

*Welcome to this original & exciting master program!*

2025–2026

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**IDIL**

**Photonics & Electronics Sensors  
for Health and Environment**

**Kickoff meeting**

Contacts

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**official website:**

<https://idil.edu.umontpellier.fr/en/>

version 27 / 08 / 2025

# Organisational Chart

- ❖ IDIL program is ruled by:
  - ❖ IDIL Team
  - ❖ EEA Teaching Department
  - ❖ IES Laboratory
- ❖ Specific Contacts:
  - ❖ S. Blin & B. Sorli
  - ❖ Your selected mentor!



# IDIL Programm Planning Overview

First Semester

Second Semester

M1

TRAINING UNITS 20 ECTS max				PERSONAL PROJECT 10 ECTS	INTERNSHIP RECHERCHE 30 ECTS
<b>CORE TU</b> ETCS 10 - 12	<b>NON CORE TU</b> ETCS 2-4	<b>TRANSVERSAL TU</b> / ETCS 4	<b>IN LAB TU</b> ETCS 2		
Enseignements <b>fondamentaux</b> propre à une thématique	<b>Initiation</b> à une autre thématique du programme IDIL (non-initiés)	Enseignements <b>méthodologiques</b>  Ex : Bibliographie Rédaction article Gestion de projet en lien avec le collège doctoral	<b>Ateliers / cas pratique</b>  Apprentissage d'une notion ou technique sur un ou deux jours en labo	<b>Approfondissement</b> d'un projet personnel en lien avec la recherche	<b>Immersion</b> 6 mois en labo + <b>Apprentissage</b> de notions non abordées en cours  Cahier des charges à établir pour les mentors et les tuteurs

M2

TRAINING UNITS 20 ECTS			MULTIDISCIPLINARY TEAM PROJECT 10 ECTS	INTERNSHIP RECHERCHE 30 ECTS
<b>CORE TU</b> ETCS 12	<b>NON CORE TU</b> ETCS 4	<b>TRANSVERSAL TU</b> ETCS 4		
Enseignements <b>fondamentaux</b> commun à une thématique	<b>Initiation</b> à une autre thématique du programme IDIL (non-initiés)	Enseignements <b>méthodologiques</b>  Ex : Bibliographie Rédaction article Gestion de projet en lien avec le collège doctoral	<b>Définition et gestion</b> d'un projet impliquant avec les étudiants IDIL de différents parcours en lien avec la recherche	<b>Immersion</b> 6 mois en labo + <b>Apprentissage</b> de notions non abordées en cours  Cahier des charges à établir

**IDIL Mirror thesis  
or other opportunities  
after M2 !**



# SUMMER SCHOOL PROGRAM

## • MONDAY 1st SEPTEMBER

4:15 p.m Friendly refreshment

5 p.m Co-Heads of the IDIL graduate program **Pr. Agnès Fichard - Carroll & Pr. Mathieu Sicard presentation**

5:30 p.m **"What Science is Not"**, Dr. Marc Smyrl, University of Montpellier, CEPEL

6:30 p.m **"Precision Imaging as New Key for Cancer Care"**, Dr. Stéphanie Nougaret, University of Montpellier, INSERM, ICM

## • TUESDAY 2nd SEPTEMBER

4:15 p.m Friendly refreshment

5 p.m **"Theoretical Physics of Condensed, Soft, and Living Matter"**, Dr. John Palmeri, University of Montpellier, CNRS, L2C

6 p.m **"The ascidian embryo: a "simple" model system for multiscale analysis of embryonic development"**, Dr. Patrick Lemaire, University of Montpellier, CNRS, CRBM

## • WEDNESDAY 3rd SEPTEMBER

12 a.m IDIL Graduate program opening speech by **Pr. Philippe Augé** President of the University of Montpellier

12:30 a.m Meeting Buffet

1:30 p.m **Finding your research team**, a mentors-students meeting

4:30 p.m Friendly refreshment

5 p.m **"Nature-Based Solutions to Face the Challenges of Water Resources under Climate Change"**, Dr. Cristina Valhondo, University of Barcelona, Spanish National Research Council, IDAEA-CSIC

6 p.m **"Moveo Ergo Sum (I move therefore I am)"**, Dr. Benoît Bardy, University of Montpellier, CNRS, EUROMOV

## • THURSDAY 4th SEPTEMBER

4:15 p.m Friendly refreshment

5 p.m **"Tipping points in ecological systems"**, Dr. Sonia Kefi, University of Montpellier, CNRS, ISEM

6 p.m **"The footprint of life: how we investigate the chemical traces that rule ecosystems"**, Dr. Raphael Lugan, University of Montpellier

## • FRIDAY 5th SEPTEMBER

10 a.m - 4 p.m Student's integration day

6 - 10 p.m **IDIL student's Gala with cocktail reception**  
Please try to be there on time !

### Locations of the event

(scan the associated color code)

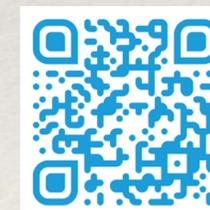
IAE MONTPELLIER  
LECTURE HALL  
ROBERT REIX



BOTANY INSTITUTE  
LECTURE HALL  
CHARLES FLAHAULT



TRIOLET  
STUDENT HOUSE  
(MDE)



ORANGERIE  
JARDIN DES  
PLANTES



# Courses Overview for M1

## Core Units

- ❖ **HA1I09E (HAE703E) Analog Electronics** / Electronique analogique (resp. Gilles Despaux)  
Follow **only** Amplification and Photonics (F. Gonzalez) & Filters (T. Delaunay) - **Courses in French** but English support
- ❖ **HA1I10E (HAE901E) Sensors & Associated systems** / Capteurs et systèmes associés (resp. Philippe Christol)  
Follow **only** Sensors Basis (B. Sorli) & Acoustic Sensors (G. Despaux)
- ❖ **HA1I08E (HAE906E) Lasers & Photodiodes** / Émetteurs & Récepteurs Photoniques & Hyperfréquences (resp. Annick Plagellat)  
Follow **only** Photonics parts: Semiconductors (A. Vicet), Amplifiers (R. Kribich), Lasers (S. Blin), Detectors (P. Christol)
- ❖ **QAM1TTRA Transversal Training Unit 2B** (resp. École Doctorale): **choose 32h (level 1 only)**  
Methodology Tools such as References, Article writing, project management... [<https://idil.edu.umontpellier.fr/files/2023/09/Version-2-2.pdf>]
- ❖ **QAM1PPRJ UE PERSONAL PROJECT** (chosen at the mentor-student meeting)
- ❖ **QAM1ILAB IN LAB (custom)**  
Experimental skills developed at IES: **choose at least 1 course**
- ❖ **Non-Core (custom)**  
Mind opening course: **choose one course** (except *Bionic Man*)

# Courses Overview for M2

- ❖ HAE701E **Signal Processing** / Traitement du signal (resp. Olivier Strauss) | Ressources : [https://web.xidian.edu.cn/cfliu/files/20121125\\_153153.pdf](https://web.xidian.edu.cn/cfliu/files/20121125_153153.pdf)
- ❖ **Choose two courses among:**
  - ❖ HA1I22E (HAE905E) **Embedded electronics and Communication** / Electronique embarquée et Communication (resp. Brice Sorli)  
Follow **only** Wireless sensors (B. Sorli & A. Vena), Internet of Things (F. Martinez & B. Sorli) - **no** Labview
  - ❖ HAI23E (HAE918E) **Wireless communications** / Transmission sans fil (resp. Sylvie Jarrix)  
Follow **only** Microwave Transmission (S. Jarrix) - **no** Radar, CEM
  - ❖ HA1I24E (HAE906E) **Microwave components and noise (including optoelectronics noise)** / Composants hyperfréquences et bruit (resp. Annick Plagellat)
  - ❖ HA1I25E (HAE915E) **Pratiques Expérimentales & Numériques** (resp. Stéphane Blin)  
Follow **only** Photonics practical works (S. Blin)
  - ❖ HA1I26E (HAE910E) **Photonics Metrology and Instrumentation** / Métrologie photonique et instrumentation (resp. Aurore Vicet)
  - ❖ HAE925E **Technologie de Conception des capteurs** (resp. Pascal Falgayrette)
- ❖ **Transversal Training Unit 2B** (resp. École Doctorale): **choose 32h (level 2 possible only if level 1 chosen in M1)**  
Methodology Tools such as References, Article writing, project management... see <https://idil.edu.umontpellier.fr/files/2023/09/Version-2-2.pdf>
- ❖ **UE multidisciplinary project (custom)**
- ❖ **Non-Core (custom)**  
Mind opening course: **choose two courses** (except the one followed in M1 and *Bionic Man*)

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# M1 Personal Project

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- ❖ **Evaluation: Report (project bibliography) + Talk (project presentation and internship milestones)**
- ❖ **Choose one project this Wednesday through poster discussions with possible mentors among the following:**
  - ❖ Powerful structured THz source based on original photoconductive antennas based on III-V technologies applied to agronomy and environment monitoring, *S. Blin (IES)*
  - ❖ Human motion monitoring via UHF RFID wristband, *B. Sorli (IES)*
  - ❖ Microelectromechanical systems (MEMS) for photoacoustic gas spectroscopy, *M. Bahriz (IES)*
  - ❖ Exotic structured laser light for enhanced societal applications: towards THz sensing, data processing, biophotonics, *A. Garnache (IES)*
  - ❖ An Inkjet Printed RFID-enabled Humidity Sensor on Paper based on Biopolymer, *B. Sorli (IES)*
  - ❖ Hyperspectral imaging data combined with climate data to predict stomatal conductance and transpiration of grapevine plants using Sequentially-Orthogonalized Partial-Least-Square Regression (SO-PLS), *D. Heran & R. Bendoula (INRAE ITAP)*

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# In Lab for M1 students

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- ❖ **IN LAB courses chosen (at least one) with your mentor in agreement with your personal project:**
  - ❖ Gas sensors based on IR spectroscopy, applications to environnement and health diagnosis, *A. Vicet (IES)*
  - ❖ Infrared detectors for environmental spectroscopy applications and medical thermal imaging, *P. Christol (IES)*
  - ❖ Introduction to epitaxy, *E. Tournie (IES)*
  - ❖ Introduction to modelling and simulation of carrier transport in electronic devices, *L. Varani (IES)*
  - ❖ Advanced optical characterisations (Beam, streak-camera, Wavefront, etc.), *A. Garnache (IES)*
  - ❖ CW THz instrumentation, *S. Blin (IES)*
  - ❖ Development of optical sensors for agro-environmental applications, *D. Heran (ITAP)*
  - ❖ Optical fibers and optical components (Principles, Manipulation, cleave, splicing, characterisation), *S. Blin (IES)*
  - ❖ Instrumentation & microwave metrology, *A. Plagellat & P. Nouvel (IES / HERMES platform)*
  - ❖ RFID and Sensor RFID: Design, fabrication, characterization, *A. Vena & B. Sorli (IES)*
- ❖ **Evaluation : summary (few pages) for each In Lab course (>12h ETD)**

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# Transversal Training Unit (TTU)

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- ❖ During septembre, you will receive a questionnaire to choose your Non-Core and Cross-Core units. Please reply as soon as possible to secure your place but **check schedule matching either core units!!**
- ❖ Available Catalog on IDIL Website:  
<https://idil.edu.umontpellier.fr/master-idil/composition-du-master/personnalisez-votre-programme/>
- ❖ Available Calendar on IDIL Website:  
[https://calendar.google.com/calendar/embed?src=c\\_f953dafdf57707a80f44c597effbdf28bf893eed4bdc98ed3d81b3973c44eaa4@group.calendar.google.com&ctz=Europe/Paris](https://calendar.google.com/calendar/embed?src=c_f953dafdf57707a80f44c597effbdf28bf893eed4bdc98ed3d81b3973c44eaa4@group.calendar.google.com&ctz=Europe/Paris)
- ❖ Custom your TTU by choosing **32h | M1 students, choose Level 1 courses!**
- ❖ **Evaluation:**
  - ❖ **M1 : during personal project oral presentation, few questions on the TTU to evaluate what TTUs brought to you and your project**
  - ❖ **M2 : specific oral presentation showing what TTU brought to you and your project.**

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# Non-Core Units

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- ❖ **Non-Core Unit chosen with your mentor in agreement with your personal project if possible:**

- ❖ HA1I01B Mediterranean Terrestrial Ecosystems
- ❖ MAM1IDIN Innovations for personalized medicine
- ❖ HA1I01H Defusing quantitative bullshit
- ❖ HA1I01V Plant health 2.0: a global war
- ❖ DAPCNCM1 Why democracy is hard?
- ❖ PAM1IDCH Challenges in chemistry for health and environment
- ❖ HA1I01T Scientific openness to earth and water issues under global change

- ❖ HA1I03B One Health and Eco-Epidemiology
- ❖ KAPMS790 Sustainable Management Basics
- ❖ SAMIDNC1 IN-MOTION: How the way we move reveals who we are
- ❖ HA1I22V Biology by the numbers: Measure, Predict, and Design
- ❖ PAMCBWCA The Chemistry of Beer, Wine, and Culinary Arts
- ❖ HA1I22B Explore, understand, and learn: an outdoor journey in Sustainability
- ❖ HA1I23V Who's afraid of AI?
- ❖ HA1I01V Genome editing : policy, legal and institutional issues.

- ❖ **Choose one non-core unit for M1 | two non-core units for M2!**

Available Calendar (under construction) on IDIL Website:

<https://calendar.google.com/calendar/embed?>

[src=c\\_f953dafdf57707a80f44c597effbdf28bf893eed4bdc98ed3d81b3973c44eaa4@group.calendar.google.com&ctz=Europe/Paris](https://calendar.google.com/calendar/embed?src=c_f953dafdf57707a80f44c597effbdf28bf893eed4bdc98ed3d81b3973c44eaa4@group.calendar.google.com&ctz=Europe/Paris)

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# Calendar & Deadlines

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- ❖ Calendar subscription link:

<https://cloud.ies.univ-montp2.fr/owncloud/index.php/s/fAyDy1ZIZ8BuiYd/download?path=%2F&files=idilfusionM1.ics>

- ❖ Deadlines

- ❖ INLAB: report deadline: Dec. 12
- ❖ Personal project: report deadline: Dec. 12 + oral presentation January/February 2026 | Following M1 EEA + IDIL rules
- ❖ TTU: evaluated during personal project presentation through few questions
- ❖ Internship: report for August 21, 2026 + oral presentation around September 1, 2026 | Following M2 EEA Phys project rules (scientific article)

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# Other Links

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- ❖ **IDIL Handbook**

<https://heyzine.com/flip-book/b056304ae2.html>

- ❖ **LinkedIn M2 EEA Phys (jobs, internships...):**

<https://www.linkedin.com/company/master-eea-phys>

- ❖ **Montpellier courses description:**

<https://formations.umontpellier.fr/fr/index.html>

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# Administrative Rules

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## Diploma Obtention Rules

- No Semester compensation
- No annual compensation
- Maximum rule for second session (if available)
- **Threshold score of 7/20 for M1 students and 8/20 for M2 students!**

## Score rule for each core unit ruled by faculty of science

[https://sciences.edu.umontpellier.fr/files/2024/10/MCC\\_202425\\_validees\\_conseil-FDS\\_18-septembre-2024\\_AFFICHAGE.xlsx](https://sciences.edu.umontpellier.fr/files/2024/10/MCC_202425_validees_conseil-FDS_18-septembre-2024_AFFICHAGE.xlsx)

## Semester score weighted by unit credits (ECTS):

- HA1I08E : 5 ECTS
- HA1I09E : 3 ECTS
- HA1I10E : 4 ECTS
- QAM1TTRA Transversal Training Units IDIL : 4 ECTS
- QAM1ILAB In-Lab : 2 ECTS
- NON CORE : 2 ECTS
- QAM1PPRJ Personal Project : 10 ECTS

# Situation de handicap ?

Un guide

Un service universitaire

PARLEZ-EN :

- A votre responsable de mention,
- A vos enseignant · es,
- Au service Handiversité,
- Au service de Médecine,
- Au chargé de mission FdS.

Nous sommes là pour vous accompagner.

Un contact

Emmanuel Le Clézio  
Chargé de Mission Faculté des Sciences  
emmanuel.le-clezio@umontpellier.fr



Deux sites web

<https://www.umontpellier.fr/campus/sante-social-et-handicap/etudiants-et-handicap>

<https://sciences.edu.umontpellier.fr/espace-etudiants/>

## Service Handiversité

Le service Handiversité  
Bureau de suivi des étudiants  
vous reçoit sur rendez-vous :

- sur le campus Triolet,  
Direction Vie des Campus,  
RDC du bâtiment 5 : du  
lundi au vendredi de 9h à  
12h et 14h à 17h ;
- permanences en centre-  
ville et Richter

## Courriel

Tel : 04 67 14 41 44

## Service de médecine préventive (SCMPPS)

Le SCMPPS vous reçoit sur  
rendez-vous :

## Montpellier :

- Campus Triolet : 04 67 14  
31 48
- Occitanie : 04 34 43 30 79 /  
04 11 75 93 93
- Site Richter : 04 34 43 24 26

# Sexisme et violences sexistes et sexuelles (VSS)

➤ 6 étudiant·es sur 10 sont victimes ou témoins d'au moins une forme de **sexisme**, **LGBTphobie** ou **violence sexuelle** (<https://observatoire-vss.com/>)

➤ Ces agissements sont des délits, punis par la loi



Sexisme = ensemble des comportements, conscients ou inconscients, fondés sur des stéréotypes de sexe - peut se traduire par des actes anodins en apparence visant à inférioriser les femmes

Violences sexistes et sexuelles (VSS): plusieurs degrés de gravité, de l'outrage sexiste au viol - passibles d'une amende ou peine de prison

[https://www.umontpellier.fr/wp-content/uploads/2023/04/Guide\\_VSS.pdf](https://www.umontpellier.fr/wp-content/uploads/2023/04/Guide_VSS.pdf)

## Victime ou témoin de tels agissements? Signalez le!

❖ Dispositif de signalement de l'UM:

<https://www.umontpellier.fr/universite/enjeux-environnementaux-et-responsabilite-sociale/signaler-les-actes-de-violence-de-discrimination-de-harcelement-et-dagissements-sexistes>



[qvt-signalement@umontpellier.fr](mailto:qvt-signalement@umontpellier.fr)  
[referente-egalite@umontpellier.fr](mailto:referente-egalite@umontpellier.fr)



❖ Chargée de mission Égalité Femme-Homme à la Faculté des Sciences

[marina.hery@umontpellier.fr](mailto:marina.hery@umontpellier.fr)  
[04 49 33 82 53](tel:0449338253)

