



Graduate Programmes in Lille

Top-level research-driven training
around the
strategic priorities of
the University of Lille



ULille : an international university focused on the transitions of our time, at the heart of the Hauts de France region

A strategy organized around four societal challenges (“hubs”) :

- **Precision Health**
 - **Science for a Changing Planet**
 - **Human-friendly digital world**
 - **Changing Cultures, Societies and practices**
- Societal challenges require interdisciplinary approaches
 - Research and innovation do not know about borders
 - The needs of society must be taken into account



A new ambition for training in Lille: The graduate programmes

- Around the 4 strategic themes of ULille, train high-level researchers or managers able to work on groundbreaking collaborative projects in the academic or socio-economic world, connected with research at the highest level, with an expertise at the state of the art.
- Encourage students to explore the scientific, geographical and professional worlds around them to give their best.
- Gather master and PhD students from complementary disciplines around a common theme corresponding to the challenges they want to tackle to:
 - make them become the experts of tomorrow,
 - give them a broader view of the challenges they will address.



The objectives of the Graduate Programmes

- **Bring together research, training and innovation** in the context of the 4 hubs of ULille, connecting master and PhD students
- **Teach students interdisciplinary thinking**, by having them interact today with future experts from other fields, with whom they will work tomorrow
- Give students a **real international outlook** and improve the international attractiveness of the courses involved in GPs
- **Help students in their professional project** and encouraging their integration into the professional world



3 KEY PRINCIPLES

- Interdisciplinarity
- International experience
- Successful career planning



Precision
health



Science for a
changing planet



Information
and knowledge
society



Changing cultures,
societies, practices



Each graduate programme offers

- ▶ **Master Courses taught in English** for the GPs PH, SCP, and IKS; in French or English for GP CCSP.
- ▶ Participation in **interdisciplinary events** bringing together all the students of the programme, giving a global view of the thematic field
- ▶ **Grants** to help students fund their studies and international mobility
- ▶ **Seminars/Afterwork events along the year** to share experience and meet together
- ▶ Specific training focusing on **transversal skills**
- ▶ Topical courses by **international experts**

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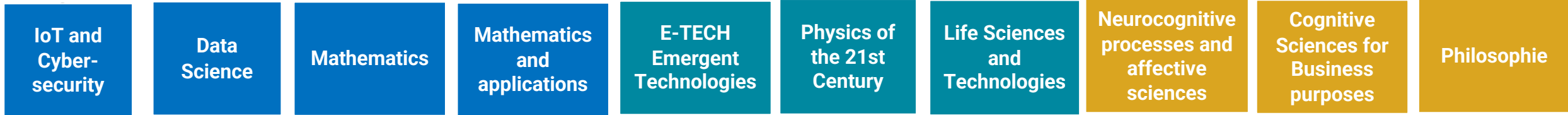


What is in a graduate programme?

Gather complementary expertises to build a digital world for humans and to tackle its challenges along a master-PhD continuum (common conferences, seminars,...)

M1

Master complexity with innovative conceptual tools



Design disruptive technologies

Humanise the digital society

M2



PhD



Any thesis project relevant to the digital world and its challenges is welcome in the programme



Added value of graduate programmes

- Outstanding scientific environment, with top-level research units and cutting-edge equipments
- Reinforced welcome and support for international students
- Reinforced professional training, links with the socio-economic world
- "Graduate Programme" label in the diploma supplement for master and doctoral students

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Graduate programme

Information and Knowledge Society



Head : Marc Lefranc,
Project manager : Maéna Martin-Ladakis

Context: towards a human-friendly digital world

- ▶ In our modern societies, **information** has never been so easy to produce, transport and share, fostering the creation of new **knowledge**.
- ▶ We are experiencing a transition to a massively **connected world**, where everyone can be reached everywhere at any time.
- ▶ **Massive amounts of data** gives us unprecedented insight into the dynamics of the world around us.
- ▶ Making the digital world **friendly to humans** and giving sense to it are outstanding challenges.

The Graduate Programme “*Information and Knowledge Society*” prepares its students to build together the digital world of tomorrow, and to tackle the three following challenges:

- ***Humanise the digital world***
- ***Master complexity with innovative conceptual tools***
- ***Design disruptive technologies for friendly devices***

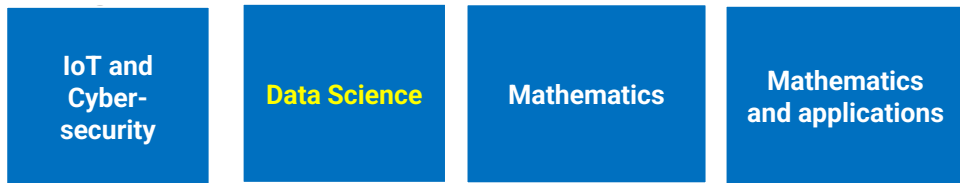


Le Graduate Programme IKS

Gather complementary expertises to build a digital world for humans and to tackle its challenges along a master-PhD continuum (common conferences, seminars,...)

Foreign students >30%
CMA : compétences et métiers d'avenir

M1 Master complexity with innovative conceptual tools



M2 12 18 17 13

Design disruptive technologies



8 22 12

Humanise the digital society



20 16 7

M2



PhD 14 12 13 8



12 7 10



24 15 5

PhD



Total: 133 M1 (43 foreign) + 120 M2 (25 foreign) = 253 master students (68 foreign; 26%)

55 PhD students (with ~ 40 first year students coming)



Applying: International Master in Robotics and Transport (Polytech, Centrale Lille).

IKS days (october 4-5): An interdisciplinary meeting

- **Presentation of the master tracks by the students**
- Trustful image processing with machine learning (*data science*)
- Vortex nucleation in cold atoms (*physics and mathematics*)
- **Flash poster presentation by PhD students from all research units**
- **And the number became word: ethics of generative AI (*artificial intelligence, philosophy*) by Alexei Grinbaum**
- Nanotechnology approaches in wound healing (*nanotechnology, biology*)
- Recent trends in human face and body generation (*computer science, human/machine interface*)
- Complex dynamics of cancer heterogeneity: towards new therapeutic strategies (*modeling&simulation, biology*)
- Autonomous robotics: from a monolithic to large-scale systems (*robotics, automation*)
- **Presentation of the main technological platforms of U Lille**
- **Pursuing a PhD, during and after.**
- **International mobility**
- Methods and tools for tactile and gesture-based interaction (*electronics, computer science, human/machine interaction*)
- Quantum information and technologies: what can we do with them? (*physics, mathematics, computer science,...*)



2023-2024 IKS events

- **04-05/10/2023** : IKS annual days over two full days at LILLIAD
- **08/11/2023**: Collective delusions on social networks? Reflections from the case of morgellons (*Philosophy*)
- **06/12/2023**: round table on “Decision making in an uncertain environment” (*scientific computing, image processing, system biology, real-time software systems, machine learning, data science*)
- **24/01/2024**: Morphogenesis, how do structures appear? (*mathematics, nanotechnology, cognitive sciences, biology, etc.*)
- **21/02/2024**: Feedback loops and complexity (*physics, cognitive sciences, biology, micro-electronics, mathematics,...*)
- **20/03/2024**: Generative artificial intelligence: ChatGPT, DALL-E, ... (everybody)
- **15/05/2024**: end seminar, melting pot.



Benefits for PHD students

- Interdisciplinary meetings (IKS days + monthly afterwork sessions) :
 - Meet master and Phd students with complementary expertises and discuss about outstanding questions related to a human-friendly digital worlds
 - Explain your research to master students and help them to consider pursuing a PhD thesis
 - Strengthen your skills in communicating about your work, perhaps in organizing common activities
- Mobility grants: Receive up to 3000 € for a stay abroad (900 € for the first 4 weeks et 150 €/week for the 14 remaining ones).
- With your PhD diploma, receive a certificate attesting of your participation in the Graduate Programme.



More information



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