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
http://gradschool.eiphi.ubfc.fr/

HOW TO APPLY?
The 5 EIPHI research axes are structured around 5 Masters taught in English, 4 Masters partially in French and 2 doctoral schools all of which are located in specific cities (Dijon, Besançon, Montbéliard and Belfort).

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Life at EIPHI

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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
• Accomodation, insurance....

• Specific assistance to international students for housing, visa application, enrolment and Social Security
EIPHI graduate school
Engineering and Innovation through Physical Sciences, High-technologies, and cross-disciplinary research

EIPHI proposes 9 Master Degrees covering 5 research areas with a strong interdisciplinary content. Outstanding students will acquire a solid knowledge in various topics, ranging from fundamental to applied sciences, allowing them to build a successful career in R&D sectors.

PHYSICS, MATHEMATICS and APPLICATIONS
Master degrees in theoretical and experimental physics or mathematics for physics, providing knowledge and lab expertise in photonics, non-linear physics, time & frequency metrology, micro/nano- and quantum technologies.

> 3 Masters: PPN, PICS, Maths4Phys
> Career Sectors:
Photronics, nano-technology, Time & Frequency Metrology, aeronautics, space industry, Industrial consulting, numerical analysis for industrial applications, big data analysis

COMPUTER SCIENCE
Research aspects of network applications (web, distributed, mobile, the Internet of Things) and quality assurance (verification and validation) of systems.

> Master Computer Science
> Career Sectors:
Software development, web, network, embedded software in mechatronic system, Assurance quality, Tests

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

| Master | Year 1 (60 ECTS) | Core sciences courses (including research project 1 day/week in the lab: 6 ECTS) | 30 |
|        |                  | Interdisciplinary courses | 12 |
|        |                  | Soft Skills (foreign languages, digital skills, transversal skills, entrepreneurial skills) | 6 |
|        |                  | Research Project | 6 |
|        |                  | Research internship or longterm 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 | 15 |
|        |                  | Individual Training Program (transferable soft skills, scientific/technical tools, specific graduate courses, industry courses, laboratory & technology courses, corresponds to 150 h of class and/or activities) | 15 |
|        |                  | Networking (career events, International conferences, International mobility / secondment to a partner, outreach events, alumni association/Student Chapter) | 15 |
|        |                  | Personal supervision activity (Tutor of a M.Sc. Student of UBFC) | 15 |

SMART SYSTEMS & STRUCTURES
Master Degrees in mechanics, electronics and control for applications in smart systems and Tomorrow’s structures (vibro-acoustic, control, composites, microtechnology and embedded electronics...)

> 3 Masters: GreenM, MEETING, MIR
> Career Sectors:
Aeronautics and space industry, ground transportations, energy, luxury watches, micro-technology, Time & Frequency instrumentation, robotics, control, classical manufacturing, R&D in automotive industry, large machines design & development

ENERGY
Optimization and Integration of thermal, electrical and hydrogen-based systems in stationary and transportation applications for a sustainable development.

> Master H3E
> Career Sectors:

MATERIAL SCIENCE
Chemistry of materials, interfacial electrochemistry, physical-chemistry, inorganic chemistry with a focus on complex materials (polymers, hybrid materials, ceramics...).

> Master CDM
> Career Sectors:
Transportation (automotive, aeronautics), energy (production, transportation), glass industry, cement & concrete industry.
The master degrees propose both disciplinary and interdisciplinary courses as well as broad digital, societal, cultural, environmental, and entrepreneurial skills.

**Year 1**
- 60 ECTS Research Internship (full time in a R&D company or in a lab - international exchanges) 30

**Year 2**
- Advanced Research Project 6

**PhD**
- Core sciences courses (including research project 1 day/week in the lab: 6 ECTS) 30
- Interdisciplinary courses 12
- Specialization courses 18
- Soft Skills (foreign languages, digital skills, transversal skills, entrepreneurial skills) 6
- Research Project 6
- Individual Training Program (transferrable soft skills, scientific/technical tools, specific graduate courses, industry courses, laboratory & technology courses, corresponds to 150h of class and/or exchanges) 30
- Soft Skills 6
- Interdisciplinary courses 12
- Core sciences courses 30

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**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 labs supervised by high level scientists.
- **Openness** to cross and pluridisciplinary sciences (physics, chemistry, computer science, engineering, social science ...) a key ability for a successful career
- An inspiring international research environment and many mobility opportunities thanks to EIPHI’s international network (European projects, several ERC grants...)
- Numerous networking opportunities through summer-schools, conferences, technological and industrial seminars

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**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 and their partners by contributing or initiating pluridisciplinary and innovative projects 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 topics:

**Monitoring & Prediction of complex systems**
- Prognostic & Structural health monitoring/management
- Multifunctional sensors & (wireless) networks
- Photonic neuromorphic computing

**(Self)-adaptive architectures**
- Active metacomposites & metamaterials
- Active micro-nano-mechatronics
- Programmable matter

**Compact, active and agile information processing devices**
- Integrated micro-nanophotonic and phononic components
- Smart nonlinear and quantum systems at micro-nano-scale
- Ultrafast 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 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 high-tech 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 250€/year. The all included cost of living is between 600 to 800€/month.

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