

▶▶ Hasselt University

At a glance



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UNIVERSITEIT VAN DE TOEKOMST

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Hasselt University At a glance

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►► Our mission

Hasselt University is an independent, enterprising university that chooses for active education tailored to the student, top research in spearhead fields, and entrepreneurship and innovation through its role as an academic think tank and through a pronounced international orientation.

Academic and scientific freedom, social commitment, attention for ethical norms and interpretation – without ideological distinction – are basic principles of the education and research. For Hasselt University, development of the human potential of its students and employees is central.

►► Active education tailored to students

Hasselt University targets students from the entire Flanders and beyond with attractive study programmes, which stand out because of scientifically thorough content and a modern educational concept.

'From guided self-instruction to autonomous learning' is the educational concept of the UHasselt, which stands by active and independent learning with tailored study guidance. Students process the subject matter based on self-instruction tasks and joint projects. These are discussed in seminars and supported in guided practice sessions. Hasselt University demands a lot of dedication of both the student and the professor. The study programmes are composed flexibly and offer the students the possibility to compose a tailored programme gradually. The Bachelor's programmes with flexible learning tracks optimally prepare the students for a wide array of Master's programmes in their own university and in other universities.

►► Top research on well-chosen spearhead fields

Hasselt University focuses its research on well-chosen spearhead fields (see page 7).

Research and education are closely linked. Members of staff

have educational and research tasks; students are introduced to research in the Bachelor's programme and participate in research during their Master's programme.

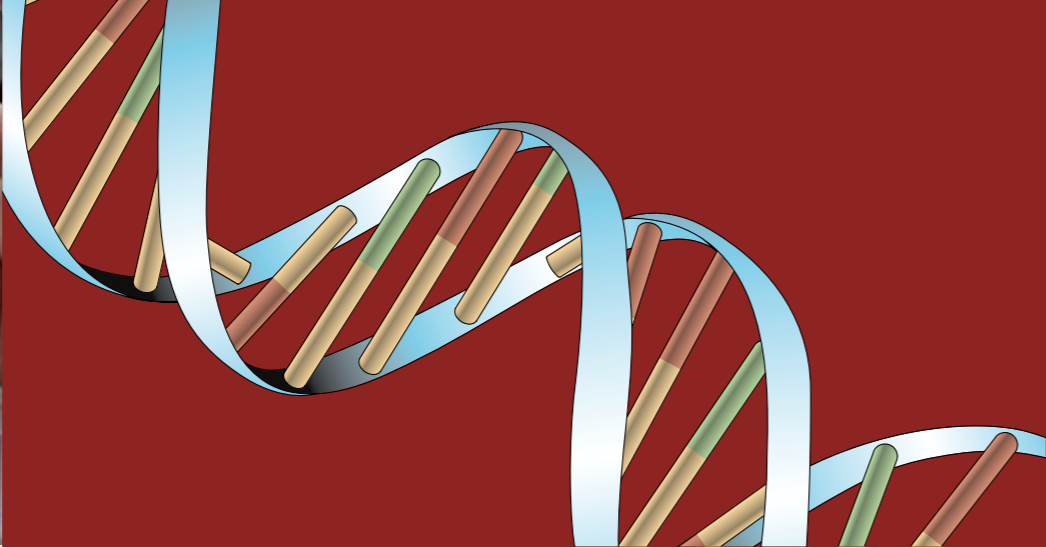
The Master's programmes are supported by the scientific expertise of the research groups and institutes of Hasselt University and its partners.

Besides that, the university also sets up an integral chain of fundamental and applied research inside the Association with the XIOS Hogeschool Limburg and the Provinciale Hogeschool Limburg.

►► A fascinating place to study and work

A small scale, good contacts between students and staff, and permanent care for the quality of education are typical trademarks of our university. The campus with its facilities such as the library, the study area, the self-instruction rooms and the computer infrastructure stimulates the student to study actively and to cooperate.

The proximity of the dynamic student city Hasselt offers numerous possibilities for an intense and varied student life. The students participate at all levels of administration of the university: they have their say in the advancement of education and the safeguarding of quality.



▶▶ Our History

▶ Contribute to the knowledge economy in the (EU-) region

In the framework of the Association with the XIOS Hogeschool Limburg and the Provinciale Hogeschool Limburg, Hasselt University also wants to be a driving force for the knowledge economy in the (EU-) region. It educates young people to highly-skilled people and to entrepreneurs for the knowledge economy and its high-quality research contributes to essential innovations.

Hasselt University profiles itself as an independent knowledge centre with well-defined research spearheads in the Technological Top region Eindhoven-Aachen-Limburg. Within this knowledge region, Hasselt University provides with research, education and technology transfer through cooperation with other universities:

- with the University Maastricht inside the unique cooperation framework of the transnational University Limburg;
- with the Technical University Eindhoven for engineer programmes;
- with the other Euregio universities of Liège and Aachen with which we promote the international exchange of students, outside the EU as well.

We cooperate intensively with the other Flemish universities on various fields as well. The university participates fully in inter-university research institutions such as IMEC (Interuniversity Micro Electronics Center) and IBBT (Flemish Interdisciplinary research centre for broadband technology).

▶ An international gateway for education and research

Hasselt University welcomes students and researchers from various cultures. Exchange programmes with foreign universities are part of the education. Furthermore, the university stimulates the international orientation of its students and staff through internationalisation of its research and education. Hasselt University participates in networks in Flanders, the Eu-

regio and the world, which offers students and employees an open window to the world. They are also a leverage for the independence and growth of the university.

▶ Mobilisation of talent through equal opportunities

Offering Young people from all groups of society equal education chances is a priority of Hasselt University.

Within the framework of the educational concept and through tailored guidance, the university cooperates with the student in order to improve his study approach, study methods and study planning to improve his chances of success. We particularly pay attention to young people that speak a foreign language or multiple languages at home.

▶ A university oriented towards society

The broad academic education that Hasselt University offers integrates socially relevant developments in the educational programmes. Students are stimulated to think about the interpretation of their activities in a spirit of openness for all ideologies, and about their responsibility in society. The academic community of students and employees is more than a study and work environment. The university stimulates participation in sports, student life and social activities.

▶ Development of the human possibilities

The further development of the university is the challenge for the future, for which all employees put their shoulder to the wheel. Full opportunities for development, respect for the individuality of each employee, open communication, the participation to the administration on all levels and the appreciation of the efforts are characteristics of the company culture. The university strives for an equilibrium between the personal development of the employee and the efficient performance of the organisation.

Hasselt University was established in 1971. Until 1991 it was an undergraduate level university institution consisting of two faculties: the Faculty of Medicine-Dentistry and the Faculty of Sciences (with study programmes in Mathematics, Physics, Computer Science, Chemistry and Biology).

In 1991 Hasselt University expanded by transforming the Limburg Business School, an independent university college which was located on the same campus, into the Faculty of Business Economics. At the same time, Hasselt University became entitled to organise post-graduate programmes and to award doctoral degrees in its three Faculties.

In 2001 the Flemish and Dutch Ministers of Education signed an International Treaty by which the transnational University Limburg was founded. Academic staff from Hasselt University and from nearby Maastricht University (in the Dutch Province of Limburg, the Netherlands) jointly undertake research activities and offer degree programmes in Life Sciences and Computer Sciences.

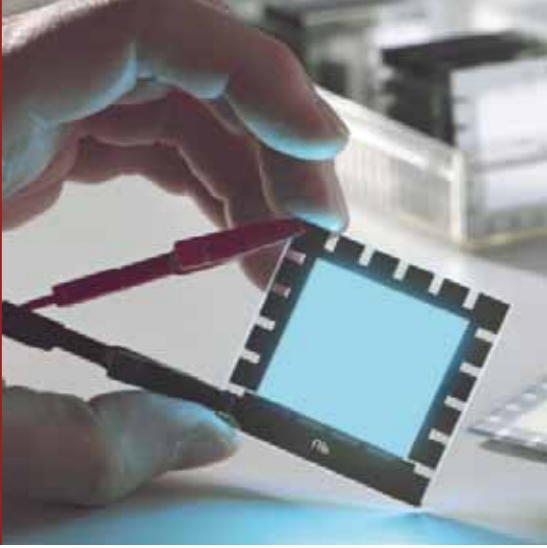
In 2002 Hasselt University, together with XIOS Hogeschool Limburg and the Provinciale Hogeschool Limburg (PHL), established the Limburg Association of Higher Education. This Association led to the foundation of three "Associated Faculties":

- the associated Faculty of Applied and Industrial Sciences;
- the associated Faculty of Architecture;
- the associated Faculty of Physiotherapy.

In these faculties the research basis is provided by Hasselt University.

In 2004 Hasselt University started with the unique degree programme (Bachelor and Master) in Transportation Sciences. Since 2008 Hasselt University is entitled to organise a Bachelor's programme of Law. Hasselt University can award doctoral degrees in its four Faculties and in the Institute of Transportation Sciences.

Hasselt University is a young, innovative and dynamic university with approximately 2,700 students, 530 teaching and research staff and 230 administrative and technical staff.



►► Our Bachelors and Masters

Hasselt University is located in the region of Flanders, which is the Dutch-speaking part of Belgium. Consequently, all Bachelor's programmes are taught in Dutch. However, some Master's programmes are taught in English, others in Dutch. Besides, for exchange students some courses in English have been set up.

A complete Bachelor's programme consists of 180 ECTS credit points, or three years of full-time study. A complete Master's programme consists of 60 or 120 ECTS credit points, or one respectively two years of full-time study.

At present, Hasselt University offers study programmes in four faculties. The university also awards doctoral degrees in these domains.

► Faculty of Sciences

Hasselt University organises up to date Bachelors programmes in Biology, Chemistry, Physics and Mathematics. Moreover you can become a Bachelor and Master of Information Sciences. Together with Maastricht University we offer an English Master of Artificial Intelligence and an English Master of Operations Research.

Furthermore, we offer an English Master of Statistics with specialisations in Biostatistics, in Bioinformatics, and in Epidemiology and Public Health Methodology.

► Faculty of Medicine

Hasselt University organises a Bachelor of Medicine, and a Bachelor and Master of Biomedical Sciences. This English Master has got specialisations in Clinical Molecular Sciences, in Bioelectronics and Nanotechnology, and in Environmental Health Sciences.

► Faculty of Business Economics

We offer Bachelors and Masters of Applied Economic Sciences, Business Engineering and Business Engineering in Management Information Systems. Moreover, we organise an English Master of Management with majors Corporate Finance and Management Information Systems. Hasselt University also organises a teacher training course in the field of Applied Economic Sciences.

In the unique field of Transportation Sciences, we offer both a Bachelor and Master. Traffic Safety and Mobility Management are key fields in this English Master.

► Faculty of Law

Together with Maastricht and Leuven University we organise a Bachelor of Law.

For more information about our English programmes we refer to our website: <http://www.uhasselt.be/english/>

►► Our Research

Our research on well-chosen spearhead fields is concentrated within the framework of nine research institutes.

► Institute for Biomedical Research (BIOMED)

The fundamental research of the institute focuses on neuro-inflammation and biosensors. The first domain comprises the following strategic research programmes:

- Neuroinflammatory disease: autoimmune aspects and disease markers (special focus on multiple sclerosis, rheumatoid arthritis);
- Oligodendrocyte cell death, signaling and regeneration in neuroinflammatory disease;
- Clinical aspects of multiple sclerosis: neurostimulation and revalidation (in collaboration with partner hospitals and the Provinciale Hogeschool Limburg).

Research in the field of biosensors is conducted in collaboration with IMO-IMOMEC and deals with the development of prototypes of biosensors using receptors linked to artificial-diamond or conjugated polymers. Both DNA and protein based biosensors are being developed.

The service activities of BIOMED focus on the biotech and pharma sector with emphasis on:

- Biotechnology and Immunology: Forensic DNA-analyses, development and production of monoclonal antibodies, T-cell analysis;
- Proteomics: protein purification and identification;
- Clinical trials: new drugs for osteoporosis, rheumatic and autoimmune disorders;
- Preclinical development: in vitro and in vivo (animal models) studies for drug development.

BIOMED can in addition provide support with respect to dynamic bio-imaging and electrophysiology.

► Expertise Centre for Digital Media (EDM)

The research centre EDM is active in Information and Communication Technology (ICT). Its core competence areas are:

- Computer Graphics, with special attention for rendering, modelling and animation;
- Human-Computer Interaction (HCI), focusing on multimodal interaction in virtual environments, model-based user interfaces and context-sensitive interactive systems;
- Multimedia and Communication Technology, situated mainly in networked virtual environments, virtual communities and interactive multimedia systems (e.g. IDTV).

EDM carries out fundamental, basic and applied research in the latter areas. EDM also provides know-how transfer through contract R&D projects with the industry.

EDM comprises more than 80 researchers and participates in the Interdisciplinary institute for Broadband Technology (IBBT, www.ibbt.be). The IBBT is a strategic research institute of the Flemish Government, focusing on ICT in general and (applications of) broadband technology in particular. EDM boasts several spin-off companies, mainly located in the Science Park in Diepenbeek.



▶ **Institute for Materials Research (IMO)**
Institute for Materials Research in
Microelectronics (IMOMECE)

IMO-IMOMECE is a high-tech research centre which is active in the fields of materials for electronics and nanotechnology. Since 2001 IMO has been an associated laboratory to IMEC. The core competence of IMO is the development and characterisation of new material systems with potential use in microelectronics, optoelectronics, bioelectronics and nanotechnology. Currently, both fundamental and applied research focus on five research themes: plastic electronics, wide band gap materials, metal oxide nanomaterials, reliability of materials systems and biosensors. IMO-IMOMECE collaborates with research groups of all Flemish universities and a number of international academic centres. In the field of biosensors, there is a strong collaboration with BIOMED, the biomedical research institute of Hasselt University and with research groups of Maastricht University. Besides its fundamental and applied research programmes, IMO-IMOMECE also acts as a service centre for the local industries.

▶ **Centre for Statistics (CenStat)**

In the field of mathematical statistics, research is carried out in the following fields: bootstrap methods, smoothing techniques, censored data, asymptotic theory. Research in applied statistics focuses on longitudinal data analysis, clustered data, missing data, multivariate methods, clinical trials, epidemiological studies. The fundamental research in mathematical and applied statistics is the cornerstone for a sound analysis of real-world problems, coming from a variety of fields. Examples are: registration and analysis of data from psychiatry, public health surveys, clinical trials (cancer, AIDS, hypertension,...), epidemiological research, risk factors when exposed to toxic substances in the environment. CenStat provides statistical consulting for local, regional and federal government authorities, for the pharmaceutical industry and other industrial partners, for research teams from medicine, biology, chemistry, economy,...

▶ **Transportation Research Institute (IMOB)**

The mission of IMOB is to develop sustainable solutions for problems related to transportation and traffic safety. In the field of transportation, IMOB focuses on the research programmes 'transportation modelling' and 'multimodal transport'. The 'transportation modelling' programme aims at representing the travel behaviour of people in a model structure by using activity-based transportation models. This enables the prediction of future developments in travel behaviour and the assessment of the effect of policy measures. The research programme 'multimodal transport' focuses on the integration of different transportation modes in a multimodal transportation system.

In the field of traffic safety, research is carried out at the 'macroscopic' and the 'micro- and mesoscopic' level. 'Macroscopic traffic safety models' are studied and aim at planning, explaining and predicting traffic safety. 'Micro- and mesoscopic models' on the other hand, are used to assess the impact of infrastructure and environmental planning on traffic safety. Besides the research activities, IMOB also participates in educational programmes on transportation and traffic safety, within the university as well as for people who are already professionally involved with traffic issues.

▶ **Institute for Behavioural Sciences (SEIN)**

SEIN's core competence is situated in the following areas:

- Equal opportunities, with amongst others research into equal opportunities indicators; women and the labour market; women in managerial positions; research on violence in domestic and professional contexts;
- Health psychology, stress at work;
- Human resources management, especially related to the elderly;
- Public sector: surveys on satisfaction with public services.

SEIN organises made-to-measure training programmes. SEIN is specialised in training sessions for women in managerial positions in the private sector, particularly in small enterprises. Furthermore the institute organises Management of Public Administration for executives in the local public sector.

▶ **Centre for Environmental Sciences (CMK)**

In this research centre biologists, chemists, human physiologists, economists and lawyers develop an interdisciplinary scientific approach for solving environmental problems and for counselling governmental organisations and industries in this matter.

The core competences are:

- The study of physiological, biochemical and molecular aspects of toxicity responses in organisms (plants, fungi, invertebrates, vertebrates);
- The development of original and economically realistic strategies for (bio)remediation of soils and other substrates, contaminated with heavy metals and/or organic contaminants;
- The development and scientific support of original ecotoxicological test procedures using plants and invertebrates;
- The development of non-invasive techniques for measurement of stress in plants;
- Eco-hydrological research;
- Chemical speciation and modelling in polluted soils and waters;
- Evaluation of industrial waste as potentially valuable products for soil remediation;
- Impact studies of industrial processes on the environment; development of environmentally safe alternative procedures; waste reduction, avoidance, recycling;
- Cost/benefit analysis of soil remediation, environmentally safe alternative procedures and recycling.

▶ **Research Centre for Entrepreneurship and Innovation (KIZOK)**

The research of KIZOK is focused on the complex interplay between the (internal) decisions of firms, particularly small and medium-sized enterprises (SMEs) and family-owned firms, and the (external) environment in which those firms operate. KIZOK studies several topics in the fields of entrepreneurship and innovation, along two strongly related trajectories:

The first trajectory focuses on managerial and microeconomic aspects of the firm:

- Corporate finance, corporate governance, and corporate strategy;
- Performance indicators (start up, growth, innovation, productivity, exports,...)

The second trajectory focuses on the interaction between the firm and its environment:

- Regional-economic conditions of entrepreneurship (region, industry, policy,...);
- Firm/industry dynamics (entry/exit, delocalisation, globalisation,...);
- Dynamics of business networks and strategic alliances.

▶ **Centre of Applied Linguistics (CTL)**

CTL carries out research in the field of communication, especially in foreign languages and of the acquisition of communicative competences, especially by means of ICT. One of the main focuses in both fields is the harmonious integration of intercultural differences.

The cultural specificities are studied on the micro level of a culturally homogeneous 'region' and not at the macro level of the country, as it is traditionally done. So communication is seen as a complex of various competences: language, culture, interactivity, ...

Another focus of CTL's research is the study and the integration of the challenging possibilities of the information and communication technologies, especially TST (speech technology) and the internet. Therefore Lingu@Tor, a multimedia authoring platform is in continuous development.

CTL's collaborators do not only study communication in general language-culture, but also in language-culture for specific purposes (e.g. staff of enterprises).

Mostly, this research and these developments are done in collaboration with partners (scientific and professional) all over the world, especially in Europe.



Hasselt University and three university colleges share the same campus, which currently accommodates about 5,000 full-time students. Moreover, several institutes for applied research, an incubator for starting small enterprises, and several small businesses interacting with the research activities of the university are located on campus.

►► Our Campus

Since 1973 Hasselt University has been located on the Campus Diepenbeek, which occupies an attractive 150 acre site in the middle of Limburg's green belt. It is two kilometers west of the town centre of Diepenbeek, a residential town of nearly 18,000 inhabitants, and four kilometers east of Hasselt, which has a population of almost 70,000 and is the administrative and commercial centre of the province. Hasselt is a dynamic student town where young people feel comfortable. The town organises all kinds of theatrical performances, music and pop festivals either in the open air or in the well-known Ethias Arena. In addition there is a very large movie theatre near campus. It is noteworthy that all public transport from campus to the town centre is completely free for students, staff members and guests.





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