



IMT Atlantique
Bretagne-Pays de la Loire
École Mines-Télécom

Master of IT Research, Rennes Campus

Scientific Supervisor : **Laurent Toutain**

IMT Atlantique is co-accredited to grant the Master of Research in "Mathematics and IT Engineering", specialising in "**IT Research**", with:

- the University of Rennes 1 (Master of IT Research - MRI)
- the University of West Brittany (UBO)
- the University of South Brittany (UBS)
- the National Engineering School, Brest (ENIB)
- the National Institute of Applied Science, Rennes (INSA)
- Centrale Supélec
- Ecole Nationale Supérieure, Cachan (Brittany branch)

This research master's is made up of the **core subjects**, a **thematic course** selected from five options, and an **internship**.

- The core includes two teaching modules (four ECTS credits; 20 hrs per module) and a dual module on the methodological approach to research, called BIBL-COLQ which counts for eight (six+two) ECTS credits.
- Each course is composed of a predefined combination of five teaching modules (20hrs and four ECTS credits each).
- Lastly, the internship is worth 24 credits.

Objectives of the programme

The Master of IT Research specialisation seeks to give each student an advanced understanding in a specific field of research, which remains sufficiently broad to allow for continued doctoral studies on diverse topics. It offers specific courses spread over the different co-accredited partner institutes according to their research competencies. The interesting courses selected are not only up to date and foundational, but also concern fundamental technological issues, which anchors the training in topical themes of public and private research. They are therefore likely to evolve over time. Each student selects a course at the time of application.

Programme

The **theoretical component** is made up of **seven modules** of twenty teaching hours, of which five are offered to students in their chosen stream.

The **practical component** includes a **bibliographical study**, which is the object of a presentation, and an **internship** in a reputed research team.

A **series of lectures** aimed at giving information on areas related to research professions is offered in the META module (extra-scientific aspects of professional research).

This master's is offered over **two semesters**. The first semester, from mid-September to the end of January, includes the theoretical component, the bibliographical study and the series of lectures. The second semester, from the beginning of February to the end of June, is spent on internship.

For more information on the different streams and the programme, please visit the Master of IT Research website for a detailed presentation and the Master of Research Programme.

Master of IT Research Core Subjects (University of Rennes 1)

The "transverse culture" section consists of **two modules**, each consisting of twenty teaching hours; chosen from three possible modules. They are re-evaluated every year and can be renewed every two years.

As well as the three main modules, students may attend three-hour lectures, given by the host team staff members and others.

Methodological approach to research

Methodological training includes a bibliographical study, practical work in a research team (an internship), a series of lectures and seminars, and training in oral presentation skills through participating in the master's symposium.

The bibliographical study (BIBL module), indispensable in any research work, is compulsory for all master's students. At the end of the first semester, students hand in a bibliographical study on the topic of their internship. This bibliographical study is evaluated by a reading committee who advise on how the document could be improved. This exercise is organised like the submission of a scientific article.

The Master's Symposium (COLQ Module) gives every student the experience of giving a twenty-minute scientific presentation. The work is organised into three phases: acquiring speaking skills, rehearsals, and actually attending the master's symposium. The content of the presentation is based on the bibliographical study (BIBL module). The symposium is open to all streams of the Matisse doctoral school ("Mathematics, Telecommunications, IT, Signals, Systems and Electronics").

A series of lectures (META module) must be attended by all students. In this series, different lecturers teach on written and oral scientific communication skills, research professions, the organisation of research, and new communication techniques (networks). These lectures may also be consulted on-line.

Other information relating to these modules is available on the Master of IT Research website.

Further study in a particular area

This "Rennes specialisation" aims to give future researchers the skills needed for apprehending the core issues of their thesis topic more rapidly.

This specialisation is made up of:

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- a choice of thematic courses from the five below:
 - Component-based embedded software
 - Networks and distributed systems
 - Security of content and IT infrastructures
 - From data to knowledge
 - Images and interactions
- The internship topic

The Research Master's internship is divided into two periods (the specific dates change each year):

- From the beginning of October to the beginning of February: students use this period to investigate their topic; they complete their bibliographical study through reading articles, reports or theses as directed by the supervisor and conduct personal research on other documents. This study leads to a report and a presentation as part of a symposium.
- De début février jusqu'à la soutenance : l'étudiant est intégré dans le projet de recherche et y travaille à plein temps à la réalisation de l'objectif du stage.

Enrolment procedure

Admissions are in June and enrolment takes place in September in the Admissions Office at IMT Atlantique.

1) Engineering students studying at IMT Atlantique

Engineering students who have validated the first four semesters of their engineering course may be accepted into the second year of the Research Master's programme. Engineering students file an application; forms available at the **Student Services office (IG3A-MR)**. Applications are examined by an admissions panel from the field of the master's specialisation. The admission may not be considered definitive until the four semesters have been completely validated and the panel has deliberated. In this case, the student may be enrolled simultaneously in the second year of the master's programme and the third year of the engineering programme.

2) Master of Science students studying at IMT Atlantique

Master of Science students who have obtained all the credits for their first-year master's are eligible for the second year of a research Master's. Students must complete an application form, available at the student services office. Applications are examined by an admissions panel from the field of the master's specialisation. The admission may not be considered definitive until both semesters of the first year of master's have been validated and the panel has deliberated.

Applications

Contact : [Delphine Keldermans](#)

The closing date for filing applications is **June 20, 2016**.

3) Students from outside Telecom Bretagne

Only applications from international students whose original school has signed an agreement with Telecom Bretagne or who are part of a common international programme will be considered. Applicants must email a letter of nomination from their university to the International Relations

Department: international@telecom-bretagne.eu

Other students must request application forms from:

Béatrice Maret, ISTIC, Campus universitaire de Beaulieu, 35042 RENNES Cedex, France - Ph: 02 23 23 39 19 Email: secr-m2-info-rech@univ-rennes1.fr

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