WELCOME

Prof. Paul Leroux
KU Leuven
KU Leuven in short
KU Leuven - history

- KU Leuven founded in 1425
- Oldest Catholic University in the world
## History

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1425</td>
<td>Foundation by Papal Bull</td>
</tr>
<tr>
<td>1816</td>
<td>Refoundation as a state university under Dutch rule</td>
</tr>
<tr>
<td>1911</td>
<td>First lectures in Dutch</td>
</tr>
<tr>
<td>1970</td>
<td>Division of the university into KU Leuven and U.C.Louvain</td>
</tr>
<tr>
<td>2008</td>
<td>6 university colleges of the KU Leuven Association sign an agreement to join their educational programmes in the Associated Faculty of Engineering Technology and Bioscience Engineering</td>
</tr>
<tr>
<td>2013</td>
<td>KU Leuven expands to include academic degree programmes hosted at university colleges within KU Leuven Association</td>
</tr>
<tr>
<td>1797</td>
<td>Abolition by the French authorities</td>
</tr>
<tr>
<td>1834</td>
<td>Restoration as a Catholic university</td>
</tr>
<tr>
<td>1965</td>
<td>Foundation of Kulak</td>
</tr>
</tbody>
</table>
Eminent scholars and scientists

Pope Adrianus VI (1459-1523)
Desiderius Erasmus (1466-1536)
Andreas Vesalius (1514-1564)
Gerardus Mercator (1512-1594)
KU Leuven expands across Flanders

KU Leuven in 10 locations spread over 14 campuses

Leuven
- Group T Campus, Leuven
- De Nayer Campus, Sint-Katelijne Waver
- Geel Campus
- Carolus Campus, Antwerp
- Sint-Andries Campus, Antwerp
- Aalst Campus

Sint-Lucas Campus, Ghent
- Sint-Lucas Campus, Brussels
- Brussels Campus
- Ghent, Technology Campus
- Bruges Campus
- Kulak Campus, Kortrijk
- Diepenbeek Campus*

* The degree programme in Diepenbeek is jointly offered by Hasselt University and KU Leuven.
Mission

Excellence in academic education

Excellence in research

Distinguished service to society
Programmes

<table>
<thead>
<tr>
<th>Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>78 Bachelors’s programmes</td>
</tr>
<tr>
<td>205 Master’s programmes</td>
</tr>
<tr>
<td>44 advanced Master’s programmes</td>
</tr>
</tbody>
</table>

Characteristics

- Distinctive vision of education and learning
- Culture of quality
- Innovative learning environment
- Flexibility
- Internationalisation
- Extensive range of education facilities

*Figures: 2017-2018 academic year*
Enrolment statistics

<table>
<thead>
<tr>
<th>Program</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor</td>
<td>44.5%</td>
</tr>
<tr>
<td>Initial Master</td>
<td>31.8%</td>
</tr>
<tr>
<td>Advanced Master</td>
<td>4.8%</td>
</tr>
<tr>
<td>Doctoral Programme</td>
<td>10.3%</td>
</tr>
<tr>
<td>Academic Teacher Training</td>
<td>0.6%</td>
</tr>
<tr>
<td>Other</td>
<td>8.0%</td>
</tr>
</tbody>
</table>

**Largest student populations:**
- Business & Economics
- Medicine
- Engineering Technology
- Law
- Arts

14% first-time students
49% female students

*Figures: June 2018*
### International students

**OVER 150 NATIONALITIES**

<table>
<thead>
<tr>
<th>10,239 international students</th>
</tr>
</thead>
<tbody>
<tr>
<td>18% international students</td>
</tr>
</tbody>
</table>

#### Top 5: EU

<table>
<thead>
<tr>
<th>Country</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Netherlands</td>
<td>1,926</td>
</tr>
<tr>
<td>Italy</td>
<td>728</td>
</tr>
<tr>
<td>Spain</td>
<td>568</td>
</tr>
<tr>
<td>Germany</td>
<td>479</td>
</tr>
<tr>
<td>Greece</td>
<td>266</td>
</tr>
</tbody>
</table>

#### Top 5: non-EU

<table>
<thead>
<tr>
<th>Country</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>927</td>
</tr>
<tr>
<td>India</td>
<td>511</td>
</tr>
<tr>
<td>United States</td>
<td>366</td>
</tr>
<tr>
<td>Turkey</td>
<td>235</td>
</tr>
<tr>
<td>Iran</td>
<td>196</td>
</tr>
</tbody>
</table>

*Figures: June 2018*
Research excellence
KU LEUVEN: A LEADING EUROPEAN RESEARCH UNIVERSITY

Total EC Contribution: €132 million
Number of projects: 238

Source: signed grants, eCORDA H2020 database, February 2018
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
» ...
A highly ranked university

#5 in the Reuters World Ranking of Most Innovative Universities (2017); the highest-ranked European university

#47 in the Times Higher Education World University Ranking (2018)

#81 in the QS World University Ranking (2019)

#6 The sixth university in the European Commission Horizon 2020 programme

#11 The 11th university in the ERC grants programme with 72 projects (as host institution)
Spin-off companies

As of late 2017

- 124 spin-off companies
- 6,700 direct jobs
- 7 IPO’s (Initial Public Offering)

Cumulative number of spin-offs created

Figures: 2017
Advanced Integrated Sensing Lab (ADVISE)
ADVISE at KU Leuven, Geel Campus
ADVISE - people

- 3 professors
- 3 full-time lecturers
- 3 post-doctoral researchers
- > 20 PhD students
Advanced Integrated Sensing

ADVISE

Radiation tolerant integrated circuits

Machine learning and statistics

KU LEUVEN
Harsh radiation environment electronics

Application fields

ITER: Nuclear fusion
CERN: CMS experiment
Space missions

SCK-CEN: MYRRHA
Robotic decommissioning

ITER: Nuclear fusion
CERN: CMS experiment

Reactor safety

Robotic decommissioning

Application fields

Space missions

Radiation hardened digital IC design & synthesis

FPGA and board level prototyping

RF, analog and mixed-signal radhard IC design

Modelling radiation effects

Expertise
ADVISE RELY LAB facilities

X-ray total dose testing

Two-photon absorption laser radiation test system

Climate chamber
H2020 ITN RADSAGA project (2017-2021)

RADSAGA is an Innovative Training Network under the Marie Skłodowska-Curie Actions. We will bring together industry, universities, laboratories and test-facilities in order to innovate and train young scientists and engineers in all aspects related to electronics exposed to radiation.

Open Positions  Learn more

http://radsaga.web.cern.ch/
Research team: ADVISE

Machine learning

**Monitoring applications**

- Epileptic seizure detection
- Radar-based life-sign monitoring
- Structural health monitoring
- Radar-based fall detection
- Anomaly detection in nuclear waste barrels
- Domestic activity monitoring

**Expertise**

- Data set generation (acquisition sys. development)
- Modelling complex signals using semi- and unsupervised (deep) machine learning strategies
- Distributed machine learning under limiting circumstances
TWEPP 2018 - practically
Conference venue – Mon 17/09 until Fri 21/09

Timing:
• Mon 17/09: 14.00-17.05 ++
• Tue 18/09: 09.00-18.50
• Wed 19/09: 09.00-17.55 ++
• Thu 20/09: 09.00-18.30
• Fri 21/09: 09.00-12.20

Tutorial on Friday 21st: 13.00 – 16.10

Location: KU Leuven Campus Carolus, Korte Nieuwstraat 33, 2000 Antwerp
Conference venue – ground floor

- **FBS.0.01/0.02 (Feestzaal):**
  - area for coffee breaks, sponsors booths and poster panels

- **CAR 0.05/0.06**
  - Main aula for invited talks and one of the regular talks

- **Pandgang:**
  - Area for poster panels

- **Registration desk**

- **Sponsor booths 6m² (3mx2m)**

- **Poster panels (1m width x 2.5m height)**

- **Catering**

- **Vestiaire**
Conference venue – first floor

Class room for one working group (49 persons)

Class room for one working group (49 persons)

Aula for the second regular talk and one working group (150 persons)
Guidelines - general

• Questions on local matters:
  o contact registration & information desk
  o KU Leuven T-shirts

• Wear your badge on all conference occasions

• Free Wi-Fi: “campusroam” (login on your badge)

• Conference program online: https://indico.cern.ch/event/697988/

• Oral presentations:
  o Please keep to your timing
  o Upload your ppt on Indico the night before at the latest
  o Be present in the conference room 15 minutes prior to the session
Guidelines - general

• **Poster presentations:**
  - Be present at your poster during coffee breaks and poster session
  - Remove your poster on Friday before 14.00

• **Food & beverages:**
  - Coffee breaks in “Feestzaal”
  - Lunches are not included
  - Welcome Reception and Conference Dinner: only if you have registered

• **Sponsor booths:**
  - Visit our sponsors in “Feestzaal”
Welcome Reception – Mon 17/09

Timing: Monday evening, 18.30 - 20.30

Location: Port House / Havenhuis, Zaha Hadidplein 1, 2030 Antwerp

Badges: needed, only for people who have registered

Transport:
- Guided walk: 17.30 until 18.30
- Back to the city centre: by foot (walk of 35 min) or by taxi
Conference dinner – Wed 19/09

Timing: Wednesday evening, 19.00 - 23.00

Location: Art Nouveau Room, Hopland 2, 2000 Antwerp

Badges: needed, only for people who have registered

Transport: by foot, located in the heart of Antwerp, near the main shopping street “Meir”

Invited talk by Prof. Willy Sansen (KU Leuven), “Analog design and me”
City map Antwerp

Venue Welcome Reception: Port House/Havenhuis
Zaha Hadidplein 1, 2030 Antwerp

Venue conference: KU Leuven Campus Carolus
Korte Nieuwstraat 33, 2000 Antwerp

Venue Conference Dinner: Art Nouveau Room
Hopland 2, 2000 Antwerp
How about lunch?

- No lunch at the conference
- Plenty of nearby lunch locations
Sandwich bars nearby

Campus Carolus
Top 10 restaurants

**Fish a’gogo**
Handsoenenmarkt 1
2000 Antwerp
Based on 488 reviews

**Senzelle**
Vlaamsekaai 10
2000 Antwerp
Based on 146 reviews

**Caffe Mundi**
Oude Beurs 24
2000 Antwerp
Based on 168 reviews

**The Jane**
Paradeplein 1
2000 Antwerp
Based on 1332 reviews

**Sombat Thai Cuisine**
Desguiniel 10G
2018 Antwerp
Based on 377 reviews

**Het Gerecht**
Amerikalei 20
2000 Antwerp
Based on 210 reviews

**Eetkamer a l’Infintiste**
Kasteelpleinstraat 6
2000 Antwerp
Based on 194 reviews

**Meat Factory**
Grote Markt 28
2000 Antwerp
Based on 894 reviews

**Satay**
Wiingaardbrug 8
2000 Antwerp
Based on 96 reviews

**Bolivar**
Jon Van Beersstraat 54
2000 Antwerp
Based on 230 reviews
Top 10 bars

1. **Caffe Mundi**
   - Oude Beurs 24
   - 2000 Antwerp
   - Based on 168 reviews

2. **Het Oud Arsenaal**
   - Marie Pijpelinkxstraat 4
   - 2000 Antwerp
   - Based on 87 reviews

3. **Cafematic**
   - Vlieminkveld 4
   - 2000 Antwerp
   - Based on 60 reviews

4. **Bites and Wines**
   - Oude Beurs 60
   - 2000 Antwerp
   - Based on 60 reviews

5. **Cuperus**
   - Sint-Katelijnevest 51
   - 2000 Antwerp
   - Based on 55 reviews

6. **Nata Lisboa**
   - Nationalestraat 6
   - 2000 Antwerp
   - Based on 220 reviews

7. **Elfde Gebod**
   - Torfbrug 10
   - 2000 Antwerp
   - Based on 755 reviews

8. **No Worries**
   - Kribbestraat 20
   - 2000 Antwerp
   - Based on 44 reviews

9. **Chickpea Restaurant**
   - Meikmarkt 25
   - 2000 Antwerp
   - Based on 80 reviews

10. **Heilig Huiskens**
    - Kloosterstraat 155
    - 2000 Antwerp
    - Based on 43 reviews
What to see in Antwerp?

Special thanks
We want to thank our sponsors
Invited talks

• **Prof. dr. Riccardo Raabe (KU Leuven)**

Nuclear structure research and applications with Radioactive Ion Beams at ISOLDE/CERN
Invited talks

• *David Merodio Codinachs (ESA)*

The BRAVE FPGAs: overview and status of the European radiation-hardened FPGAs for space