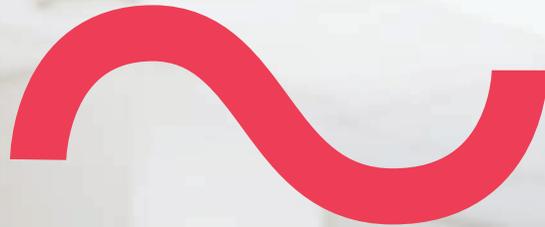


# INVENT THE FUTURE AT ESPCI PARIS



WELCOME TO AN  
OUTSTANDING  
ENVIRONMENT FOR SCIENCE.

**ESPCI PARIS,  
AN ENGINEERING SCHOOL  
RUN BY THE CITY OF PARIS,  
HAS TRAINED 90  
INNOVATION ENGINEERS  
READY TO INVENT THE  
FUTURE AND MEET  
THE CHALLENGES OF  
TOMORROW  
EVERY YEAR SINCE 1882.**



**JEAN-FRANÇOIS JOANNY**  
Director of ESPCI Paris

# CHOOSE ESPCI PARIS !

Choose science and research by joining an outstanding scientific community made up of more than

530 researchers and professor-researchers on a campus that includes 9 joint research units.

We encourage you to choose an education founded in excellence and the freedom that comes with it. You will walk in the footsteps of 6 Nobel Prizes winning alums. You will be trained by the best minds in physics, chemistry and biology. With more than one professor-researcher for every student-engineer, ESPCI has the highest student-teacher ratio of all engineering schools in France.

ESPCI Paris' unique pedagogical approach is based on interdisciplinary studies and a close relationship between teaching and research. Here, you have everything you need to fully concentrate on your passion for science and prove yourself among the world's best. To study at ESPCI Paris is to study in the heart of Paris, in the Latin Quarter, on a campus that will be entirely renovated in the years to come. By choosing ESPCI Paris, you will become one of 90 students in the 135<sup>th</sup> graduating class who will go on to discover and invent the science of tomorrow—and maybe even create their own start-up.

Enroll in the school that trains Nobel Prize winners and turn your own life into a passion for science.

So choose ESPCI Paris—we're waiting for you!



**90**  
STUDENT-ENGINEERS  
PER GRADUATING  
CLASS



**1**  
PATENT APPLICATION  
SUBMITTED  
EACH WEEK



**6**  
NOBEL  
PRIZES



**1**  
SCIENTIFIC ARTICLE  
PUBLISHED EACH DAY



**2<sup>ND</sup>**  
BEST ENGINEERING  
SCHOOL, IN THE  
SHANGHAI RANKING



**9**  
JOINT  
RESEARCH UNITS



**530**  
RESEARCHERS,  
PROFESSOR-  
RESEARCHERS,  
POST-DOCTORAL  
STUDENTS AND  
PHD STUDENTS



**3**  
START-UPS  
CREATED EACH YEAR

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# CAMPUS

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# LIFE

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# LIFE IN THE HEART OF THE LATIN QUARTER



A CAMPUS DEDICATED TO **TEACHING, ADVANCED RESEARCH AND TECHNOLOGICAL INNOVATION**

*ESPCI's small class size—90 student-engineers per graduating class—is an antidote to anonymity. Students benefit from a privileged environment where everyone fits in. Cooperation among classmates and close ties to alumni, professors and researchers all foster advancement and excellence.*

Since its creation in 1882, ESPCI Paris has been located in the heart of the 5<sup>th</sup> arrondissement, on rue Vauquelin. The school's 30,000 m<sup>2</sup> are dedicated to teaching, advanced research and technological innovation.

The school is an integral part of a scientific campus that brings together some of Paris' largest research centers. The concentration and variety of disciplines present within a 500-meter radius on Montagne Sainte-Geneviève is found nowhere else in the world: physics, chemistry, and biology are all here, as well as medicine, computer science, the humanities and social sciences. Operating within

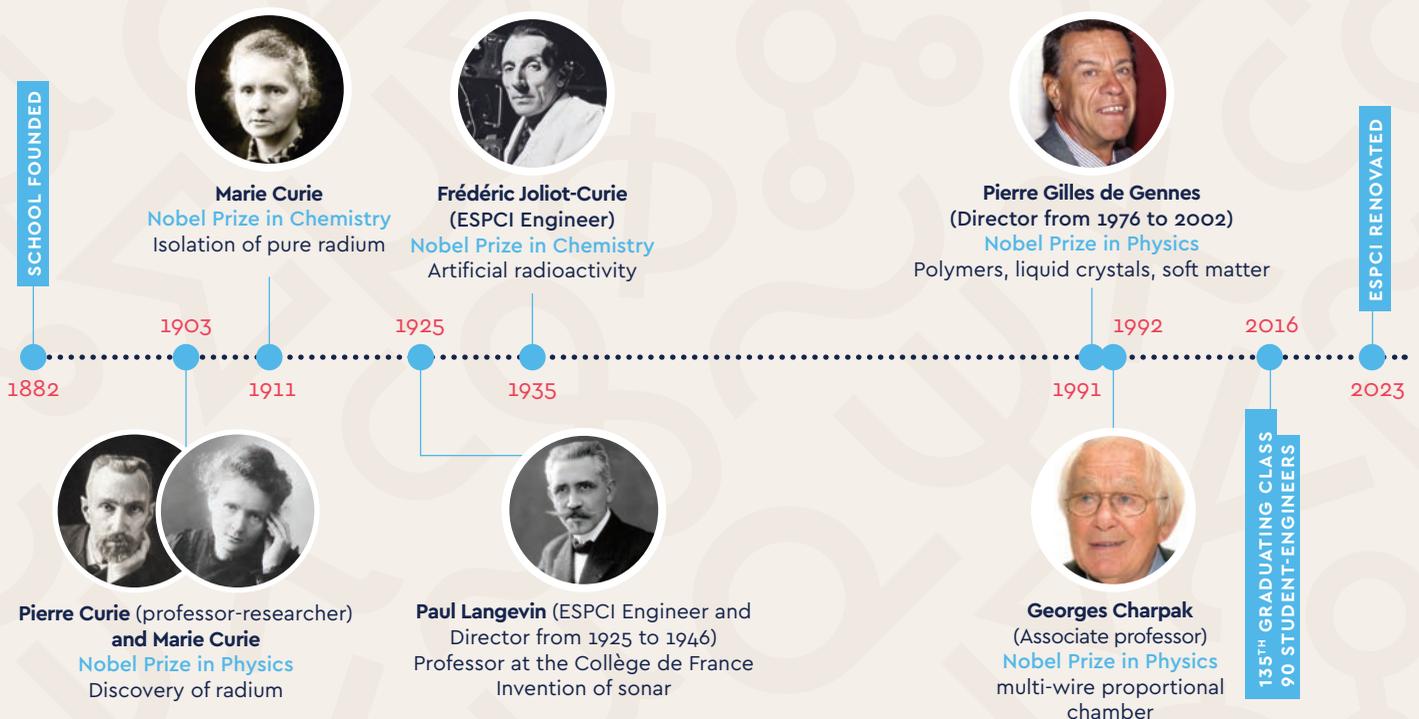
9 joint research units, ESPCI Paris researchers interact daily with their peers from the École Normale Supérieure, l'Institut Curie, Chimie ParisTech, MINES ParisTech and l'Observatoire de Paris—all brought together at PSL (Paris Science et Lettres Research University).

Studying at ESPCI means having access to a scientific campus, but also being at the heart of a historic and cosmopolitan capital, and of Parisian cultural life, just a stone's throw from le jardin du Luxembourg, la Bibliothèque Sainte-Geneviève, the city's largest museums, many art house cinemas, historical theaters, and more.



2023 - ESPCI PARIS RENOVATED THANKS TO THE SUPPORT OF THE CITY OF PARIS

## PIONEERS, CREATORS AND INNOVATORS SINCE 1882



# A DIVERSE CHOICE OF STUDENT ORGANIZATIONS



## MORE OPTIONS WITH PSL

Paris Sciences et Lettres (PSL) Research University has instilled new energy through its support for exchanges with other institutions, notably art schools that train professionals in music, dance, the dramatic arts and decorative arts, and film. With more than 14,000 students, PSL is able to attain high levels of excellence in competitive sports, as well as the sheer number of students necessary to make niche activities feasible.

*Clubs and associations are key to integrating into and creating essential ties within the student-engineer community. They offer opportunities to create lasting relationships, make new discoveries, share experiences, and (re)establish a healthy balance between academic demands and personal life.*

Would you like to combine sports with academic studies? Do you dream of doing theatre or volunteering? It's all possible at ESPCI. Three offices oversee student clubs and organizations: the Student Office, the Sports Office, and the Arts Office. Students are free to participate in the organizations of their choice or to start new clubs.

Sports play a major role in fostering relationships: team sports (handball, football, basketball, rugby...) and individual sports (running, badminton, parachuting, krav maga...) are well represented, but so are dance, astronomy, theater, humanitarian and environmental activism, science tutoring, photography workshops, drawing, music, prototyping, and more. Time is set aside within the academic schedule so that student-engineers can participate in these activities.

Several organizations encourage personal and collective experimentation and reinforce practical connections with the professional world:

- The Forum Horizon Chimie brings students and companies together.
- Physique Chimie Avenir (PCA), ESPCI Paris' Junior Enterprise, has been providing its services to companies for over three decades.

The EPICS (Exposition publique des inventions et créations scientifiques) rallied one third of the school's student-engineers in 2015 to organize two exhibitions at the Palais de la Découverte and the Cité des Sciences et de l'Industrie.



## A FEW EXAMPLES OF CLUBS ON CAMPUS

- Student Office
- Sports Office
- Physique Chimie Avenir (PCA), ESPCI Paris' Junior Enterprise
- EPICS: organizes scientific exhibits
- Start'n go: organizes seminars and conferences
- Film Club
- Forum Horizon Chimie: gives students the opportunity to meet companies and find internships
- Gala: organizes the prestigious eponymous event
- GRI: Gentils Responsable Informatiques (Kind Responsible Computer Scientists)
- Drama Club
- Sketch Club
- "PC coup d'pouce": the school's humanitarian organization
- Bekk: the student newspaper
- Club Q: the school's culture club
- 4L Trophy
- Cooking Club



# 3 STUDENT RESIDENCES

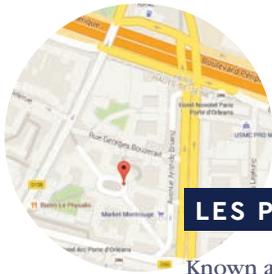
These intersecting relationships are nourished by a community housed within three residences dedicated to accommodating student-engineers. Each apartment, 18 to 35m<sup>2</sup> in size, is individually assigned and fully equipped.



LES PORTES D'ORLÉANS



LA REZ



LES PORTES D'ORLÉANS

Known as "The Rez," located in Montrouge (7 rue Théophile Gautier)



LE KLÉBER

Located in Ivry-sur-Seine (44 Rue Raspail), direct on metro line 7



CROUS THIONVILLE

Located in the 19<sup>th</sup> arrondissement (26 rue de Thionville), direct on metro line 7

## COMING SOON: A RENOVATED AND ENHANCED CAMPUS

The construction of an entirely renovated and enhanced campus, thanks to the exceptional support of the City of Paris, will allow ESPCI Paris to maintain its ranking as a world-renowned center for interdisciplinary research and training: a 21st-century campus, connected to the city and the Montagne Sainte-Geneviève, and a symbol of scientific excellence in Paris. An additional 10,000m<sup>2</sup> will be dedicated to an ambitious architectural project to build an urban campus adapted to the needs of teachers, researchers and students – an ever-evolving structure ideal for supporting excellence in research.



2023 - ESPCI RENOVATED

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TRAINED

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BY THE

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BEST

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# A UNIQUE 3 + 1 CURRICULUM

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*ESPCI's teaching methods are distinctly different from those found elsewhere and offer student-engineers unimagined opportunities.*

An ESPCI Paris education takes place over four years. The first two years are designed to be interdisciplinary and, through common core classes, give students a solid foundation in biology, chemistry, physics, mathematics, economics, computer science and language. Practical work is an important part of these classes.

In their third year, student-engineers choose a specialty: physics, chemistry, physical chemistry or biotechnology. A six-month industry internship also starts the third year, followed by four months of specialized classes and a two-to three-month lab-based research project.

Students have many choices in their fourth year, which may be spent in France or abroad: a masters degree, specialized masters degree, double diploma, and graduate school (IFP School, INSTN) are all possible.

Two out of three graduates continue their education with a doctoral thesis, which takes three years and in one out of five cases, is carried out abroad, at Princeton, MIT, Harvard or Cambridge, to give a few examples.

## UNIQUELY INTERDISCIPLINARY

This interdisciplinary relationship between physics, chemistry and biology is reinforced by a shrewd balance between basic and practical approaches to learning: experiments represent 50% of teaching time. Confronting the reality of each discipline to gain understanding through experience is routine here. Student-engineers become familiarized with the full spectrum of experiment techniques, from spectrometry to chromatography, and laser-optics to microfluidics.



ESPCI WELCOMES  
AROUND  
**530 RESEARCHERS,  
PROFESSOR-  
RESEARCHERS,  
POST-DOCTORAL  
STUDENTS AND  
PHD STUDENTS**  
ACROSS ITS SITES





**50% WOMEN**  
**50% MEN**  
IN THE 134<sup>TH</sup>  
GRADUATING CLASS



## PERSONALIZED ACADEMIC GUIDANCE

Thanks to small class sizes, each student-engineer has the possibility to benefit from personalized academic guidance. Additional courses are available for student-engineers from disciplines whose initial training in certain subjects may have been limited. Student-engineers are always welcome to initiate a conversation with the Dean's Office, but also with their older peers, to develop and enrich their professional vision. Personalized guidance, coaching sessions, co-orientation, and help finding internships are all available at ESPCI.

## AN INNOVATIVE PEDAGOGICAL APPROACH

The unique character of ESPCI Paris is also evident in the school's innovative pedagogical approach: student-engineers are trained through scientific research.

The school's pedagogical ethos enables student-engineers to be the very driving force behind their education, through laboratory work and mentoring. This innovative approach, introduced by Pierre-Gilles de Gennes, asks that students reflect in small groups on a subject proposed by a professor-researcher and inspired by actual research work. It's an initiative that goes above and beyond traditional lecture-based courses.



**LEARN TO RESEARCH...  
THROUGH RESEARCH!  
WITH PSE**

For the last 3 years, ESPCI Paris has been experimenting with a new learning module that immerses students in a research situation during their studies: group scientific projects (PSE). In groups of 2 or 3, students have one year to delve into the scientific challenge of their choice. Supervised by the school's professors, they appropriate the scientific method and experience both the joys and challenges of research.

Among the subjects chosen and studied in recent years are: superabsorbant hydrogels, artificial graphene, and aggregation among social amoebae. Situated between physics, chemistry and biology, these research topics sometimes result in new discoveries; one group has even applied for a patent, and their idea will soon be the subject of a scientific publication.



## RESEARCH-BASED EDUCATION

In addition to cultivating academic and scientific excellence, ESPCI Paris strives to break down barriers between chemistry, physics and biology, and between basic research and concrete application. The resulting exceptional scientific productivity has been recognized by the Shanghai ranking, where ESPCI is ranked as the second best engineering school in France. Another of the school's unique characteristics is the importance given to research as a teaching tool.

ESPCI Paris houses 9 joints research units, all associated with the CNRS and operating at the frontier of basic scientific knowledge and industrial application. They integrate a wide range of disciplines, from polymers to telecommunication, nanobiophysics to organic synthesis, environmen-

tal science to biomedical imaging, neurobiology to microfluidics, and soft matter to quantum physics.

The researchers at ESPCI Paris are constantly working to predict the needs of industry in order to pioneer new inventions. They publish at least an article a day in the most respected international scientific reviews. This constant consideration of industrial needs has given rise to a remarkably powerful entrepreneurial culture that turns technological innovation into a powerful driver of successful businesses.

The scientists at ESPCI Paris submit at least one patent application per week and launch several startups each year to highlight the inventions and discoveries that result from their research.

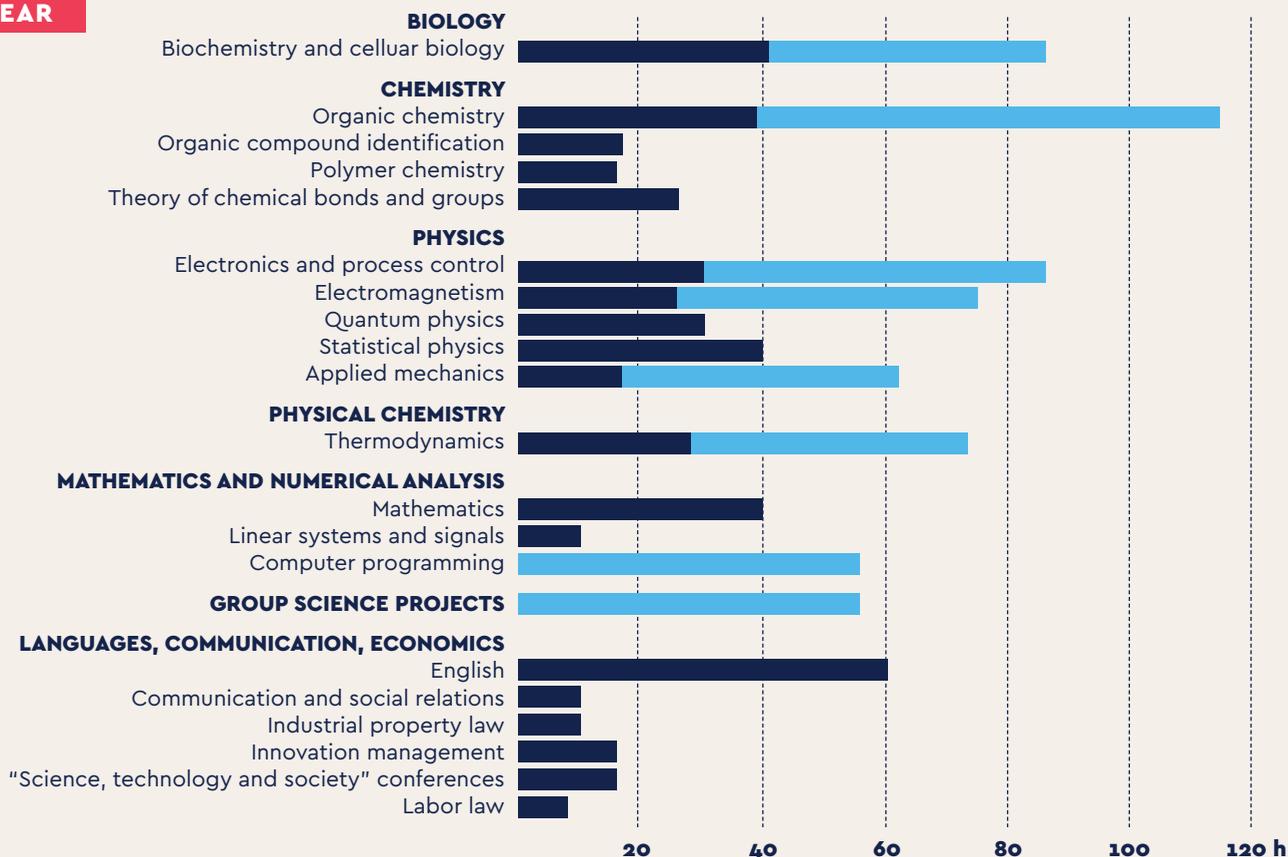


## 9 JOINT RESEARCH UNITS IN THE FOLLOWING FIELDS :

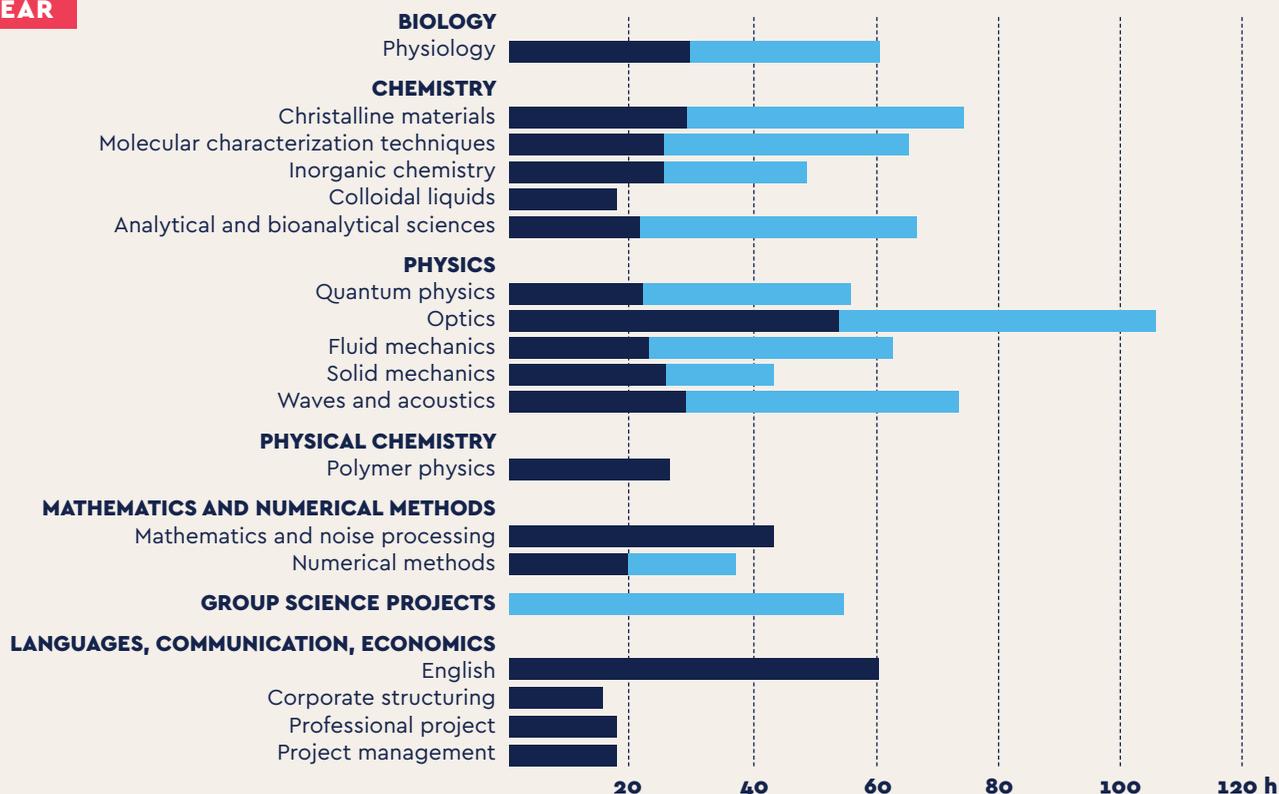
- Physics and materials
- Soft matter and chemistry
- Sciences and engineering of soft matter
- Chemical Biology Innovation
- Brain plasticity
- Biological mass spectrometry and proteomics
- Gulliver
- Physics and mechanics of heterogeneous media
- Institut Langevin – Waves and Images

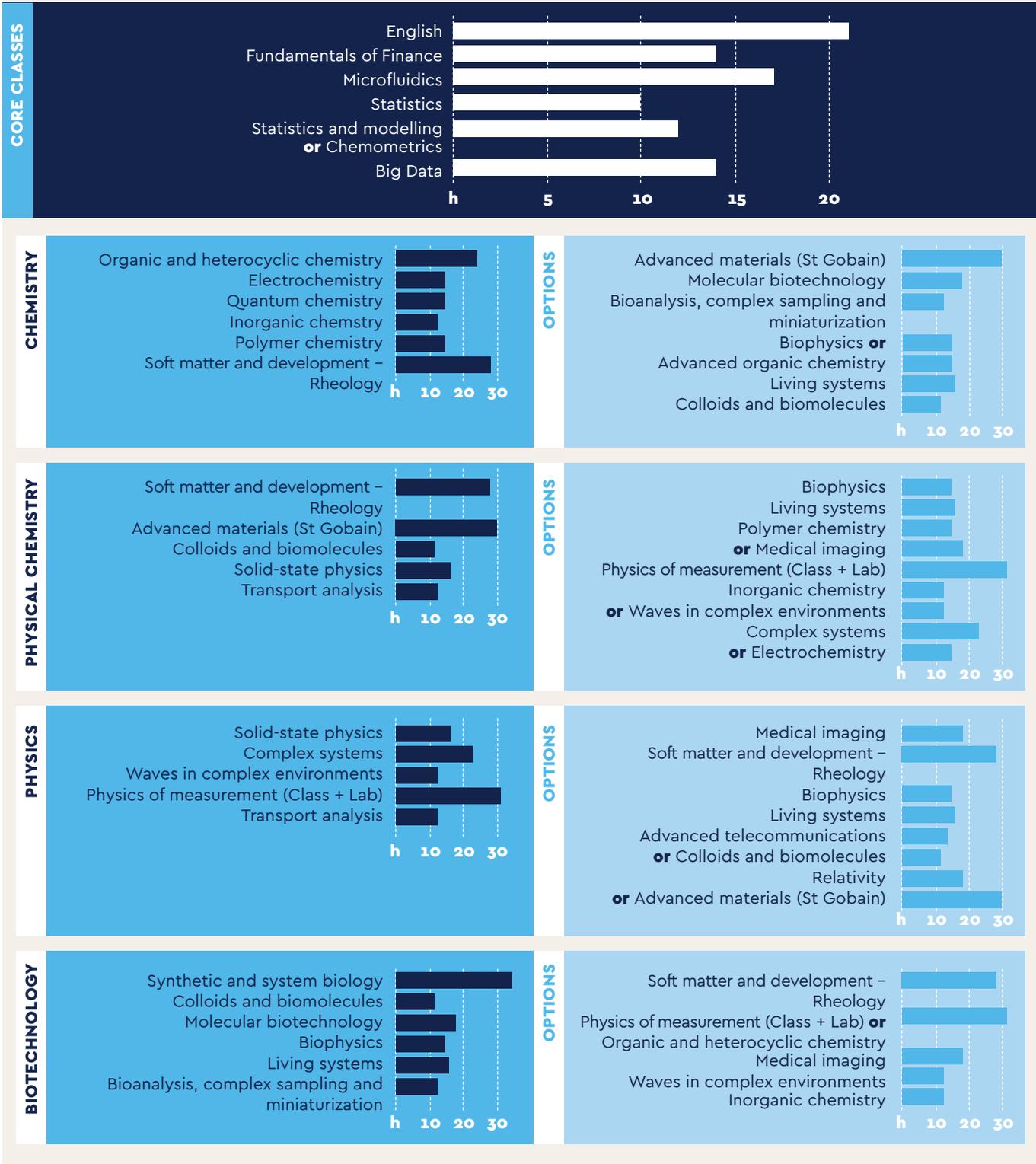


**1<sup>ST</sup> YEAR**



**2<sup>ND</sup> YEAR**





Fourth-year possibilities are many, and may be carried out in France or abroad: masters degrees, specialized masters degrees and graduate school (IFP School, INSTN) are all possible. Two out of three graduates pursue a doctoral degree, which takes three years to complete, and one out of five do so abroad.



.....

BECOME AN

.....

**INNOVATION**

.....

**ENGINEER**

.....



# HOW TO APPLY TO ESPCI PARIS

## EXAM-BASED ADMISSION

Two-thirds of student-engineers at ESPCI Paris are recruited via an entrance exam taken at the end of their second year of intensive foundation degree programs in preparation for Grandes Ecoles; PC courses (a shared entrance exam with the Ecole Polytechnique); and common written exams with ENS. Several places are reserved for students who pass the A PC BIO examination (BCPST option).

## DEGREE-BASED ADMISSION

In addition to traditional exam-based admission, and in order to diversify the origins and experience represented at ESPCI, the school also recruits based on earned degrees (CPGE MP, PSI, L2, DUT, L3 university degrees) via a degree-based admissions process: an application, oral exams and interviews, as well as a selection process for students from intensive foundation degree programs at the Fédération Gay-Lussac.

International students are accepted through several academic paths, bringing with them a wealth of culture and experience to each graduating class.

## MANY FINANCIAL AID OPTIONS

ESPCI Paris has committed to social inclusion and equal opportunity by creating its own scholarship program. The Joliot Scholarships support student-engineers whose financial situation would otherwise be an obstacle to pursuing their studies—by reducing, for example, the impact of housing costs. These scholarships are awarded in addition to other financial aid—CROUS scholarships included—and have more available resources. Currently, over a third of student-engineers receive regular financial aid through this program. The Association of ESPCI Engineers (AIE) also works to foster mutual aid and supports student-engineers through zero-interest loans, housing surety, donations, and more.

**+1/3**  
**STUDENT-ENGINEERS**  
**RECEIVE**  
**FINANCIAL AID**

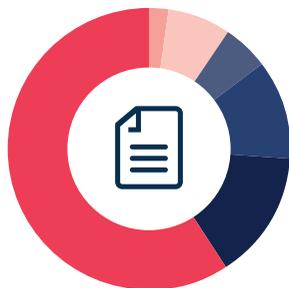


**60** STUDENTS RECRUITED THROUGH EXAMS

**30** THROUGH DUAL ADMISSIONS

**9%** INTERNATIONAL STUDENTS

**4%** WITH DUAL NATIONALITY



## FIRST-YEAR STUDENT-ENGINEER RECRUITMENT

- X-ESPCI entrance exam
- Licence (L2, DUT and L3, France and international) Degree- and interview-based admission
- MP - Degree- and interview-based admission
- PSI - Degree- and interview-based admission
- Intensive foundation degree programs at the Fédération Gay-Lussac
- A PC BIO entrance exam



## NORTH AMERICA

MIT (United States) ●  
 Northwestern University (United States) ●  
 École polytechnique de Montréal (Canada) ●  
 McGill University (Canada) ●

## SOUTH AMERICA

Unicamp, Campinas (Brazil) ●  
 UFMG (Brazil) ●  
 Sao Paulo (Brazil) ●  
 UFRGS, Rio Grande do Sul (Brazil) ●  
 UNAL (Colombia) ●  
 UNAM (Mexico) ●

## ASIA

Hokkaidō Kyōiku Daigaku (University of Hokkaido, Japan) ●  
 University of Ochanomizu, Tokyo (Japan) ●  
 University of Doshisha (Japan) ●  
 University of Tongji (China) ●

## EUROPE

Cambridge University (United Kingdom) ●  
 University of Novossibirsk (Russia) ●  
 ETH Zürich (Switzerland) ●  
 Politechnika Warszawska (Poland) ●  
 Technische Universität München (Germany) ●  
 Universität Konstanz (Germany) ●  
 Budapest University of Technology and Economics (Hungary) ●  
 Norwegian University of Science and Technology (Norway) ●  
 Czech Technical University in Prague (Czech Republic) ●  
 KU Leuven (Belgium) ●  
 Politecnico di Milano (Italy) ●  
 Instituto Superior Tecnico Lisboa (Portugal) ●  
 Istanbul Technical University (Turkey) ●  
 Universidad Complutense de Madrid (Spain) ●  
 Stockholm University (Sweden) ●  
 Imperial College of Science, Technology and Medicine (United Kingdom) ●  
 Universidad Politécnica de Catalunya (Spain) ●  
 Universidad de Siena (Italy) ●  
 Universidad de Bologna (Italy) ●  
 RWTH Aachen University (Germany) ●

## FRANCE

HEC Grande École ●  
 ESSEC Grande École ●  
 Sciences-Po Paris ●  
 Ingénieur AgroParisTech ●  
 Ingénieur de l'Institut d'Optique Graduate School ●  
 IFP School ●  
 Institut national des sciences et techniques nucléaires (INSTN) ●  
 Ecoles de ParisTech ●  
 Ecoles de PSL ●  
 Ecoles de Chimie de la Fédération de Gay-Lussac ●  
 Collège des ingénieurs ●

# INTERNATIONAL EXCHANGES AND DOUBLE DIPLOMAS WITHIN EVERYONE'S REACH

Thanks to a network of international academic partners, ESPCI Paris is able to offer its students many opportunities to attain double diplomas and have diverse academic experiences.

Nearly every student-engineer partakes in at least one international long-stay experience abroad, and each student has the possibility to study internationally, which might take the form of a double diploma, academic experience or professional internship. In this way, student-engineers are able to travel throughout the world and study at the school's partner institutions. The ParisTech network allows ESPCI to participate in the Athens program (Advanced Technology Higher Education Network Socrates): one week in the third year of study is set aside for intensive training at one of the schools in the international Athens network. ESPCI also participates in a welcome program for Chinese, Brazilian and Russian students. These students follow second- and third-year courses at ESPCI Paris and receive the school's diploma at the end of their studies.

## INDUSTRY INTERNSHIPS IN FRANCE AND ABROAD

Student-engineers directly benefit from the school's reputation in the eyes of the international scientific community and multinational companies: they have the opportunity to carry out their internships and/or research projects on all continents. Student-engineers also have the possibility to carry out their mandatory third-year industry internship (6 months) in a company located outside France. On average, nearly 2/3 of students take advantage of this opportunity. Many students spend their fourth year in a foreign university. In return, ESPCI Paris welcomes students from these various institutions.

# JOB OPPORTUNITIES: ENGINEERS FOR ALL INDUSTRIES



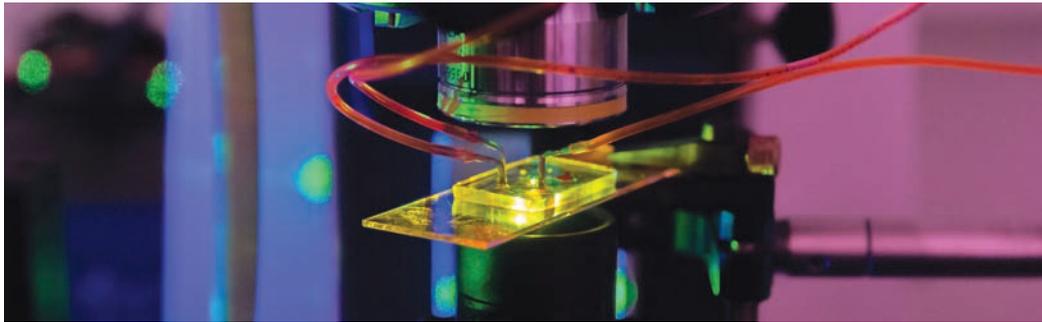
**1** ESPCI ENGINEER  
**OUT OF 4** IS BASED  
**OUTSIDE OF**  
**FRANCE**

**70%** CHOOSE TO  
PURSUE **A THESIS**

**80%** OF GRADUATES  
ARE RECRUITED  
INTO **R&D FIELDS**

**THE AVERAGE**  
**GROSS STARTING**  
**SALARY OF AN ESPCI**  
**GRADUATE IS**  
**41 000 EUROS**

**ON AVERAGE,**  
**STUDENTS FIND**  
**WORK WITHIN**  
**1 MONTH**  
**OF GRADUATING**



Dual proficiency in interdisciplinary studies and research makes graduates of ESPCI Paris particularly competent in the field of innovation and appreciated by employers. While 20% of graduates choose academic research and teaching, 80% head into a variety of industrial sectors.

The academic program at ESPCI Paris gives student-engineers the right skills to compare and contrast different perspectives, explore overlaps between disciplines, apply concepts across disciplines, and use their intuition to imagine new ways of doing and thinking. They are trained in technological invention and innovative disruption.

Classic teaching tools, like the six-month internship, remain the foundation of the ESPCI Paris engineering education. Today, these long internships often take place abroad and give

student-engineers a deeper understanding of the professional environment.

ESPCI engineers are trained to be industry generalists and go on to work for the world's largest groups, including Saint-Gobain, L'Oréal, Arkema, Airbus, Safran, as well as CNRS, CEA and others.

## INDUSTRY MENTORS

Each graduating class is mentored by a company with a strong culture of technology: Arkema (2015/16), Withings, Safran, Nestlé, Nexans, Lundbeck, Total, Michelin, Schlumberger, Areva, L'Oréal, Rhodia, Saint Gobain, Thales.

## CAREERS PURSUED BY GRADUATE ENGINEERS



● **13 %** Chemical industry

● **4 %** Production of minerals and construction materials, ceramic, glass

● **4 %** Engineering, service providers

● **5 %** Pharmaceuticals

● **8 %** Electric, electronic and computer equipment

● **4 %** Aerospace

● **15 %** Energy

● **15 %** Public sector or healthcare

● **15 %** Other service sectors

● **17 %** Other industries



## ESPCI PARIS START-UPS

On average, 3 start-ups are created each year in high-tech fields: medical imaging, therapy, telecommunications, intelligent and sustainable materials, and more.

Some of these start-ups, which generate highly qualified jobs, have the potential to revolutionize entire industrial sectors worldwide.



- Acanthe Biotech
- Ademtech
- Calyxia
- Cy-Play
- Inventel
- Finsécur
- Sensitive Object
- Singulia
- SuperSonic Imagine
- Vision Objects
- EOS Imaging (2000)
- CDP Innovation (2008)
- Fluigent (2008)
- RainDance Technologies (2008)
- Cytoo (2009)
- TR Com (2009)
- Capsum (2010)
- Echosens LLTech (2010)
- Nexdot (2010)
- Sculpteo (2010)
- Withings (2010)
- Invoxia (2011)
- SmartView (2011)
- Capital Innovation Partners (2012)
- Platod (2012)
- Ulifetec (2012)
- Winovel (2012)
- HiFiBio (2013)
- Biomillenia (2014)
- Cardiawave (2014)
- Microfactory (2014)
- DNA Script (2014)
- Millidrop (2015)

# ESPCI PARIS, GENERATING INNOVATION AND EMPLOYMENT

ESPCI Paris is also recognized for its ability to drive major innovations. Did you know that besides radium, polonium, actinium and lutecium, many everyday objects like fluorescent lights, the black box, the quartz watch, sonar, wireless routers, self-healing rubber and ultra-fast, ultrasonic imaging were all invented at ESPCI Paris?



**+ 60**  
**INNOVATIVE  
HIGH TECH  
COMPANIES  
HAVE BEEN  
CREATED AT  
ESPCI SINCE THE  
EARLY 1990'S**

## A CULTURE OF ENTREPRENEURSHIP

An increasing number of graduates create their own businesses upon leaving ESPCI or after completing their doctorate. This capacity for innovation is particularly sought after by companies today. The education offered at ESPCI perpetuates a strong culture of innovation established by leading figures who have worked at the school, such as Paul Langevin, theoretical physicist and the inventor of sonar, Pierre and Marie Curie, and more recently, Pierre-Gilles de Gennes and Georges Charpak.



## 10 NEW START-UPS INCUBATED IN 2016

Certified by the City of Paris in 2014, the ESPCI Paris incubator hosts 10 start-ups that are given privileged access to research expertise and advanced tools at ESPCI Paris. These start-ups also have access to the network of experts present within this ecosystem of innovation.





# ESPCI PARIS

ÉCOLE SUPÉRIEURE  
DE PHYSIQUE ET DE CHIMIE INDUSTRIELLES  
DE LA VILLE DE PARIS

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+ 33 1 40 79 44 00

[espci.fr](http://espci.fr)   

PSL   
RESEARCH UNIVERSITY PARIS

MAIRIE DE PARIS

