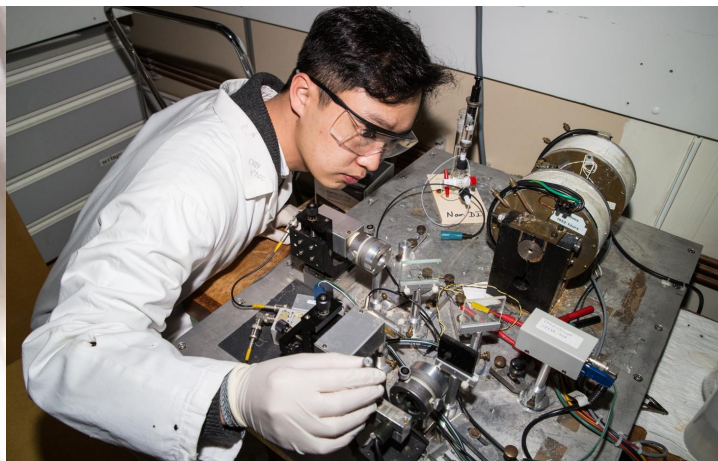
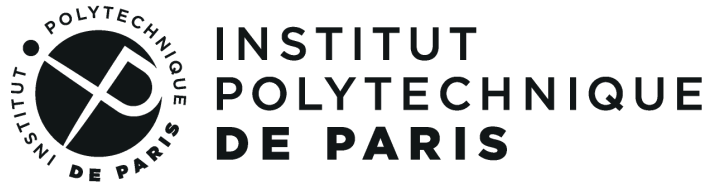


# The IP Paris Doctoral School

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Matthew Nguyen  
December 5<sup>th</sup>, 2023



# The IP Paris Doctoral Program

## Key numbers

**32**

Laboratoires

**853**

PhD Students

**800**

Researchers and Professors

**550**

HDRs

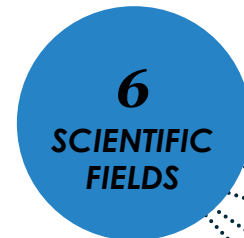
**46%**

Foreign PhD Students

**29%**

Women

- Multidisciplinary Doctoral School
- Interdisciplinary research is encouraged!



Economy, Management, and Social Sciences

Biology and Chemistry

Information, Communications, Electronics

Computer Science, Data and Artificial Intelligence

Engineering, Mechanics and Energy

**Physics**

Physics includes theoretical and experimental physics of the **two infinities**, in strong interplay with lasers and plasmas. Light and matter are also at the core of condensed matter sciences, nanoscience and nanotechnologies, which lead to essential breakthroughs in various fields such as electronics, communications and energy as well as biology and medicine.



**Coordinators:** Davide Boschetto (ENSTA), Marie-Claire Schanne-Klein (X)  
& **Matthew Nguyen (X)**

**PhD specialties:** Optics, Laser and Plasma; **Astrophysics**; Condensed Matter Physics; **Particle Physics**; Quantum Physics

**Laboratories:** **CPHT**, IPVF, **LLR**, LOA, LOB, LPP, LULI, OMEGA, PICM, PMC

**Institutions:**



# Finding a PhD @ IP Paris

The official instructions

<https://www.ip-paris.fr/en/education/phd-programs>

There are two ways to enrol for a doctorate at IP Paris:

- Get into contact with a researcher/professor from one of the IP-Paris laboratories, develop in collaboration with him/her a PhD project and discuss funding possibilities. This is generally done in the middle of the M2 year, when choosing research internships. Once a few compulsory documents have been collected (thesis project, CV, M2 grades, letter of support from the thesis supervisor), one must obtain the agreements from the director of the laboratory and the director of the doctoral school. Then the application can be deposited on ADUM.
  
- Consult the thesis proposals of IP Paris schools, some of which are open for applications:
  - [École polytechnique](#)
  - [ENSTA Paris](#)
  - [ENSAE Paris](#)
  - [Télécom Paris](#)
  - [Télécom SudParis](#)
  - [All PhD Topics at ED IP Paris](#)
  - [All PhD Topics at EDMH](#)



Note that not all offers have already appeared on the IP Paris page  
Rather you have to go to the pages of the relevant labs, which for you are  
CPHT (theory) and LLR (experiment)

<https://llr.in2p3.fr/m2-thesis-proposals-2024>

<https://www.cpht.polytechnique.fr/?q=en/node/163>

# Thesis offers at LLR

<https://llr.in2p3.fr/m2-thesis-proposals-2024>

[Jet substructure of gluon splitting with CMS](#)

[Characterizing the charm hadronization with LHCb](#)

[Hunting new physics the Higgs with CMS](#)

[Constraining new physics with dibosons using EFT in CMS](#)

[Higgs boson trilinear self-coupling at HL-LHC](#)

## Masters internship & PhD thesis proposals (2024)

23 October 2023

M2 internship and thesis proposals at LLR in 2024

| Experiment           | Title   | Details           |
|----------------------|---|-------------------|
| <a href="#">CMS</a>  | <b>Jet substructure of gluon splitting</b><br>Master internship and/or PhD<br>contact : Matthew Nguyen <a href="#">email</a>  | <a href="#">?</a> |
| <a href="#">LHCb</a> | <b>Characterizing the charm hadronization with the LHCb experiment</b><br>M2 / PhD thesis<br>contact : Emilie Maurice <a href="#">email</a><br>contact : Frédéric Fleuret <a href="#">email</a> | <a href="#">?</a> |
| <a href="#">CMS</a>  | <b>Hunting for new physics through measurements of the Higgs boson</b><br>M2 / PhD thesis<br>contact : Adinda de Wit <a href="#">email</a>  | <a href="#">?</a> |
| <a href="#">CMS</a>  | <b>Constraining new physics in diboson measurements using effective field theory</b><br>M2 / PhD thesis<br>contact : Andrew Gilbert <a href="#">email</a>                                       | <a href="#">?</a> |
| <a href="#">CMS</a>  | <b>Higgs boson trilinear self-coupling measurement at HL-LHC</b><br>M2 / PhD thesis<br>contact : Claude Charlot <a href="#">email</a>   | <a href="#">?</a> |



### Download

- [lhcb\\_thesissubject2024.](#) (PDF - 75.1 kb)
- [masterinternship\\_cms\\_2](#) (PDF - 1.7 Mb)
- [m2\\_higgs\\_adewit\\_2024.](#) (PDF - 23.1 kb)
- [internshipproposal2024.](#) (PDF - 237.9 kb)

### Internships, Thesis & Teaching

- ∞ M2/Thesis
  - ∞ Masters internship & PhD thesis proposals (2024)
  - M2, Thesis proposals (2022)
  - Thesis in progress
- Teaching

# Thesis competition (concours)

Apply here:

<https://www.ip-paris.fr/education/doctorat>

## Dossier includes

- Signed candidature document
- Letter of motivation
- Thesis project
- Copy of diploma / grades
- 2 letters of recommendation

## Key dates

|                            |                            |
|----------------------------|----------------------------|
| Early admission deadline   | February 15 <sup>th</sup>  |
| Early admission results    | Before end March           |
| Early admission interviews | March 6 – 15 <sup>th</sup> |
| Regular admission deadline | April 15 <sup>th</sup>     |
| Interviews                 | May 13 – 22 <sup>nd</sup>  |
| Results                    | Early June                 |

## Audition / interview

- Jury of ~8 physicists from all sub-fields
- 10 – 15 minute presentation: summary of CV, prior research, thesis project & motivation

## Concours

- A few projects are funded at the early admission deadline (*appel anticipé*)
- The rest pass automatically to regular admission (*concours general*)
- There is then a pre-selection, with most candidates passing to the audition stage

# Take home messages

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- Excellent opportunities exist for PhD research at IP Paris
- **These opportunities are open to NPAC students**
- I highly encourage you to directly contact potential internship advisors ASAP
- Also feel free to contact me directly: [Matthew.Nguyen@cern.ch](mailto:Matthew.Nguyen@cern.ch)
- Some advice:
  - Explore several possibilities to better understand the offers
  - Discuss plans for financing the PhD thesis w/ potential advisors

