

Introduction to the Faculty of Bioscience Engineering



Our university



Location



Leuven in Europe



Leuven



- » Capital of the province of Flemish Brabant
- » 100 764 inhabitants (in 2017)
- » Area of 5,751.25 ha
- » A stone's throw away from Brussels



History



History

1425

Foundation by Papal Bull

1816

Refoundation as a state university
under Dutch rule

1911

First lectures in Dutch

1970

Division of the university into
KU Leuven and U.C.Louvain

1797

Abolition by the French authorities

1834

Restoration as a Catholic university

1965

Foundation of Kulak

2013

KU Leuven expands to include academic
degree programmes hosted at university
colleges within KU Leuven Association

Enrolment statistics



Enrolment statistics

Total number of students: 58 617

Bachelor	44.1%
Initial Master	31.1%
Advanced Master	4.6%
Doctoral Programme	9.8%
Academic Teacher Training	0.8%
Other	9,6%

Largest student populations:

Business & Economics
Medicine
Engineering Technology
Law
Arts

14% first-time students
49% female students

Figures: June 2017



Internationalisation



International students

OVER 150 NATIONALITIES

8 932 international students

16% international students

Top 5: EU

Netherlands	1 962
Italy	537
Spain	461
Germany	399
Greece	233

Top 5: non-EU

China	824
India	434
United States	287
Turkey	191
Vietnam	177

Figures: January 2017



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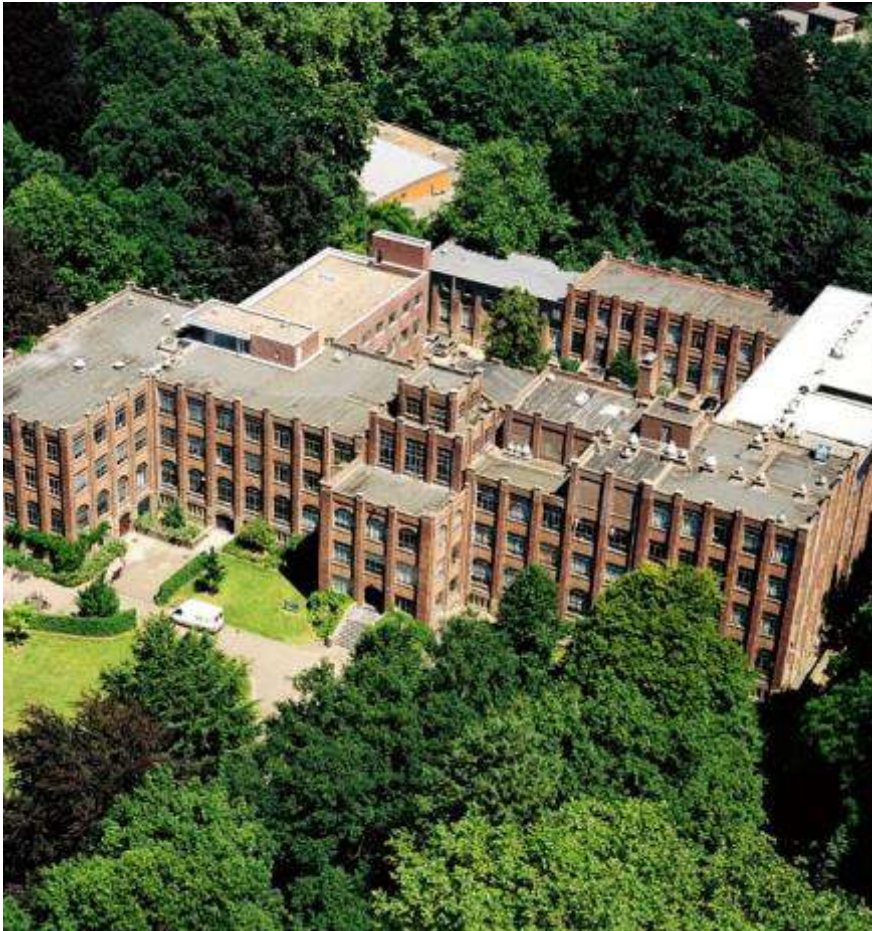


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Big challenges for global society



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2.249 students

- » Bachelors: 812
- » Masters: 917
- » Doctoral students: 520
- » International students: 667

Figures of 12/12/2017

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2.249 students

- » Professors: 67
- » Researchers: 448
- » Admin. & technical staff: 148
- » *3.5 students / staff member*

Campus Leuven-Heverlee

Leuven
Chem&Tech -
Nanocentre



imec

Arenberg Castle



Electrical
Engineering

Science

Bioscience
Engineering



Mechanical Engineering



Campus Library Arenberg

Civil & Materials
Engineering

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Supporting Facilities



Greenhouse Facility

» moderate as well as (sub)tropical environments

Centre of Fruit Culture

Experimental Farm for Animal Breeding

1300 pigs
3000 chickens
500 sheep
± 90 hectares



Educational Programmes



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Bachelor of Science
Dutch - 3 years



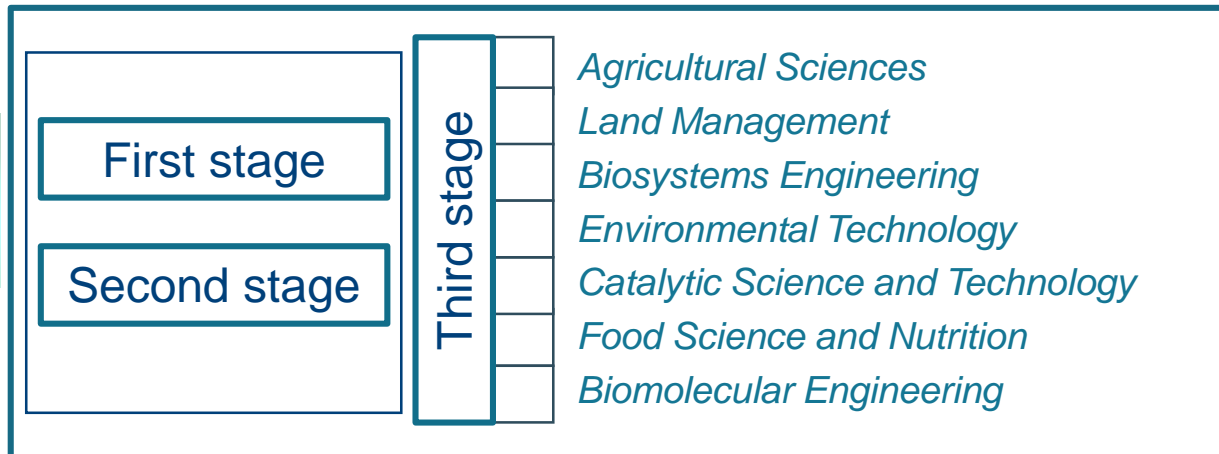
Master of Science
English/Dutch - 2 years

PhD - Arenberg Doctoral School

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Bachelor Programme

- » Only taught in Dutch
- » Seven specialisations
- » One degree
- » Gives direct access to the MSc programmes



» BSc degree

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Master Programmes taught in Dutch

Landbouwkunde	<i>Agricultural Sciences</i>
Katalytische technologie	<i>Catalytic Technology</i>
Landbeheer	<i>Land Management</i>
Levensmiddelenwetenschappen en voeding	<i>Food Science and Nutrition</i>
Biosysteemtechniek	<i>Biosystems Engineering</i>
Cel- en gentechnologie	<i>Biomolecular Engineering</i>
Milieutechnologie	<i>Environmental Technology</i>



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Master Programmes taught in English

MSc in Bioinformatics

MSc in Bioscience Engineering: Agro and Ecosystems Engineering

MSc in Bioscience Engineering: Human Health Engineering

MSc in Food Technology

MSc in Molecular Biology

MSc in Statistics

MSc in Nanoscience and Nanotechnology

MSc in Water Resources Engineering

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Minor Programmes

Leadership in a Globalizing Context

Industrial Microbiology

Food and Health

Applications for Human Health Engineering

Tropical Natural Resources Management

Internship

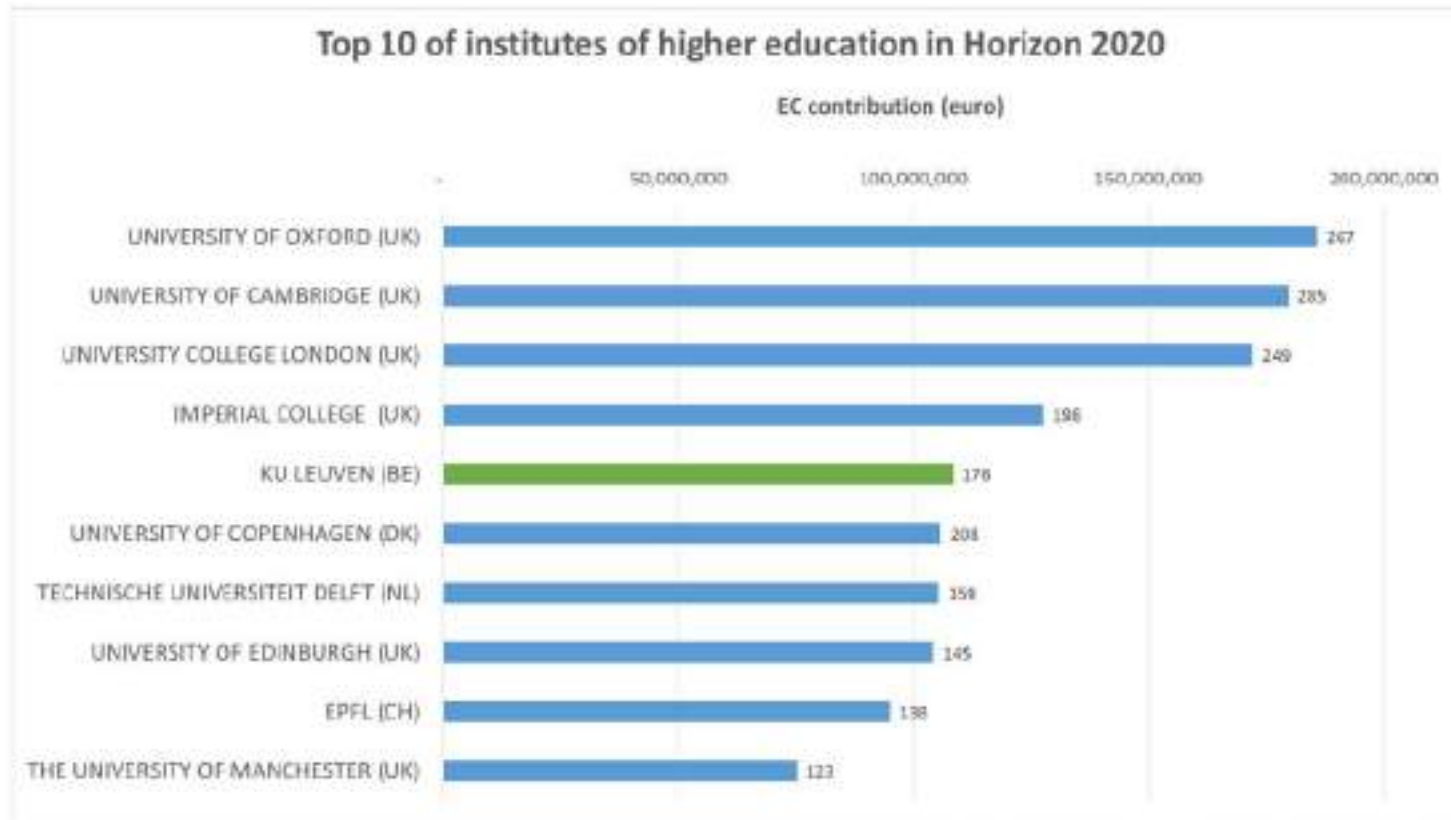


Research



Research excellence

KU Leuven: a leading European research university



Total EC Contribution: €108 million
Number of projects: 176

Source: signed grants; eCORDA H2020 database, February 28, 2017

Research: input

Research funding expenses 2016: € 466,6 million

Internal funds	19.0%	leverage to	External funds	81.0%
Special Research Fund (BOF)	17.0%	basic research	Flemish Science Fund (FWO)	20.1%
Industrial Research Fund (IOF)	2.0%	applied research	Other government funds	14.5%
			International/EU	8.1%
			Flemish Science & Innovation Fund (IWT)	6.7%
			Industrial contracts	26.9%
			Flemish Institute for Biotechnology (VIB)	4.8%

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Research based Education

- » Department of Biosystems (BIOSYS)
- » Department of Earth and Environmental Sciences
- » Department of Microbial and Molecular Systems (M2S)

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Division of Mechatronics, Biostatistics and Sensors

Division of Crop Biotechnics

Division of Animal and Human Health Engineering

Research based Education

» Department of Biosystems (BIOSYS)



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Division Soil and Water Management

Division Forest, Nature and Landscape

Division of Bioeconomics

Division of Geology

Division of Geography and Tourism

Research based Education

» Department of Earth and
Environmental Sciences



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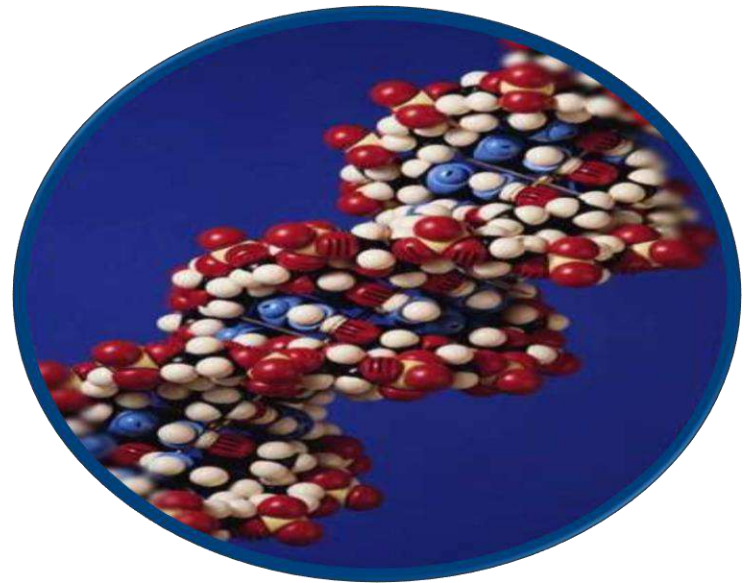
Centre for Surface Chemistry and Catalysis

Centre for Food and Microbial Technology

Centre of Microbial and Plant Genetics

Research based Education

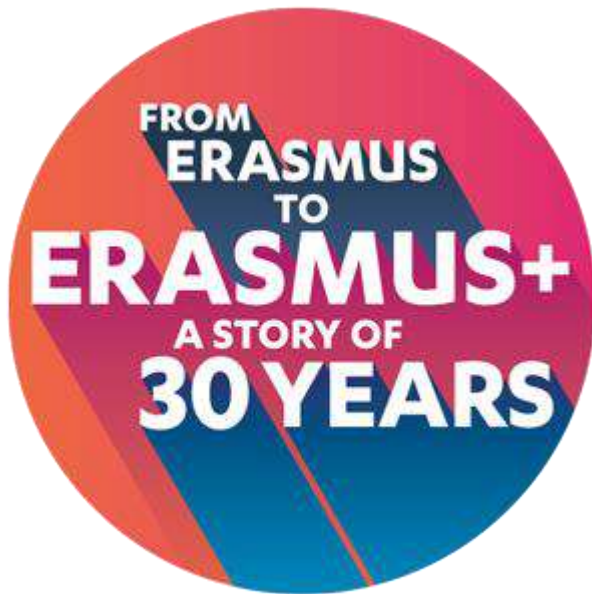
» Department of Microbial and
Molecular Systems (M2S)



Networks



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European network of
international relations officers

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WAGENINGEN UR

For quality of life



UNIVERSITEIT
STELLENBOSCH
UNIVERSITY



NTNU

Norwegian University of
Science and Technology



TÉCNICO
LISBOA



UNICAMP



UNIVERSITY OF
CHEMISTRY AND
TECHNOLOGY
PRAGUE



UNIVERSIDAD DE CUENCA
desde 1827



Universidade de São Paulo

Tech transfer: LRD



KU Leuven Research & Development



Established in 1972

One of the first university technology transfer offices in Europe

LRD advances the impact of research results on people's lives around the globe by means of:

Contract research

Managing intellectual property rights

Founding spin-off companies

Promoting entrepreneurship and innovation

Supporting regional development



LRD in figures

2016: 2 005 new contracts concluded

2016: € 122 million revenue from intellectual property

2005-2016: € 874 million external capital investment in spin-off portfolio

Spin-off companies

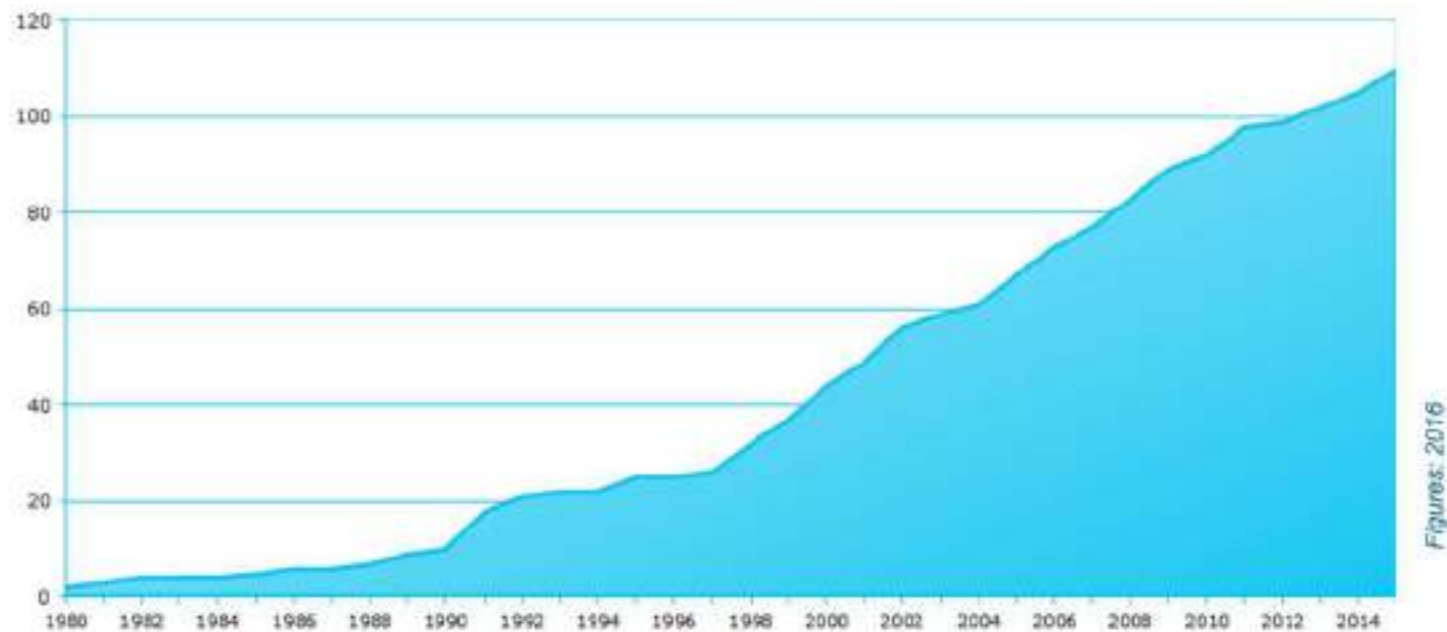
As of late 2016

116 spin-off companies

4 100 direct jobs

7 IPO's (Initial Public Offering)

Cummulative number of spin-offs created



Europe's most innovative university

KU Leuven is named Europe's most innovative university by Reuters. In this study, Reuters aims to identify which institutions contribute the most to science and technology, and have the greatest impact on the global economy.

Reuters top 100: Europe's Most Innovative Universities

1. KU Leuven
2. Imperial College London
3. University of Cambridge
4. École Polytechnique Fédérale de Lausanne
5. Technical University of Munich
6. University of Erlangen-Nuremberg
7. Delft University of Technology
8. University of Oxford
9. University of Munich
10. University of Zurich

Reuters' study is based on:

- Number of publications
- Patent application (number of applications, patents granted, ...)
- Number of citations of patents and publications (in other patents and publications)
- Number of industrial cooperations
- ...

Strategic research institutes



A world leader in research and innovation in nano-electronics and digital technologies

- Combination of microchip technology, profound software and ICT expertise
- Groundbreaking innovation in application domains such as healthcare, smart cities and mobility, logistics and manufacturing, and energy
- Local and global partners across a multitude of industries: companies, start-ups and universities

Revenue: € 467 million (2015)

imec € 415 million

iMinds € 52 million

Staff

Close to 3 500 top scientists from over 70 nationalities

Offices in Belgium, the Netherlands, China, Taiwan, India, USA, Japan



Flemish Institute for Biotechnology



Basic research in life sciences

In partnership with 5 universities

Strong focus on translating scientific results

- » Active licensing policy
- » Emphasis on creating new companies

1,470 scientists in 75 research groups

VIB-KU Leuven: 592 scientists in 3 research centres

- » Center for Cancer Biology (11 groups)
- » Center for Brain & Disease Research (11 groups)
- » Center for Microbiology (4 groups)

NERF (VIB/KU Leuven/IMEC)



Prof. De Strooper

Energyville



Knowledge centre devoted to researching green energy

To achieve the goal of making the EU CO₂-free by 2050 Energyville is:

- » Leveraging the combined forces of research, development and business;
- » Positioning itself as a leading European knowledge centre (recently granted EIT funding from the EU);
- » Helping Flemish industry become a leading European and global force in green energy;
- » With an emphasis on renewable/sustainable energy sources;
- » Making Flanders a green region by 2020.

Thank you for your attention

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