research aims to investigate AOPs, such as heterogeneous photocatalysis, ozonation, O₃/UV, peroxon and vacuum-UV processes, to eliminate organic substances having a high risk for either ecological or public health reasons.

Concentration and flux measurements in the atmospheric boundary layer

Contact person: Prof. Dr. Zoltán Bozóki zbozoki@physx.u-szeged.hu

Based on an open path photoacoustic system developed for concentration and flux measurements of various atmospheric components we investigate exchange processes between soil and atmosphere in high time-resolution. One of our PA systems is part of an observational site at an agricultural field where it measures bi-directional flux of ammonia, while the other is implemented on a drone for the measurement of vertical concentration profiles and concentration transects of the water vapour over lakes for storm forecasting and for the dynamic modelling of local inhomogeneity.

State-of-the-art aerosol laboratory

Contact person: Dr. Tibor Ajtai ajtai@titan.physx.u-szeged.hu

Our laboratory is capable of complete physicochemical characterization of atmospheric pollutant based on a multi wavelength photoacoustic system developed by us supplemented with various state-of the-art commercial aerosol instruments. Building up a novel emission based fuel development competence. Supporting climate and health relevance investigation both under well controlled laboratory and emission measurement conditions based on the novel laser based generation and detection techniques.

Nanoparticle-based treatment of solid tumors

Contact person: Prof. Dr. Zoltán Kónya konya@chem.u-szeged.hu

Nanoparticle-based treatment of solid tumors is regarded as a novel, attractive strategy to improve cancer therapy. Nanomaterials of approximately 10-200 nm size are selectively accumulated in tumor tissues due to the passive targeting effect, where many of them, especially metallic particles will exert direct anti-cancer activity. Owing to their large surface area nanomaterials can also serve as controllable delivery platforms of various cytotoxic drugs for active tumor targeting. Apart from the direct effects on cancer cells, nanoparticles influence the molecular features of other cell types within the tumor microenvironment, such as tumor-associated macrophages, cancer-associated fibroblasts, and other stromal cells. Modulation of the communication between these different cells in the particular milieu of the tumor by nanoparticles attenuates not only the tumor-supporting functions of stromal cells but reduces tumor development, invasion and dissemination as well. Nanoparticles can be employed to reverse multidrug-resistant cancer phenotypes and to enhance the efficiency of radiotherapy in combinational treatment approaches. Research activity delineating the cellular and molecular events governing the anti-cancer activity of different nanoparticles in in vitro and in vivo animal model systems increases the translational value of these materials for future oncotherapy modalities.

4.2 Doctoral School of Computer Science

<p>János Csirik csirik@inf.u-szeged.hu</p> <p>László Nyúl nyul@inf.u-szeged.hu</p>	<p>Applications of artificial intelligence and deep learning in medical imaging: image classification, clinical decision making, reconstructions.</p>	<p>SPECT and PET scans are the two most common imaging modalities in nuclear medicine. This proposal offers possibilities in two different fields:</p> <ul style="list-style-type: none"> - Medicine: Postcovid complications investigated by nuclear medicine techniques - Computer science: Applications of artificial intelligence and deep learning in nuclear medicine: image classification, clinical decision making, reconstructions.
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<p>Árpád Beszédes beszedes@inf.u-szeged.hu</p>	<p>Towards a Practical Applicability of Software Fault Localization</p>	<p>Scientific approaches to software fault localization, such as spectrum-based fault localization, have been around for about 3 decades. However, in everyday use, programmers still rely on traditional debugging practices and tools that are readily available in most integrated development environments. There may be several reasons for why these innovative methods are not yet fully accepted by the practitioners, including sub-optimal bug localization capability and cumbersome usability. In this proposal, we plan to systematically investigate the shortcomings of current approaches and try to propose practically usable software fault localization methods and tools. Several related doctoral thesis proposals can be found at:</p> <p>https://doktori.hu/index.php?menuid=195&tk_ID=129434&lang=EN</p> <p>https://doktori.hu/index.php?menuid=195&tk_ID=148615&lang=EN</p> <p>https://doktori.hu/index.php?menuid=195&tk_ID=155781&lang=EN</p>
<p>Richárd Farkas rfarkas@inf.u-szeged.hu</p>	<p>Hybrid AI for clinical applications</p>	<p>In the last decade, several Artificial Intelligence (AI) solutions has been developed for supporting clinical/medical use cases. These AI solutions are usually data-driven ones, i.e. Machine Learning techniques learn patterns/rules from data and the knowledge of human experts is not available. Hybrid AI aims allowing humans to not just understand and follow the learning, reasoning, and planning process of AI systems (being explainable and accountable), but also to seamlessly interact with it, guide it, and enrich it with uniquely human capabilities, knowledge about the world, and the specific user's personal perspective. Specific topics include:</p> <ul style="list-style-type: none"> - Linking symbolic and sub-symbolic learning - Learning with and about narratives - Continuous and incremental learning in joint human-AI systems - Quantifying model uncertainty <p>The main goal of this PhD research topic is to develop novel Hybrid AI algorithms and techniques and test them in real-world clinical applications.</p>

<p>László Tóth tothl@inf.u-szeged.hu</p>	<p>The speech signal as a biomarker</p>	<p>The speech signal carries a lot of information about the mental and physical state of the speaker. Hence, lot of efforts have been made to use speech as a biomarker, that is, to detect or diagnose several illnesses based on the speech of the subject. Our team has ongoing research projects on the topics of detecting mild cognitive impairment, Alzheimer's disease, and Parkinson's disease from speech, but extracting other types of paralinguistic information is also in our interest. We are looking for cooperation and PhD candidates for these projects.</p>
	<p>Silent speech interfaces</p>	<p>The goal of articulatory-to-acoustic mapping is to find the proper transformation to reconstruct the speech signal from some recording of the movement of the articulatory organs. As the input signal, our team has so far worked with ultrasound tongue videos and MRI recordings of the articulators, but using other modalities like electromagnetic articulography is also viable. To solve the mapping problem, we experimented with various deep neural network architectures like convolutional and recurrent networks, and their combinations. Synthesizing the speech signal from the network output is also an important problem of the whole processing chain. The PhD candidate is supposed to join this ongoing project and extend it with further research.</p>
	<p>Applying AI to support the communication of people with speech disorders</p>	<p>There are several types of illnesses that may cause speech impairment, such as stroke, lateral sclerosis, etc. The speech communication for these patients becomes terribly difficult or impossible. AI can aid the communication of these people several ways. First, it can support the speech therapy of these people to improve their articulation. Second, it can act as a sort of translation tool that converts their message to a more comprehensible format. Our team experiments with the conversion of dysarthric speech into a normally pronounced speech using machine learning tools. We are looking for cooperation and PhD candidates to extend this research.</p>

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Possibilities for joint doctoral training/education (cotutelle) within the EUGLOH Alliance

A Cotutelle (co-tutoring, co-supervision) is a joint supervision where the doctoral candidate has two supervisors (minimum), one at each partner University, and must carry out part of the education at each University, based upon a signed agreement between Higher Education Institutions (HEIs). This cotutelle agreement must respect regulations in force at both Universities/both countries. In some Universities of EUGLOH – it is the case of U.Porto and Paris-Saclay– the formal cotutelle (under agreement) aims at double degree (double awarding).

The doctoral candidate receives a doctoral degree from each participating University, upon approval of the unique thesis defence examination. The doctoral candidate is admitted at the two Universities and each of them awards their own certificate/parchment as part of the cotutelle, with explicit reference to the joint programme or joint supervision of the thesis.

Considering the different regulations in place at the two partner countries, HEIs should try to accommodate to the best of their possibilities any regulatory differences and strive to overcome any administrative challenges in lieu of benefiting the students' academic training. As such, it is advised that students wishing to implement a cotutelle agreement, should begin said process as early as possible in their HEI of origin.

Here are some topics that students should take into consideration when trying to implement a cotutelle agreement.

ADMISSION: Students should take note that they will have to fulfill the admission requirements at both partner HEIs and the partner Universities should find ways to facilitate the admission of cotutelle students.

University	Admission requirements
Lund University	
Paris-Saclay University	<p>The recruitment of doctoral candidates is carried out by the university's doctoral schools.</p> <p>There are two main ways to do this:</p> <p>- ANNUAL COMPETITION MODE: Each doctoral school organises an annual competition based on a highly standardised quality assurance process: procedures announced well in advance and published on the university and doctoral school websites, candidates' files collected on the announced dates, generalised oral examinations (online for candidates located abroad or far in France) by juries of experts, whose member identities and qualities are known and published, ranking in main and complementary lists, then processing of an appeal of the selected candidates. This first mode operates for situations for which the funding of the thesis is attributed in a recurrent way (for example funding from the French Ministry of Higher Education and Research).</p> <p>- ALL-ALONG MODE: As time goes by, many recruitment situations arise (following research project grants or whatever). In this case, the same procedure (files, oral examinations) is implemented, either by the doctoral school or by a group of researchers that the doctoral school mandates for this purpose and from whom it takes a detailed written record of the recruitment process. In all cases, the candidate's disciplinary level is evaluated, as well as his or her openness, and as well as more interpersonal and communication skills.</p>
University of Porto	<p>Approval by the Scientific Committee of the Faculty of U.Porto that the student will attend.</p> <p>At the University of Porto, as each cotutelle proposal/candidate must be evaluated and approved by the Scientific Committee of the Faculty that the student will attend, students are admitted to a Doctoral Programme based on the signed agreement</p>
LMU	
University of Szeged	

FEES: Students should be aware that the attendance of a doctoral programme in another institution may imply the payment of tuition fees. When applicable, partner HEIs will charge tuition fees only according to the periods of stay at their institution. Furthermore, HEIs will strive to find new strategies and offer funding/financing opportunities to cotutelle students that cover these fees. Students are, therefore advised to contact the intended partner institution to learn about this matter.

University	Applicable Fees
Lund University	No fees
Paris-Saclay University	Administrative / Registration fees
University of Porto	Tuition and Tuition fees (which may be exempted under a reciprocity principle) and insurance fees (approx. 2 Eur)
LMU	
University of Szeged	

A specific effort will be made by the universities of the EUGLOH alliance to minimise the fees to be paid by the PhD candidates, and to promote the greatest possible reciprocity. It is expressly aimed that a thesis co-supervision within the European alliance is not hindered or limited by the issue of fees.

MOBILITY PLAN/PERIOD OF STAY: As cotutelle students, candidates should be aware that they must meet the academic requirements of both institutions in order to be awarded their respective degrees. Therefore, and as part of the cotutelle agreement, students are supposed to spend interchangeable periods of time at each institution, in order to complete both programmes. This mandatory period may vary from institution to institution (see below). Universities will strive to recognise the training obtained at the partner HEI as part of their own academic programme leading up to the conferral of the PhD degree.

University	Minimum mandatory period of stay
Lund University	
Paris-Saclay University	At least 12 months, but more than 12 months is more than welcome. Everything can be discussed on an individual basis. Yet, an immersion at Paris-Saclay university of 18 months should be considered as the standard situation.
University of Porto	1 academic year (9 months)
LMU	
University of Szeged	

FORMAT OF DEFENSE/THESIS: As part of their training, cotutelle students must submit a doctoral thesis and publicly defend it once, in one of the partner HEIs. Both these procedures are to be carried out in a language that is recognised within the scientific communities or in the language of the HEI where they choose to submit and defend their work. The Universities will strive to implement administrative procedures that recognise said thesis defence as part of their respective doctoral programme. For example, when the defence is to be carried out in the partner University, and when necessary, HEIs will try to accommodate the rules in place at the partner institution (for instance, accepting that the jury is nominated in accordance with the rules of the institution where the defence will take place, as long as a member of their own University takes part).

University	Minimum mandatory period of stay
Lund University	
Paris-Saclay University	One single public defence, given in English (or in French) :45 minutes of oral presentation, followed by an illimited time of questions from the jury members (<2 hours). Let notice that the two reviewers have previously written each a detailed report on the manuscript and on the reported results, methodologies, and carried out approaches. After the defence, the president of the jury is in charge of writing another report on the defence itself, with a clear statement about the PhD degree admission, which is signed by all members no later than a few days after the defence.
University of Porto	One public defence with a jury of at least 4 members (at least one from U.Porto). Supervisor may be present.
LMU	
University of Szeged	



Summary of existing Cotutelle agreements

University Paris-Saclay

Lund University

Ludwig Maximilian University of Munich

University of Porto

University of Szeged

Paris-Saclay University

Paris-Saclay University has conducted individual joint thesis cotutelle agreements with more than 310 universities. A very large number of thematic fields are concerned.

The different countries are listed just hereafter (non exhaustive list).

Argentina	Finland	Netherlands
Australia	Germany	Norway
Austria	Ghana	Poland
Belgium	Greece	Romania
Benin	Guinea Conakry	Russia
Brazil	Hungary	Senegal
Burkina Faso	Iran	Singapore
Cameroon	Ireland	South Africa
Canada	Israel	Spain
Chile	Italy	Spain
China	Japan	Spain
Colombia	Kazakhstan	Sweden
Colombia	Lebanon	Switzerland
Cote d'Ivoire	Luxembourg	Taiwan
Côte d'Ivoire	Madagascar	Thailand
Croatia	Mauritius	Tunisia
Cuba	Mexico	Ukraine
Cyprus	Moldova	United Kingdom
Czech Republic	Montenegro	Uruguay
Denmark	Morocco	USA
		Vietnam

Among the universities of the EUGLOH European alliance, Paris-Saclay University has only signed cotutelle agreements with LMU for the time being, and is fully ready to go through with all partners so that doing a mobility within the alliance, while getting both degrees, would be something even easier than with other institutions for a PhD candidate. The different countries are listed just hereafter (non exhaustive list).

Lund University

Lund University has 42 active joint PhD educations ongoing. These are within the faculties of Medicine, Science, Engineering, and Social Science. Normally each PhD education is arranged individually. For more information and contacts, please see links for Lund University under chapter 2.

Ludwig Maximilian University of Munich

Cotutelle agreements have to be arranged individually for each doctoral project. However model cotutelle agreements are available at the respective examination offices of the faculty areas. For more information and contacts, please see:

<https://www.pags.pa.uni-muenchen.de/promotion/cotutelle/index.html> and the links under chapter 2.

For orientation a **cotutelle guide** as well as a **cotutelle contract template** are also available on the **website of the german universities' rectors' conference**.

For an incomplete list of universities with which LMU has been cooperating in cotutelle processes, see:

https://www.lipp.uni-muenchen.de/internationale_kooperation/kooperationen-der-col/cotutelle/index.htm

University of Porto

Referring to the period starting in January of 2020, U.Porto has 24 agreements in force and has signed a total of 9 new agreements and 1 addendum to a previously signed agreement. One of these agreements was with LMU (please find a unidentifiable version of the signed agreement attached to this document).

U.Porto currently has cotutelle agreements with the following HEIs:

BRAZIL

University of Brasília
 University of São Paulo
 State University of Campinas
 State University of Ceará
 São Paulo State University
 State University of Paraíba
 Federal University of Rio de Janeiro
 Fluminense Federal University
 Federal University of Technology – Paraná

SPAIN

University of Girona
 University of Granada
 University of Santiago de Compostela
 University of Vigo
 Rovira i Virgili University

FRANCE

Paris Observatory
 Aix-Marseille University
 University of Lille
 University Jean Monnet – Saint-Étienne
 University of Montpellier
 University of Paris 1 – Panthéon Sorbonne
 Paul Valéry University
 Sorbonne Nouvelle University – Paris 3

ITALY

University of Insubria
 University of Palermo
 IUAV University of Venice

GERMANY

Johannes Gutenberg University Mainz
 Ludwig-Maximilian University of Munich

NETHERLANDS

Radboud University
 Maastricht University

BELGIUM

Catholic University of Leuven

MACAU/CHINA

University of Saint Joseph

COLOMBIA

National University of Colombia

POLAND

University of Wrocław

MARROCO

Abdelmalek Essaadi University

CZECH REPUBLIC

Charles University

University of Szeged

Some ongoing and previous academic degrees from cotutelle collaborations:

Name	Partner University	Link to the thesis
Dorottya Mihályi	Pasquale Paoli Egyetem	ongoing procedure
Nikita Moshkov	National Research University Higher School of Economics NRU HSE	ongoing procedure
Jérémy Floutier	l'Université Paris I-Panthéon Sorbonne	ongoing procedure
Béla Varga	l'Université de Montpellier	http://doktori.bibl.u-szeged.hu/id/eprint/9727/
William Berthon	École Pratique des Hautes Études	http://doktori.bibl.u-szeged.hu/view/creators/Berthon=3AWilliam=3A=3A.html
Eszter Draskóczy	University of Bologna	http://doktori.bibl.u-szeged.hu/id/eprint/2314/
Gyöngyi Pál	Université Rennes 2	http://doktori.bibl.u-szeged.hu/id/eprint/1302/

