

# CURRICULUM

## THE MATH & COMPUTER SCIENCES GRADUATE SCHOOL

{M & CS}

*Studying  
at*  
**USPN**

### MORE INFORMATION

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<https://eur.univ-paris13.fr>

### CONTACT AND ACCES

#### Partners :



Laboratoire d'Informatique de Paris Nord (CNRS – UMR 7030)



Laboratoire Analyse, Géométrie et Applications (CNRS – UMR 7539)



Laboratoire de Traitement et Transport de l'Information (EA3043)



Centre national de la recherche scientifique (CNRS)



Programme d'investissements d'avenir (PIA)

Institut Galilée

UNIVERSITÉ SORBONNE PARIS NORD  
CAMPUS DE VILLETANEUSE

99, av. Jean-Baptiste Clément - 93430 Villetaneuse

## THE MATH & COMPUTER SCIENCES GRADUATE SCHOOL

The M&CS Graduate School is an international, 5-year, high-level curriculum. It is endorsed by the [Galileo Doctoral School](#) and three local masters: Mathematics, Computer Science, Engineering and Innovation in Images and Networks. **Three laboratories at Sorbonne Paris Nord University actively participate in this graduate school:** LAGA – the laboratory of Mathematics -, LIPN – the laboratory of Computer Science -, L2TI – the laboratory for Visual Information and Network Analysis and Processing. The interactions between Mathematics and Computer Science are highlighted in the graduate school to promote interdisciplinarity in teaching and research.

### Why choose this graduate school?

**The last decade has seen a considerable increase in the need for skills in domains combining both Mathematics and Computer Science:** Big Data, Quantum Computation, Machine Learning, Continuous and Discrete Optimization, Complexity Theory and Visual Computing. Students enrolled in this graduate school will have the opportunity to attend classes from different masters. Students of the EUR school program will be in close contact with current research through internships within the partner laboratories, and participation in seminars and conferences organised locally, doing short internships in the laboratories, and working on open problems. Finally, industrial partners will also be associated with the program through conferences, internships, CIFRE PhD contracts.

## « GRADUATE SCHOOL » (EUR) : WHAT IS IT?

The « Ecoles Universitaires de recherche » (EUR) gathers the master and the PhD training as well as one or several high level research units.

This project brings together research organizations with a strong international dimension and maintain close links with economic players.

### This project aims to:

- enhance learning through research at the highest level ;
- attract the best students by offering a supportive learning environment.
- valorize the strongest research areas of each laboratory ;

## APPLYING TO THE GRADUATE SCHOOL

### There are two calls for applications every year

**1) Application for Master's program.** These calls are open to students holding a bachelor's degree or equivalent, or expecting to graduate before the start of the program:

- one call in January for international students currently residing in countries concerned by the « *Etudes en France* » procedure;
- one call in April for all other cases.

### 2) Application for the PhD program : from December to June.

This call is open to students holding a master's degree without any restriction on nationality. The application should be supported by at least one of the EUR's laboratories. Candidates currently enrolled in a PhD program or already holding a doctoral degree are not eligible.

**Female students are particularly encouraged to apply.**

## BEING AN M&CS STUDENT

### Benefits

- **Annual scholarship** - selection on criteria
- **One travel grant for international mission** (in M2)
- **Mentoring program:** one personal mentor during all the curriculum
- **Customized training**
- **Exchanges with industrial and international academic partnerships** via events and meetings

### For foreign students:

- **One round-trip from Paris to the city of residence** each year
- **Housing facility (CROUS)**

### Requirements

- **Choosing both a major and a minor** thematics between math, computer science, visual computing and network.
- **Choosing master courses (including internships):** 60% of classes in the major, and 40% in the minor.
- **Being involved and participate in M&CS events**
- **Doing at least one mission abroad (M2)**

*Each year the application of each student is reevaluated to pursue into the graduate school.*