



Graduate school
eIPHI



EIPHI Graduate School
University Bourgogne-Franche-Comté
France

- 5 outstanding Research Areas
- Worldclass Research labs
- Close connection with industry
- Broad mobility opportunities
- Tutoring and mentoring
- Scholarships

APPLY ONLINE
<https://gradschool.eiphi.ubfc.fr/>



SCAN ME

Master-PhD in 5 Research STEM Areas



PHYSICS, MATHEMATICS and APPLICATIONS



ENERGY



COMPUTER SCIENCE



SMART SYSTEMS & STRUCTURES



MATERIAL SCIENCE

EIPHI Graduate School

Engineering and Innovation through Physical Sciences, High-technologies, and cross-disciplinary research

EIPHI proposes a comprehensive graduate education program relying upon 17 Master Degrees and 2 Doctoral Schools, which cover 5 research domains with a strong interdisciplinary content. Outstanding students will acquire a solid knowledge in various disciplines, ranging from fundamental to engineering sciences, allowing them to build a successful career in R&D sectors.



PHYSICS, MATHEMATICS and APPLICATIONS

Master degrees in theoretical and experimental physics or fundamental and applied mathematics, providing knowledge and lab expertise in photonics, nonlinear & wave physics, time & frequency metrology, micro/nano sciences and quantum technologies.

> **6 Masters: E-Phot, Advanced Mathematics, CompuPhys, Maths4Phys, PPN, QuanTEEM**

> **Career Sectors:** High-tech, instrumentation, information technologies & telecom industries, aeronautics, space industry, Industrial consulting, numerical analysis for industrial applications, big data analysis



COMPUTER SCIENCE

Research aspects of algorithmics, network applications (web, distributed, distributed mobile, IOT, AI, Big data ...) and quality assurance (verification and validation) of systems

> **2 Masters : Software Systems Engineering, Internet of Things**

> **Career Sectors:** Digital & Software industry, web, network, embedded software in mechatronic and healthcare, quality assurance, Tests



SMART SYSTEMS & STRUCTURES

Master Degrees in mechanics, electronics, automatic control, micro-nanotechnologies for applications in smart systems and tomorrow's structures (vibro-acoustic, structural mechanics, control, mechatronics, micro robotics, vision & imaging ...)

> **5 Masters: ARMAC, ELISE, SMART MECHANICS, VIBOT-MAiA**

> **Career Sectors:** Aeronautics & Space industry, ground transportations, automotive, energy, luxury, watchmaking, high-tech industry, instrumentation (time & frequency, biomedical, robotics, control ...), manufacturing, R&D in automotive industry, machines design & development



ENERGY

Optimization and Integration of thermal, electrical and hydrogen energy systems in stationary and transportation applications, thermodynamics, thermofluidics for a sustainable development.

> **2 Masters : Electrical Engineering, Thermal Engineering**

> **Career Sectors:** Renewable and hydrogen energies. smart grids, thermal/electrical machines, electric vehicles, energy-efficient systems & buildings



MATERIAL SCIENCE

Chemistry of materials, interfacial electrochemistry, physical chemistry, catalysis, molecular, organic, inorganic or coordination chemistry with a focus on complex materials (polymers, hybrid materials, organometallics, ceramics...).

> **2 Masters : CDM, T2MC**

> **Career Sectors:** Transportation (automotive, aeronautics), energy (production, transportation), glass industry, cement & concrete industry, health, agro & pharmaceutical industry, green chemistry.

EIPHI curriculum

Each EIPHI degree is divided into lectures, practical training and projects activities almost fully taught in English. The master degrees propose both disciplinary and interdisciplinary courses as well as broad digital, societal, cultural, environmental, and entrepreneurial skills.

5-year Graduate Program

Master	Core sciences courses	30	
	Interdisciplinary courses	12	
	Soft Skills (foreign languages, digital skills, transversal skills, entrepreneurial skills)	6	
	Research Project	6	
	Year 1 60 ECTS	Research internship or longtime project (full time in a lab during 4-8 weeks - international exchanges)	6
	Year 2 60 ECTS	Specialization courses	18
		Soft Skills	6
		Advanced Research Project	6
		Research Internship (full time in a R&D company or in a lab - international exchanges)	30
	PhD	Research Project	
Individual Training Program (transferrable soft skills, scientific/technical tools, advanced science courses, industry courses, laboratory & technology courses, corresponds to 150h of class and/or activities)			
Networking (career events, International conferences, International mobility / secondment to a partner, outreach events, alumni association/Student Chapter)			
Personal supervision activity (Tutor of a M.Sc. Student of UBFC)			

SPIM

ECOLE DOCTORALE
CARRON - PASTEUR



★ ★ ★ Top reasons to join EIPHI Graduate School

- **Fellowships** for the best bachelor degree students and direct access to the PhD program for successful MSc students
- An **individual supervision** all along your curriculum, combining a personal project/thesis advisor and a mentor, to build a customized high-level training
- **Practical training** on high-tech platforms through internships and research projects in companies and research institutes supervised by high level scientists
- **Openness** to pluri- and cross-disciplinarity in the STEM domain (Science, Technology, Engineering, & Mathematics), possibly with environmental, health and social sciences, a key ability for a rewarding and senseful career
- An inspiring international research environment and many **mobility** opportunities thanks to EIPHI's international network (European projects, partnerships, several ERC grants...)
- Numerous **networking** opportunities through summer-schools, conferences, technological and industrial seminars

FLY TO NEW HORIZONS

PHD DEGREE

Create the unknown

MASTER DEGREE

Learn and discover

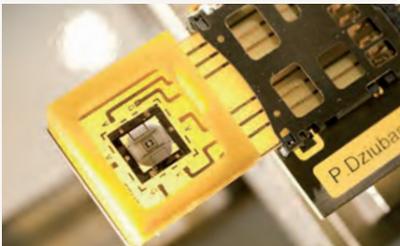
BACHELOR

OPEN YOUR MIND

Excellence in research with world-class research Laboratories

As an EIPHI graduate student, you will be involved in world class research with FEMTO-ST, ICB, IMB, ICMUB, ImViA, UTINAM, LmB by contributing or initiating pluridisciplinary and innovative projects often in close connection with industry. Guided by a personal supervisor, you will be regularly exposed to extensive hands-on lab experience, get access to cutting-edge technology platforms and work in an international environment.

The EIPHI scientific program is mainly structured around 3 main challenges:

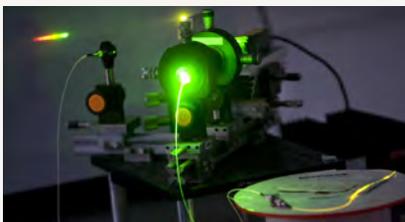


Adaptive Architectures, Advanced Materials & Processes

- Adaptive metamaterials and structures
- Active micro-nano-mechatronics and robotics
- Numerical modelling and programmable matter
- Reactive, bio-inspired/sourced and multifunctional materials & surfaces
- Sustainable processes and hybrid (micro)manufacturing

Monitoring & Prediction of complex systems

- Prognostic & Structural health monitoring/management
- Multifunctional nanoparticles, (bio)sensors & (wireless) networks
- Complex control and computing, artificial intelligence, modelling & security, imaging
- Clean (green) hydrogen energy, safe and efficient energy harvesting and management



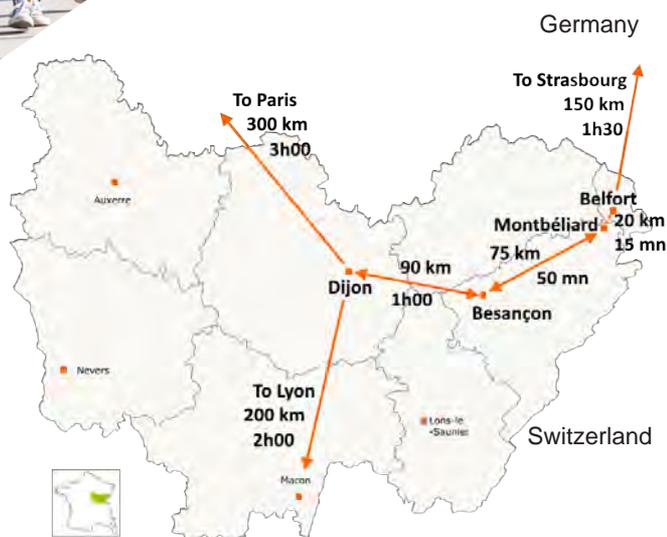
Compact, active and agile information processing devices

- Integrated micro-nanophotonic and phononic components
- Smart nonlinear and quantum systems at micro-nano-scale
- Optoelectronics and neuromorphic hardware processing
- Ultrafast dynamics and control
- Time-frequency microdevices



Life at EIPHI

Bourgogne-Franche-Comté, land of Victor Hugo and Louis Pasteur, next to the Swiss and German borders, is a historical area of industry, science, culture, gastronomy, and nature. A wealth of experiences is surrounding you with its unspoiled forests, Jura and Vosges mountains and the famous vineyard landscapes of Burgundy. Home of world heritage sites recognized by Unesco, the region also hosts celebrated hightech French industry centres such as the high-speed train TGV, car industry, and watchmaker precision manufacturing, jewelry, and medical devices industries. At the heart of an Eco-friendly territory, UBFC sites are hosted in human-sized cities where an active student life is proposed. As an international or national student, you will have access to the full French social security cover for around 250€/year. The all included cost of living is between 600 to 800€/month.



HOW TO APPLY?

The 5 EIPHI training-research domains are structured around 17 Masters taught in English, and 2 doctoral schools all of which are located in specific cities (Dijon, Besançon, Le Creusot, Montbéliard and Belfort).

EIPHI welcomes applications from individuals holding a 3 or 4-year Bachelor Degree or equivalent undergraduate degree. All candidates are admitted as full-time student beginning in September.

Apprenticeship, block release or lifelong training is also available.

Find out more about application forms and deadlines :

<https://gradschool.eiphi.ubfc.fr>

Contact :

gradschool.eiphi@ubfc.fr

CONTACT US

gradschool.eiphi@ubfc.fr
<http://gradschool.eiphi.univ-bfc.fr>

Please feel free to get in touch with us, no matter the nature of your inquiry:

- Admissions, tuition fees and scholarships
- Applications and progression
- Thesis examinations
- Accommodation, insurance....
- Specific assistance to international students for housing, visa application, enrolment and Social Security

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