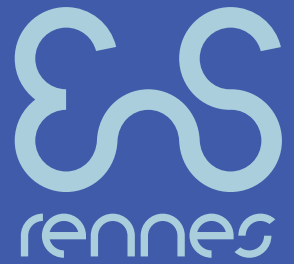


École normale supérieure  
de Rennes



The *École Normale Supérieure de Rennes (ENS Rennes)* is a prestigious public institution of higher education and research and one of the major French *Grandes Écoles* which are considered to be the pinnacle of French higher education.

Officially established on the 1<sup>st</sup> of January 2014, the *École Normale Supérieure de Rennes* specialises in preparing young students for careers in higher education, research and innovation.

Originally founded in 1994 on the modern, technological Ker Lann campus, near Rennes, as the Bretagne satellite of *ENS Cachan* (founded in 1912), the school very quickly became a benchmark for excellence. The school educates students, through high-level scientific and cultural training, who aspire to a career in fundamental or applied scientific research, university teaching and secondary education and, more generally, for working for State and local authorities and State public establishments or enterprises.

The *École Normale Supérieure de Rennes* trains students in the fields of Economics - Law - Management, Computer Science and Telecommunications, Mathematics, Mechatronics and Sport Sciences and Physical Education. Each year, around 400 students follow Master's Degree programmes jointly accredited with the *Université de Rennes 1* and the *Université Rennes 2*. Over 90% of its students pass the *Agrégation* examination and 70 % continue their studies by completing a PhD.

The research activities of *ENS Rennes* are organized within the Hubert Curien Research College, an internal institute, dedicated to multidisciplinary research, disseminating knowledge and training students.

Since its foundation, the school has been a focal point of original research supported by the best local and national laboratories in a variety of fields, in particular: European Law, High-speed Manufacturing, Large Systems Computing and Virtual Reality, Mathematics, the study of Sports Movement, Bio-Microsystems and Energy Management. All these subjects continue to be developed strongly in the school and have already earned it a solid reputation.

As one of the four *Écoles Normales Supérieures (ENS)* in France, high standards and quality are hallmarks of this institution. Only the most optimal conditions are proposed to the students (under- and postgraduate) and researchers so as pursue its long standing tradition of prestige and excellence in education and research.

### 5 Teaching & Research Departments:

Economics - Law - Management  
Computer Science and Telecommunications  
Mathematics  
Mechatronics  
Sport Sciences and Physical Education

### Partner laboratories:

Bio-Microsystems, Renewable Energies: SATIE (UMR 8029)  
Law: IODE (UMR 6050)  
Economics & Management: CREM (UMR 6211)  
Computer Science and Virtual Reality: 5 joint teams with Inria Rennes - Bretagne Atlantique and IRISA (UMR 6074)  
Mathematics: IRMAR (UMR 6625)  
Prototyping and High-speed Manufacturing: IRCCyN (UMR 6597)  
Sport Sciences: M2S (EA 1274)





## Facts and figures:

**5 academic departments**

**In partnership with 7 research laboratories**

**400 students** - 290 student civil servants

**94 on site staff:** 31 professors and research professors, 30 administrative and technical staff, 5 full time researchers, 15 PhD students, 5 interns, 8 external research-professors

**Site 10000 m<sup>2</sup>**

## The Ker Lann and Rennes campuses

*ENS Rennes* is located on the Ker Lann campus, some 15 minutes from Rennes city centre. This beautiful 170-hectare campus is mainly home to higher education institutions and innovative companies.

The course programmes organized at *ENS Rennes* are underpinned by a strong partnership with the universities of Rennes and in part take place on the Rennes campuses (Beaulieu, Villejean or the city centre). On each of them, as on the Ker Lann campus, the resources available mean that high quality teaching is provided, under excellent conditions.

## Student life

Students can take advantage of the dynamism of Rennes and the facilities offered by the different campuses for cultural and sports activities. Most students live in the centre of Rennes, at the heart of the university city where they enjoy a very high quality environment.

More specifically, student life at *ENS Rennes* is organized around the students' union, the arts association, the sports association and the many affiliated clubs which enjoy the use of dedicated premises on the Ker Lann campus and support from the school. More information on: [www.bde.ens-rennes.fr](http://www.bde.ens-rennes.fr)

The KerLann campus is situated close to the city of Rennes and combines the advantages of both city and country life.

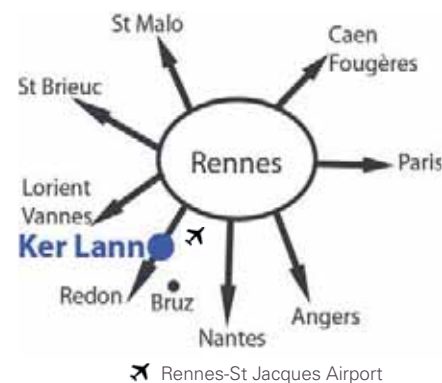
If you fly, you can arrive at: Rennes Airport (5 minutes from campus with local bus connexion) ; Nantes Airport (60 minutes from campus with shuttle and train connexion); Paris Charles de Gaulle (4 hours from campus with train connexion at CdG airport to get to Rennes).

If you come by bus: Take the bus route 57, direction "Bruz" from Rennes. The bus ride between Ker Lann and the city centre of Rennes lasts about 25 minutes.

If you come by train: Take the train at the Rennes train station, direction Messac Guipry, and get off at the "Ker Lann" station. The train ride lasts about 10 minutes.



Map of the Ker Lann campus  
[www.ens-rennes.fr](http://www.ens-rennes.fr)  
Section : campus/transports



## Contact

Head of International Cooperation

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Tél. : +33(0)2 99 05 93 00

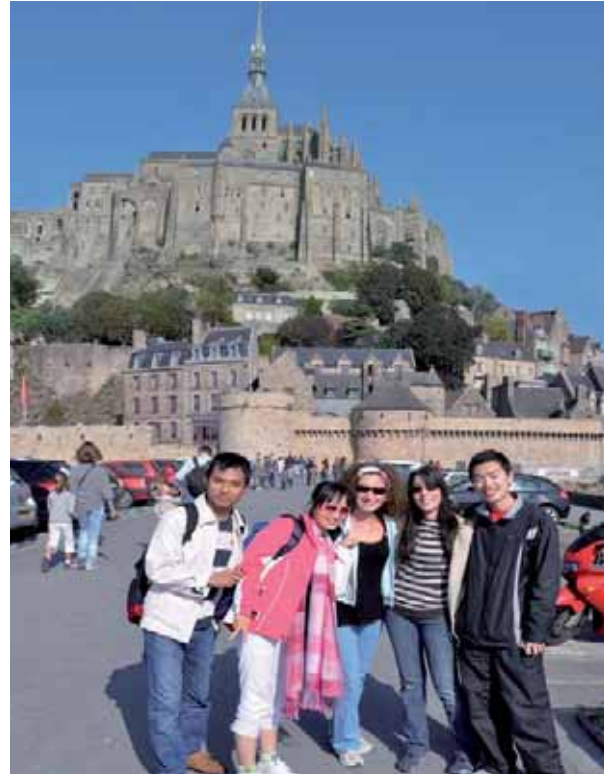
## Student status

Students who enter *ENS Rennes* have a double status: they are both students, registered in State Universities, and *normaliens*, i.e., members of *ENS Rennes*.

The status of *normalien* means:

- an administrative status of trainee civil servant,
- a 10-year contract with the State, which includes the four years of study at *ENS Rennes*,
- a monthly salary paid by the State during the four years of study.

The other three *Écoles Normales Supérieures* (ENS) in France are: *ENS de Paris*, founded in 1794, *ENS de Lyon* and *ENS de Cachan*.



## Recruitment: two admission tracks



a **normalien student**, via a highly selective national examination

The competition is open to:

- French and EU students, funded by the State
- Non-EU students, no funding

Two recruitment levels and two highly competitive national examinations:

- First year at *ENS Rennes*: after a two-year *post-baccalauréat* preparatory program called *classes préparatoires*.
- Third year at *ENS Rennes*: after the first year of a Master's Degree or for holders of a degree delivered by a top business or engineering school.



a **degree seeking student** at Master's or PhD levels

or

an **international student**

or

a **visiting non-degree student or exchange student**

Recruitment is based on the quality of the application.

If students meet certain required conditions, they can be awarded the ENS Rennes diploma or *Magistère* Degree.



• *Internationally active through: research internship and school year abroad programmes, worldwide collaborations, joint international thesis', visiting scholar programmes and joint internationally recognised research projects. International students may benefit from: summer schools and French language teaching courses, on campus residence, quality and professional administrative support and follow-up.*

• *Compulsory English language tuition for 1st and 2nd year students, intensive programmes and certification preparation, such as: TOEIC and TOEFL tests.*



## Initial training (ENS system vs International system)

ENS system		International system	
First year of study	Last year of Bachelor Degree - <i>Licence</i> (L3)	BA/BSc Degree	<p>In addition to traditional curricula, <i>ENS Rennes</i> offers great flexibility through free-choice curricula. Students benefit from individual tutoring during the duration of their studies</p>
Second year of study	First year of Master's Degree (M1)	M1 + M2 = Master's Degree	
Third year of study	Preparation of the <i>Agrégation</i> or a year's research or professional training		
Fourth year of study	Second year of Master's Degree (M2)	Ph.D	
	First doctoral year Second doctoral year Third doctoral year		



## ENS system vs University system

ENS system		University system
Admission by highly selective national competition usually taken after a two-year <i>post-baccalauréat</i> preparatory program	Admission	Admission on the basis of qualification: students must hold a French <i>baccalauréat</i> (secondary school national diploma) or equivalent diplomas
<i>Normalien</i> status = student + trainee civil servant	Status	Student
Double curriculum = University curriculum + complementary training within ENS Rennes - from Bachelor's to Ph.D levels	Course of study	University curriculum (from <i>post-baccalauréat</i> to Ph.D levels)
Around 3,000 <i>normalien</i> students in all 4 ENS	Number of students	Around 1,300,000 students in the French State Universities
The presidents of the <i>Écoles Normales Supérieures</i> are appointed by the President of the French Republic	Management	The presidents of the universities are elected by their respective University Councils

*ENS Rennes has close links with partner universities within the framework of their traditional degree programs: Rennes 1 and Rennes 2 Universities.*





The Economics - Law - Management Department of the *École Normale Supérieure de Rennes* offers multidisciplinary training that is unique in France in these fields, as well as an intensive preparation for the Economics – Management *Agrégation* exams with "Human Resources" and "Marketing" options. It also provides training for university-level academic careers, the research professions and executive public service positions (general administration, economic and financial branches).

### Admission

- Through a first year entrance exam: Every year, the Department offers 17 *normalien* places to successful students of the 1st year D1 *ENS Rennes* competitive entrance exam. This exam may be prepared in preparatory classes of the same name. The successful candidates integrate the Law Department and receiving a high level of tuition in Law and Economics.
- Through a Master's Degree programme: The candidates, holders of a Bachelor's Degree or a first-year Master's Degree in Law, Economics, Social and Economic Administration, Management, a degree from a *grande école* business school or an equivalent qualification, are selected according to an academic assessment and an admission interview. Students admitted then join the Department for 2 or 3 years, depending on the case.
- Through jury admission: Students can apply for the Law-Management Magisterium. They receive the same training as students admitted through an entrance exam. Applications must be sent to the *Université de Rennes 1*.

### Training

The study programme for students who are admitted in the 1st year is based on comprehensive training in Law, Economics and Management. This course, unique in France, is based around the Law and Management Magisterium (Master's Degree level), jointly awarded by the *École Normale Supérieure de Rennes* and the *Université de Rennes 1*. It incorporates the national diplomas of Bachelor, Master 1 and Master 2. The tuition offered to students takes 4 years.

In the first two years, the Department, in partnership with the *Université de Rennes 1*, trains jurists specialized in European law. This training is supplemented by courses in Economic Sciences and Administration. The objective is to train jurists with extensive expertise in Corporate Administration (Management, Marketing, Accounting/Finance, Human Resources, etc.) and in Economics (Macroeconomics, Microeconomics, Public Economics, etc.).

*The Department of  
Economics-Law-  
Management*

*Teaching staff: 6*

*Degree in Law, Masters in  
European Law co-authorized with  
the Université de Rennes 1*

*Preparation for the agrégation  
in economics  
- option A (Human Resources)  
- option C (Marketing)*

*Head of department:  
Professor Éric Malin*





In the third year, several options are open to students:

- Under the Master's Degree training for professors for higher education, in the Law Economics Administration specialist field, they undergo training which prepares them for the *Agrégation* in Economics-Management: option A is "Organization and Human Resources" and option C "Marketing". Every year the candidates entered for this competitive exam, succeed without exception.
- The Department also provides training for the 1st entrance exam for the National School for Magistrates. Students who opt for this programme, instead of the *Agrégation* preparation, are selected internally.
- Finally, it is possible to enter the Research M2 programme directly, subject to validation of the student's training project by the management.

The fourth year allows students to complete their study programme, in France or abroad.



Most students complete their programme by undertaking a Research M2 Master's Degree in France or abroad.

## Career Opportunities

- A PhD in France or abroad (with specific funding for *normaliens*), for a career as a professor-researcher (lecturer, university professor, etc.)
- Posts of responsibility in the Civil Service and public enterprises, subject to passing the appropriate entrance examination (ENA, Territorial Administration, National School of Public Health, Administrator of the European Union, etc.).
- *Agrégé* professor (high school, *BTS / IUT* (vocational higher education diplomas), university, engineering or business school).

## Research

The Department team includes professor-researchers who, depending on their specialist field (Economic Sciences, Management Sciences, Private Law or Criminal Sciences), carry out a wide range of research activities.

Reporting to the laboratories of the *Université de Rennes 1* and recognized by the CNRS, or to other organizations, in particular they develop multidisciplinary scientific projects for aiding action and decision-taking; projects on "the action of judging" that take into account the most recent advances in behavioural sciences.

The Department participates in the Centre of Excellence Jean Monnet of Rennes, a scientific skills platform distinguished by the European Commission which deals with European issues. >> <http://cejm.univ-rennes.eu>

### Associated laboratories:

- IODE (Institute of the West: Law and Europe, UMR CNRS 6050)

- CREM (Centre for Research in Economics and Management, UMR CNRS 6211)

## CONTACTS

Department Dean:

Éric Malin

Professor

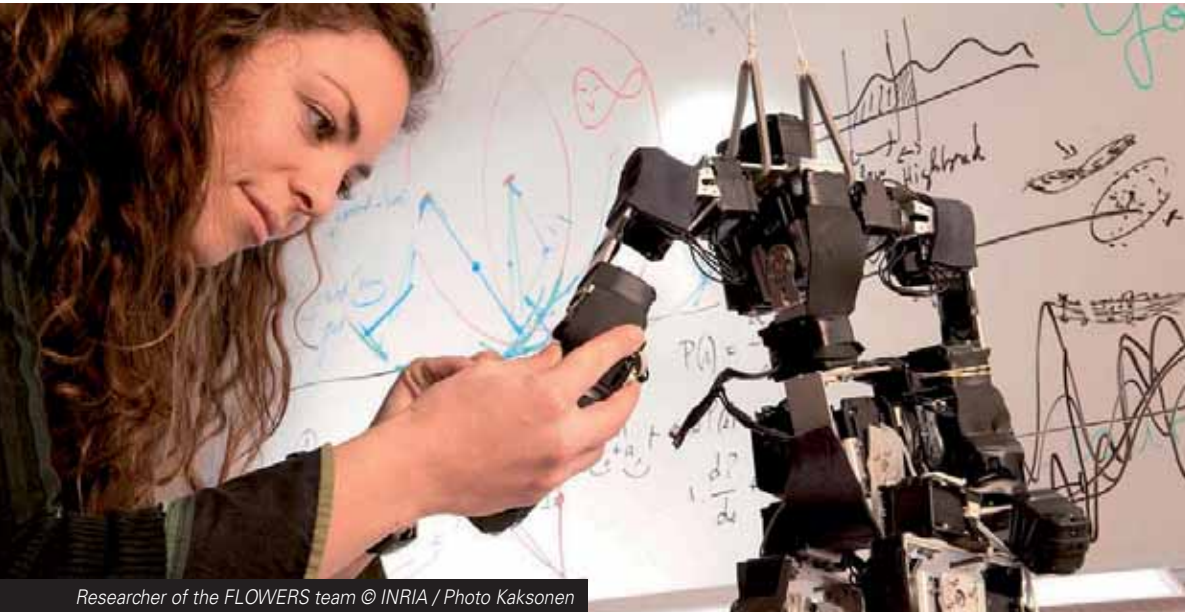
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Department assistant:

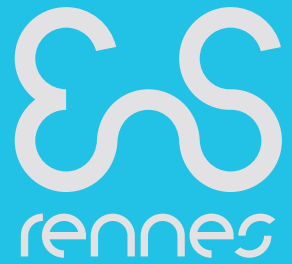
Élodie Le Quoc

Phone: +33 (0)2 99 05 93 43





Researcher of the FLOWERS team © INRIA / Photo Kaksonen



The Department of Computer Science and Telecommunications aims to develop teaching and research in Computer Science as it borders on Telecommunications.

What we are currently seeing is a particularly fast convergence of these two fields: telecommunication systems currently exploit sophisticated computing techniques for data transmission as well as for their production and analysis. In turn, it is now no longer conceivable to consider computing separately from interconnected networks of computing, storage and interface nodes.

Finally, a great number of applications are at the interface of these two worlds: Signal and Image Processing, Multimedia Techniques, etc. Central to all of these subjects is the crucial question of managing very large distributed systems, networks of high performance computers such as computing grids and clouds or telephone networks at the metropolitan or national levels.

## Admission

Two admission routes are offered by the Department: firstly through the entrance examinations of *ENS Rennes* where students acquire *normalien* status and secondly through jury admission and interview without *normalien* status. All these students, whether or not *normalien*, follow the same programme. The objective is to balance the two sources of admission in any year's intake of up to 25 students.

Admission in the 1st year is made primarily through the *École Normale Supérieure* Computer Science competitive entrance exam, open mainly to students of MP (Maths and Physics) *grandes écoles* preparatory classes. To a lesser extent, the Computing and Telecommunications Faculty receives students through the MP entrance exam (in particular, this exam's Computer Science option) and the PSI (Physics and Engineering Science) exam. This 1st year intake is supplemented in the 2nd or 3rd years by admission through the Master's programme (levels M1 or M2) Computer Science entrance exam.

Admission to our Magisterium through jury admission and interview is for students having completed at least 2 years of a Bachelor's Degree (L2) or to students of preparatory classes. The main criterion is personal motivation for a research career in this field. We strongly encourage those people who are keen to benefit from the courses offered at *ENS Rennes*, but who have not passed the entrance exam, to submit their file. This type of application is very much appreciated, and students who join the Magisterium in this way can then enter the entrance examination for the Master's programme to become *normaliens*.

**The Department of Computer Science and Telecommunications**

Teaching staff: 4

Degree and research masters in Computer Science co-authorized with ISTIC and the Université de Rennes 1.

Most students continue their studies to pursue a PhD

Head of department: Professor David Pichardie







## Training

The central objective is to train professionals for research: all the teaching is organized for this purpose. A large place, in particular, is given over to working in small groups, to the preparation of reports, to preparing presentations and to research placements. The assessment of the course is designed to develop a researcher's qualities: independence, curiosity, inventiveness, spirit of synthesis, rigour in the scientific process, etc.

This programme is organized around the Magisterium in Computer Science and Telecommunications (MIT): a university diploma issued jointly by the *Université de Rennes 1* and the *École Normale Supérieure de Rennes*. It complements the university's Master's Research Degree in Computer Science that the Faculty's students follow. Most of them logically continue their studies with a PhD in Computer Science.

As (for the moment) there is no Computer Science *Agrégation*, standard tuition is organized over 3 years. The 4th year may be used to organize additional, à la carte, training. The Department also offers a course that includes preparation for the Mathematics *Agrégation* exam, with the Computer Science option, in collaboration with the school's Mathematics Department.

## Career Opportunities

Students will undertake careers as professor-researchers (lecturers, university professors) researchers (researchers, directors of research in France, post-doctoral research positions abroad, research engineers in public and private laboratories) or engineers in innovative companies.

## Research

As regards teaching and research, the Department is strongly supported by teams from the IRISA ([www.irisa.fr](http://www.irisa.fr)) and Inria Rennes-Bretagne Atlantique ([www.inria.fr/rennes](http://www.inria.fr/rennes)) research centres. IRISA is a joint research unit (UMR) under the governance of the CNRS, Inria, the *Université de Rennes 1*, *ENS Rennes* and *INSA Rennes*. Together, these two laboratories bring together under one umbrella over 170 titular researchers and just as many doctoral students, thus making it one of the most important laboratories in France in its specialist field.

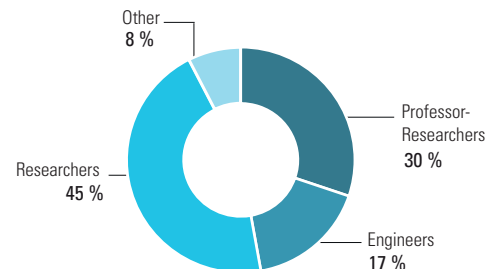
The researchers of these laboratories are widely sought-after for the Department's seminars, teaching certain Master's courses and receiving the Magisterium's students for a research discovery course. The Department is particularly involved with Inria's activities in the field of handling very large systems, through several joint project-teams organised with *ENS Rennes*:

- **Cairn**, which studies the architecture of systems on microchips integrating dedicated or reconfigurable calculation accelerators.
- **Celtique**, which concentrates on the design of tools to help with the development and validation of software, with for example, applications for the security of Java programs embedded on smart cards.
- **KerData**, which focuses on data management infrastructure for distributed computing grids and «Clouds» on a very large scale, such as for example the French grid, GRID5000.
- **Logica**, which develops logical frameworks to represent and interact with normative multi-agent systems, which for example can be applied to peer-to-peer networks.
- **MimeTIC**, which focuses on virtual reality and the virtual human, with applications in man-machine cooperation within the same shared virtual environment.



Working meeting © Inria / Photo Kaksonen

## KEY FIGURES



These statistics only cover alumni up to 2006: i.e. having completed a 4-year tuition programme + 3-year thesis.

During the past 5 years :

**92 %** continue with the preparation of a thesis.

### Research activities:

**In partnership with IRISA (UMR CNRS 6074, Inria Rennes - Bretagne Atlantique)**

**5 joint IRISA-Inria groups:**  
Cairn, Celtique, KerData, Logica, MimeTIC - parallel systems, wide-area distributed computing, virtual reality, architectures, software verification

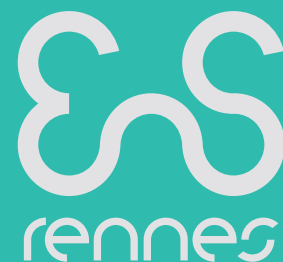
**Staff figures:** 4 + 7 PhD

## CONTACTS

**Department Dean:**  
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Professor  
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**Department assistant:**  
Elodie Le Quoc  
Phone: +33 (0)2 99 05 93 43





The Department aims to recruit students (both *normaliens* and *non-normaliens*) to offer them high level mathematics training leading on to the *Agrégation* and the preparation of a PhD. These courses lead mainly to teaching careers (*grandes écoles* preparatory classes, in institutions of higher education etc.) or as professor-researchers or researchers in universities and research organizations.

## Admission

- **Through an entrance exam:** The Department admits students through the MP (Maths/Physics) and PSI (Physics and Engineering Sciences) groups of entrance exams in the 1st year, as well as the Master's Degree programme entrance exam which is directed at students of the Master's 1 Degree in Mathematics and engineering students in their 3rd year.
- **Through jury admission:** It is also possible to join the Department of Mathematics through jury admission and oral examinations in the 1st year (Magisterium) and the 3rd year (preparation for the *Agrégation*), with student status.

## Formation

Tuition, lasting 4 years or 3 years as part of an accelerated programme, is organized in close partnership with the *Université de Rennes 1*. It is structured around a Mathematics Magisterium for *normalien* students and students admitted through jury admission, and a one-year preparation for the Mathematics *Agrégation*.

The Magisterium is intensive, high-level training, within the framework of the Bachelor's and Master's Degrees in Mathematics and also includes courses in supernumeraries, supplementary mathematics courses, reading groups, talks on the initiation of research and research placements in laboratories in France and abroad.

The many existing partnerships offer each student the opportunity of completing 1 or 2 semesters in a foreign university during their course, either in a European country (Italy, Great Britain, Germany etc.) or outside Europe (USA, Canada, Japan, etc.).

- **Double programme:** At the same time as the Magisterium, students are able to study for a second Bachelor's Degree in Computer Science or in Physics, which can sometimes lead to a second Master 1. Modules in Biology and Economics can also be envisaged.
- **Accelerated programme:** Students who so wish may obtain the Bachelor's Degree (L3), the Master's Degree and the *Agrégation* in 3 years only. For example, they follow Master 1 modules starting in the 1st year, begin the Master 2 in the 2nd year and complete it in the 3rd year, while at the same time preparing for the *Agrégation*. In this way, they can begin research work as of the 4th year.
- **Preparation for the *Agrégation*:** This is a priority objective in the 3rd year. Passing this competitive exam is, of course, necessary for future professors, but it is also an additional asset for those who wish to pursue a career in research.

## The Department of Mathematics

Teaching staff: 20

### Research masters

in mathematics co-authorized with the Université de Rennes 1

### Preparation for the *agrégation*

in mathematics

A possibility to follow a

### double syllabus

(Mathematics & Physics, Mathematics & Computer Sciences)

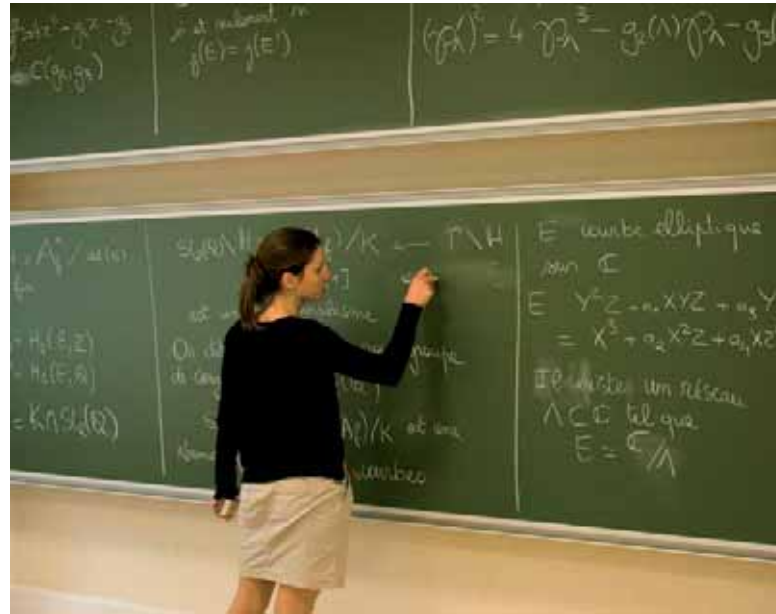
### Head of department:

Professor Benoît Cadre





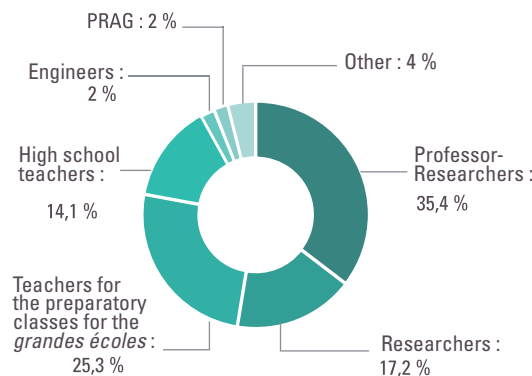
- **Research training:** This begins from the very first years at the school (placements in laboratories, additional courses, reading groups, talks, etc.), and then at the Master 2 level with specialization possible across the whole spectrum of Mathematics, from the most fundamental to the most applied, in a French or foreign university. It continues with the preparation of a PhD, after obtaining a research grant, for 3 years. Students who choose to remain in Rennes join the Master 2 programme and then undertake their thesis at the IRMAR (*Institut de recherche mathématique de Rennes* - Mathematical Research Institute of Rennes), at the IRISA (Institut de recherche en informatique et systèmes aléatoires - Institute for Research in Computing and Random Systems), or at the CREST (*Centre de recherche en économie et en statistique* - Centre for Research in Economics and Statistics).



### Career Opportunities

- **Research career:** Students holding a PhD can aspire to a career as a professor-researcher or researcher: a lecturer, then university professor or researcher and then director of research at the CNRS or in large research organizations.
- **Teaching career:** This is as a teacher for the preparatory classes for the *grandes écoles*, *agrégé* teacher (PRAG) in universities or other institutions of higher education, or as a high school teacher.
- **Other careers:** Several branches of public service recruit *normaliens* according to their academic qualifications. Agreements are also established with engineering schools to obtain the double title of *normalien-engineer*.

### KEY FIGURES



During the past 5 years :  
**96 %** success rate for the *Agrégation*  
**90 %** continue with the preparation of a PhD.

These statistics only cover alumni up to 2006: i.e. having completed a 4-year tuition programme + 3-year thesis.

### Research

The members of *ENS Rennes* Mathematics Department are part of the *Institut de recherche mathématique de Rennes* (IRMAR - Mathematical Research Institute of Rennes). This laboratory, with around 200 researchers, covers all the fields of Mathematics: Algebraic Geometry, Algebra, Cryptography, Analytic Geometry, Analysis of partial differential equations, Numerical analysis, Ergodic theory, Stochastic processes, Statistics.

The Department is a founding member of the *Centre Henri Lebesgue*, a laboratory of excellence (Labex) which includes a large proportion of the mathematics researchers of the west of France, and, in particular, the Jean Leray Mathematics Laboratory of Nantes.

The Mathematics research team of *ENS Rennes* is composed of around 25 researchers who are professor-researchers, CNRS researchers or Inria researchers (IPSO team - project).

The main research themes are:

- Mathematical Analysis and its applications, in particular Partial Derivative Equations (deterministic and stochastic),
- the Optimization of Shapes, and the influence of geometric singularities in these models,
- Statistical Learning and High-Dimensional Statistics.

#### Research activities:

In partnership with IRMAR (UMR CNRS 6625)

Analysis, applied analysis, numerical analysis, scientific computing, probability and statistics

Staff figures: 15+

Team project IPSO from Inria

### CONTACTS

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Mechatronics encompasses new ways of designing and producing systems that combine a growing number of functions and requirements, in particular those imposed by sustainable development. It thus opens up new opportunities for creativity.

The Department proposes a 4-years training for careers in research, innovation and education. It is based on a Magisterium in Mechatronics, in partnership with the *Université de Rennes 1*. It leads to a Master's Degree in Science and Technology Education to obtain the *Agrégation* in Industrial Sciences for the Engineer. This is combined with a Research Master's Degree in Mechatronics, Electrical Engineering, Mechanical Engineering or related subjects.

Essentially interdisciplinary, Mechatronics at *ENS Rennes* is based on a varied programme which offers:

- in-depth knowledge of physical sciences and the associated scientific disciplines,
- a good understanding of advanced technologies,
- hands-on practice of integrated design processes involving concepts from both electrical and mechanical engineering.

## Admission

For the same studies, the Department offers two admission pathways:

- Through a competitive entrance exam (or the Master's Degree programme entrance exam at the M1 and M2 or engineer levels) to obtain *normalien* status (paid with a ten-year binding contract with the French state),
- Through jury admission (1st year up to 12 places or 3rd year M2 training for higher-education professors) to obtain student status (with no ten-year binding contract).

## Career Opportunities

A wide range of career opportunities:

- **In research and innovation:** as holder of a PhD, gained under the best possible conditions and recognized internationally, you can look forward to a career as professor-researcher or researcher in France or abroad (a lecturer, then university professor or researcher and then director of research at the CNRS or in large public research organizations or in companies).
- **in education:** as holder of the *Agrégation*, you can become a professor of the preparatory courses for the *grandes écoles*, or teach in an engineering school, an *IUT* (institut of technology) or at the university.
- **Other careers:** Several branches of public service recruit *normaliens* according to their academic qualifications. It is also possible to pursue careers in the private sector (R&D or innovation services).





## Training

In line with the missions of the *Écoles normales supérieures*, the Mechatronics Magisterium is a programme marked by research and its applications, based on general classes (Applied Mathematics, Physical Sciences, Languages) and multidisciplinary classes divided into 3 main fields:

- Automation and Industrial Computing,
- Mechanics and Mechanical Engineering,
- Electronics and Electrical Engineering.

To meet our disciplinary requirements, this course is validated in 2 years, by obtaining two Bachelor's Degrees and two first year of Master's Degrees (M1), in Electronics and Telecommunications and in Mechanical and Engineering Sciences, awarded in partnership with the *Université de Rennes 1*.

At the end of the 2nd year of the Magisterium (M1 level), the students follow a Master's Degree for teaching in higher education while at the same time preparing for the *Agrégation* in Industrial Sciences for the Engineer.

In the last year, the students follow a course through research in the second year of the Master's Degree (M2) in France or abroad, thus specializing in their chosen field.



### To achieve your goals we offer you:

- *specific and tailored scientific teaching,*
- *international agreements and mobility support*
- *A national and international network of research laboratories,*
- *paid trainee civil servant status for normaliens (4 years following the 1st year entrance exam or 2 years following the second entrance exam), combined with a ten-year state contract,*
- *specific funding for PhDs.*

The Department's Programme	Mechatronics Magisterium					
	Mathematics / Physics	Electronics / Electrical engineering	Mechanics	Mechatronics	Training in teaching and research	
1 <sup>st</sup> year	• Bachelor's (L3) Mechatronics : Double degree in Electronics and Mechanics					Placements (in France or abroad)
2 <sup>nd</sup> year	• Master 1 (M1) Mechatronics : Double degree in Electronics and Mechanics					Introductory course to research
3 <sup>rd</sup> year	• Higher education Master's 2 Degree in Mechanical Sciences or in Electrical Engineering • Preparation for the <i>Agrégation</i> in Industrial Sciences for the Engineer					Higher education teaching practice
4 <sup>th</sup> year	• Research Master's Degree in France or abroad					Research
After	PhD (with specific funding for <i>Normaliens</i> ) in France or abroad					

## Research

Research teams, belonging to laboratories associated with the CNRS, work in collaboration with the Mechatronics Faculty of *ENS Rennes*. Their activities extend to the fields of micro-technologies (biomicrosystems, chemical and biological sensors), new energy technologies (electromechanical conversion, renewable energies), high-speed manufacturing (rapid prototyping, additive manufacturing processes, high-speed machining), and virtual reality (virtual prototyping, biomechanics, interaction).

Among the range of national and international laboratories, these teams offer a particular opportunity for undertaking research placements or preparing a PhD.



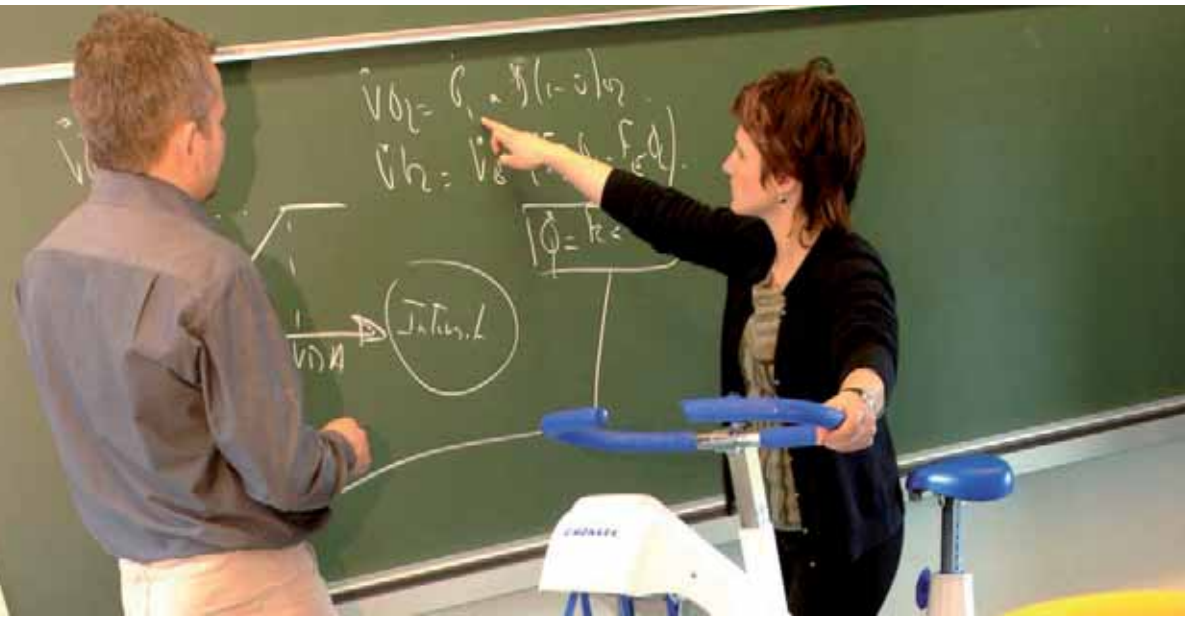
© Willy Berré

## CONTACTS

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The Department of Sport Sciences and Physical Education (2SEP) of the *École Normale Supérieure de Rennes* offers training in and through research, in the field of the Sciences and Techniques of Physical and Sports Activities (STAPS). It also prepares students for the external *Agrégation* exam in physical education and sports (EPS).

This Department is unique in France. Its ambition is to become an internationally recognized teaching and research centre in Sport Science as well as an important place of reflection about EPS, in particular through its preparation for the EPS external *Agrégation*.

**Admission**

- Through an entrance exam: 10 *normaliens* are admitted each year. They then receive remuneration (approximately 1500 euros per month gross in return for a ten-year binding contract with the French state).
- Through jury admission: 2 to 5 *magistériens* students are admitted through jury admission every year. Student admission is dependent on an examination of their academic record.

**Formation**

Tuition is provided as part of a Magisterium co-awarded by *ENS Rennes* and the *Université Rennes 2*.

A student who joins the Department follows a normal course within a UFR APS (that of Rennes in the first 2 years), to which are added courses that are specific to the Sport Sciences Department (2SEP). The program lasts 4 years.

**The Department of Sport Science and Physical Education**

Teaching staff: 4

**Degree** in STAPS (Sciences and Techniques of Physical and Sports Activities) **and Masters** option "Sport, Health, Society" co-authorized with the *Université Rennes 2*

**Preparation for the agrégation** in the field of sports and physical education

**Head of department:**  
Professor Jacques PRIOUX

**More info**

On our website: *course catalogue, entrance exam program, examiners' reports, examples of questions, etc.*

To contact students who will be pleased to answer your questions: [concours2sep@listes.ens-rennes.fr](mailto:concours2sep@listes.ens-rennes.fr)





## Advantages :

- ✓ Ideal study conditions: small groups, teaching from experts in their fields, high-quality material resources and financial peace-of-mind, and also a very friendly atmosphere,...
- ✓ A Magisterium jointly accredited by the *ENS Rennes* and the *Université Rennes 2*.
- ✓ A course allowing students to take the external EPS Agrégation (100% success rate in 2009, 2010 et 2012!)
- ✓ A high-quality course for research with the possibility of obtaining a specific doctoral contract for *normaliens* (around 2,000 euros gross per month).

## Career Opportunities

The course leads to many career opportunities:

- In the research field: professor-researcher (lecturer), full-time researcher...
- In secondary education: EPS Agrégé professor
- In higher education: PRAG in STAPS.
- Other public service or health sector professions

Besides our excellent results at the EPS Agrégation leading to careers in education and training, a number of students pursue their university studies undertaking PhD training to become a researcher or professor-researcher.

To do so, after examination of their academic record, they can benefit from funding in the form of a research grant combined with a teaching mission (equivalent of 64 hours of directed classes at the university) for three years.

Since the Department was created, all students who have wished to go on to study for a PhD, have obtained funding enabling them to do so.

## Research

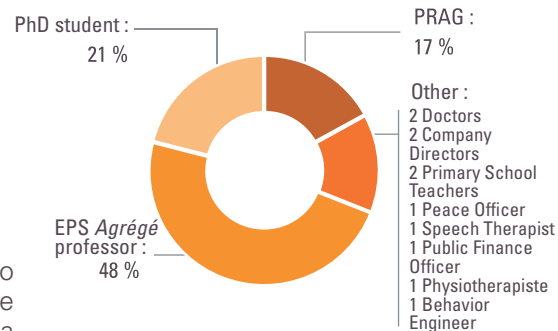
In the Sport Sciences field, research involves complex phenomena that require multidisciplinary approaches, through the development of scientific work in Life and Health Sciences, Engineering Sciences and also in Social Sciences.

Research is being developed in the Department, as in the other faculties of *ENS Rennes*, by working with the existing research units of the *Université Rennes 2*: M2S and VIP&S Laboratories.

- The Movement, Sport and Health (M2S) Laboratory is a joint entity of the *Université Rennes 2* and *ENS Rennes*. Its overall mission is to gain a better understanding of human movement by combining expertise in Biomechanics and Physiology >> [www.m2slab.com](http://www.m2slab.com)
- The Violence, Identities, Politics and Sports Laboratory (VIP&S) is a social sciences research laboratory of the *Université Rennes 2*. Its purpose is to analyse physical sporting and artistic activities in both their synchronic and diachronic aspects.  
>> [www.sites.univ-rennes2.fr/violences-identites-politiques-sports](http://www.sites.univ-rennes2.fr/violences-identites-politiques-sports)



## KEY FIGURES



Examples of alumni employment situations in 2013

Since 2009 between

**90 %**  
and

**100 %**  
pass rate for the Agrégation

## Research activities:

### ViP&S (EA 4636)

- Violence, prevention, education,
- Identities, construction and remediation,
- Public & sports policies, evaluation.

### M2S (EA 1274)

- A commun research laboratory in collaboration with the *Université Rennes 2* on the Ker Lann site.
- Physical activity, nutrition, health
  - Analysis, modeling and simulation of motion and disability,
  - Nervous factors and tissue structure.

## CONTACTS

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