



Ecole Doctorale SPIM SPIM Doctoral School





Sciences Physiques pour l'Ingénieur et Microtechniques



Engineering Sciences and Microtechnologies



https://spim.ubfc.fr/ https://collegedoctoral.ubfc.fr

https://fr.linkedin.com > ed-spim-60976b133



Presentation



UNIVERSITE FRANCHE-COMTE

The Doctoral School of Engineering Sciences and Microtechnologies (ED SPIM, ED37) is under the governance of the Doctoral College of the University of Bourgogne Franche-Comté COMUE UBFC :



https://collegedoctoral.ubfc.fr



The doctoral college UBFC groups together 6 doctoral schools and 1700 PhD students.



UBFC: Public establishment created by the Decree of 1 April 2015. The COMUE (Community of Universities and Institutions) groups together seven higher education and research institutions.





What are the objectives of the Doctoral Schools?

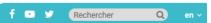
- Ensure the quality of PhD student recruitment.
- Ensure the quality of PhD student supervision and ensure respect for the Charter of theses
- Complete the training of PhD students at a high level
- Contribute to the coherence and international visibility in the supply of doctoral training institutions
- Support the international exchanges and the cooperation between teams
- Ensure the quality of the thesis
- Give the opportunity for PhD students to prepare and defend their theses in the best conditions
- Organize scientific exchanges between PhD students (with associations)
- Prepare and help for the professional integration of graduates







DOCTORAL COLLEGE



PHD AT UBFC THESIS TRAININGS HDR PHD STUDENTS COMMUNITY CAREER RESSOURCES / FAQ

The doctoral schools

Doctoral training is organised within the doctoral schools (DSs). In Bourgogne Franche-Comté, they are the responsibility of UBFC (since the transfer of the doctoral mission on 1 January 2017) and of its Doctoral College.

Article 3 of the decree of 25 May 2016 that sets the national framework of the course of training and terms leading to the award of the national doctoral degree defines the DSs' missions:

- 1° They implement an admission policy for PhD students, based on explicit and public criteria, let students know about admission conditions, the required skills, fundings likely to be granted, and the nature, quality, and rate of professional activity after graduation. They take part to the search for financing, and offer to grant funds so as to allow PhD students to prepare and defend their thesis in the best possible conditions;
- 2° They organise scientific exchanges between PhD students and the scientific community; they offer PhD students training activities that favour interdisciplinarity and the acquisition of a broad scientific culture including knowledge of the international research framework;
- 3° They ensure that each PhD student is trained in the ethics of research and in scientific integrity;
- 4° They ensure that a quality procedure of doctoral training is implemented, notably by setting up PhD students' individual follow-up committees, and offer supervisors to attend a training course or receive specific support;
- 5° They define and implement devices to support students in their post-graduate career in the public and private sectors, and organise the follow-up of the trained doctors' professional course in link with the relevant institutions;
- 6° They contribute to opening up at the European and international scales within the framework of cooperation actions with foreign higher-education institutions or research centers;
- 7° They give their opinion when research units or teams wish to integrate the DS.

The doctoral schools gather all the PhD students from Bourgogne Franche-Comté. Each DS has a well-defined scope in terms of disciplinary fields and doctoral specialties it delivers.

web site: https://collegedoctoral.ubfc.fr







■ in Rechercher Q fr ∨

web site: https://spim.ubfc.fr



ÉCOLE DOCTORALE SPIM

LinkedIn page https://fr.linkedin.com > ed-spim-60976b133



Your doctoral school Governance



* Director (Th. Leblois) and one Deputy Director (P. Marquié)

- A steering committee:
 - 5 members representative of 5 specialities
 - different geographical sites

The Doctoral School's steering committee examines all of the selected candidates for PhD applications and sends back to the supervisors the candidates who are validated by the doctoral school.

In the event of a major conflict between the PhD student and the thesis supervisor or the RU director, and in accordance with the terms of the UBFC thesis charter, mediation will be organized via the doctoral school steering committee.



Your doctoral school



Governance

A SPIM doctoral school board: 25 members

First part (institutions and research units): 13 + 2

FEMTO-ST: 7 representatives (1 representative from each department) + 1 lng,

ImViA: 1 + 1 Ing, CIAD: 1, LIB: 1

DRIVE: 1

Nanomedecine Lab: 1

ICB: 1

Second part: 10 members:

- 5 PhD students elected with a key distribution (2 Besançon, 1 Dijon and 2 Belfort)

Rai Talukder 4th year FEMTO-ST/ Optics Shutong Lai 4th year FEMTO-ST / MN2S

Hermes Mcgriff 3rd year ImViA Simon Stephan 2nd year CIAD

Théo Kziazyk 5th year FEMTO-ST/ Energy

5 representatives from outside of Doctoral School (1 international KIT, 1 BFC representative,

2 socio economic sector, 1 PMT)

Permanent invited members:

- the Director and the Deputy Director of the doctoral school
- The Directors of the laboratories
- The administrative staff





Role of the doctoral school board

The SPIM DS board approves the scientific policy, the budget allocation policy, the rules for the registration of PhD students, the allocation of doctoral contracts to the supervising teams, the training program and the internal regulations. It examines the results of the doctoral school's activities.

The DS board determines the number of doctoral contracts per research unit on the basis of criteria such as the number of active and available executive staff members, the average duration of the thesis, the number of theses abandoned, quality of supervision...

PhD students should participate in this committee :

- To better understand how our DS works
- To provide information to PhD students and to report the problems of PhD students

The active participation in this committee gives you 8h on your PIF for 3 years





Role of the Training Commission

The training committee: 20 members

The role of this commission is to make proposals to improve the SPIM's training program.

- The committee gives its opinion on the creation or ending of a training course.
- It creates evaluation sheets. It gives its view on the assessment of a training course, taking into account the evaluation sheets submitted by doctoral students.
- It contributes to the setting up of the calendar and the organization of the courses.
- 2 meetings per year

PhD students should participate in this training committee:

- to be involved in the choices of new training offers
- to be aware of the most popular and requested courses by PhD students

The active participation in the TC gives you 5h on your PIF for 3 years





Composition of the training committee (TC)

1	Thérèse Leblois	Director ED SPIM	10	Cécile Berriet	FEMTO-ST/ DMA
2	Patrick Marquié	Deputy-Director ED SPIM	11	Marie-Laure Betbeder	FEMTO-ST/ DISC
3	Fabrice Devaux	FEMTO-ST/Optics	12	Stéphane Galland	CIAD
4	Sébastien Euphrasie	FEMTO-ST/MN2S	13	Maxime Romanet	PhD student FEMTO-ST / optics
5	Yannick Benezeth	ImViA	14	Souhaila Boublouh	PhD student FEMTO-ST/Optics
6	Nader Mbarek	LiB	15	Merieme Ouhabaz	PhD student CIAD
7	Enrico Rubiola	FEMTO-ST / TF	16	?	?
8	Cécile Langlade	ICB	17	?	?
9	François Lanzetta	FEMTO-ST/Energy	18		

 Caroline Delamarche (Manager of the doctoral office, UTBM), Emilie Faivre and Edeline Elie (Office of Doctoral Studies, Besançon)



Organization, contacts



web sites: https://spim.ubfc.fr and https://collegedoctoral.ubfc.fr

email: ed-spim@ubfc.fr

Director: Pr. Thérèse Leblois

Deputy Director: Pr. Patrick Marquié

Doctoral School secretariats:

UFC: Alika Rossetti 03.81.66.66.02

(Administrative Director—assistant manager) alika.rossetti@ubfc.fr

UTBM - NFC: Caroline Delamarche 03.84.58.31.39

caroline.delamarche@ubfc.fr

UB: Céline Daubigney 03.80.39.58.17

celine.daubigney@ubfc.fr

Financial Management: Loïc Bernard 03.80.40.34.54

loic.bernard@ubfc.fr

Transversal trainings: Emilie Faivre 03.63.08.26.46

emilie.faivre@ubfc.fr

Specific SPIM trainings: Edeline Elie 03.63.08.26.46

ed7850el@u-bourgogne.fr

nord Franche-Comté trainings : Caroline Delamarche 03.84.58.31.39

caroline.delamarche@ubfc.fr



Your Doctoral School



Boundaries of ED SPIM 9 Research Units:

- FEMTO-ST Institute (7 departments: Besançon, Belfort, Montbéliard)
- Nanomédecine Lab (Besançon, Belfort Sévenans)
- ICB through 2 axes of the laboratory (Sévenans)
- DRIVE (Nevers, Auxerre)
- ImViA (Dijon, Le Creusot)
- CIAD (Dijon, Belfort)
- LIB (Dijon)
- ELLIAD (Belfort)
- IRAMAT LMC (Sévenans)



Information sciences and technology / Engineering and systems science

Bourgogne - Franche-Comté





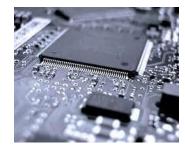
Your Doctoral School

Scientific Strategy of the SPIM Doctoral School

- Research activities: Information sciences and technology / Engineering science

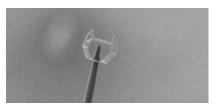
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- Give a training program well adapted to PhD needs and at high level
- Ensure excellence from recruitment to thesis defense



Main scientific themes:

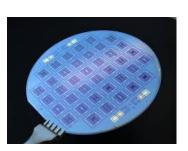
- Microsystems and microtechnologies
- Optics, microscopy, telecommunication
- Mechanics, mechatronics, materials
- Information sciences
- Control of complex systems
- Electronics
- Energy
- Time and frequency



Specialities of PhD:

- Control
- Mechanics
- Materials
- Energy
- Computer science
- Energy and mechanics
- Optics and photonics
- Electrical engineering
- Microtechnology
- Instrumentation







Your doctoral school



Research laboratories : FEMTO-ST, ICB, ImViA, DRIVE, Nanomedecine Lab, CIAD, LIB, ELLIADD, IRAMAT

HDR: 296 (active researchers as defined in HCERES)

- FEMTO-ST: 186 - DRIVE: 13 - IRAMAT: 1

- Nanomédecine Lab: 7 - ImViA: 37

- ICB: 20 - CIAD: 12

- LIB: 17 - ELLIAD: 3

Doctoral enrollments 2021/2022: **410** Joint Supervision: **44**

-Control: - Electrical engineering:

-Mechanics: - Optics, photonics:

-Material: - Microtechnics:

-Energy: - Computer sciences:

-Energy and mechanics: - Instrumentation:

Defended thesis in 2022: 87 Defended thesis in 2021: 65

Average duration of a PhD currently: **43 months**

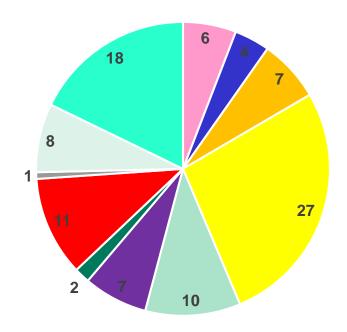
→ objective: max **40 months**







% PhD students / specialities



- Control
- Electrical engineering
- Instrumentation and image processing
- microtechnics
- mechanics and energy
- Engineering sciences

- Energy
- computer science
- Optics photonics
- mechanics
- materials



Your Doctoral School

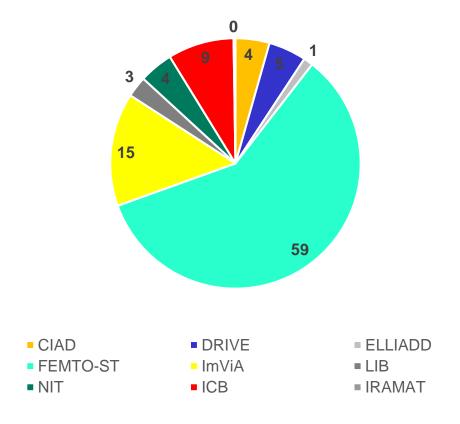


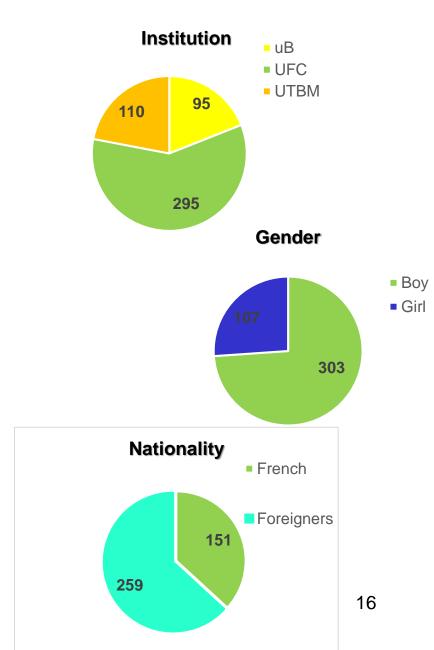
SPIM PhD Students:

410 (2021-22) **49** nationalities

216 (2022-23 at 2022-11-15)

% PhD students/lab





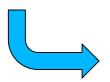


PhD (contracts, procedures)



As PhD student, you are in the same time:

- A student
- An employee, professional of the research for your laboratory



You must respect the procedures of your institution, your company, your laboratory and your doctoral School

Nature of your contract:

All PhD students have a funding for doing their research excepted few cases: people from the industry or academic domains who are already employed as engineer or teacher...

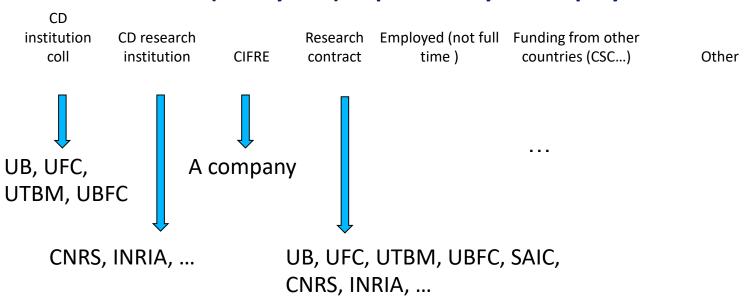


PhD (contracts, procedures)



Nature of your contract:

- You have a funding (ANR, MESRI, establishment, BFC region, Europe, company...)
- → You have an employer (UB, UFC, UTBM, CNRS, UBFC, company)
- → Your contract (for 3 years) depends on your employer



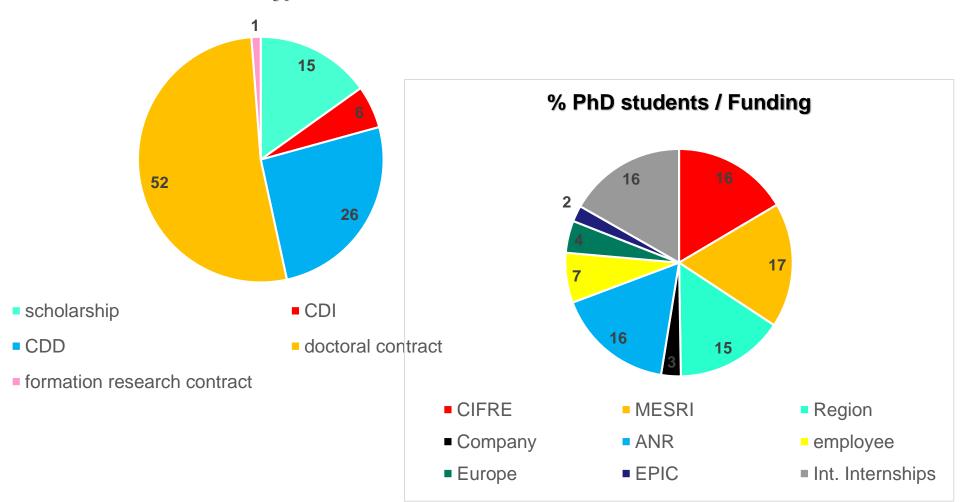


PhD Funding



Some data (2021-2022):

%PhD students /type of contract





Complementary activities



Depending on your contract and your employer, the procedures for the PhD students will be different:

- Case of the Doctoral Contract (« Contrat Doctoral »)
 - your employer is an institution (UB, UFC, UTBM, UBFC, CNRS, ...)
- complementary activities (teaching, consulting in a company, mentoring) are possible but strictly defined through an amendment (defined by the law) and the salary is also defined by the law. Number of hours <=64h
- Case of fixed term contract (« contrat à durée déterminée »)

Complementary activities are possible with the agreement of the supervisors



PhD (contracts, procedures)



All the procedures are indicated on the website SPIM@ubfc.fr or given by the adminstrative staff: https://www.ubfc.fr/ecoles-doctorales

- For enrollment (every year)
- To know the form you have to fill for displacements / funding
- To know the general / specific... courses and to prepare your training plan (PIF)
- To prepare your defense (time to respect, reviewers, committee, visioconference....)

Example:

when you want to move for your research activities (conferences, visiting a research team, ...), you need to do a mission order from your employer. Please, respect the deadlines.



Personnal follow up of PhD students



The thesis follow-up committee is **compulsory** according to the May 2016 decree

First year: a questionnaire for the PhD student and a questionnaire for the supervisor

- Independent contact with PhD students and supervisors if the answers to the questionnaires differ.

Systematic mid-term interviews (2nd year interview):

- Objective: Evaluate the progress of the thesis work and possibly influence the thesis organization
- Process: a preliminary questionnaire (PhD and supervisors) followed by an interview (April-May)
- Participants: PhD student, supervisors, a representative of the PhD school, the local member of the research unit.
- → For any problem, please contact the doctoral school as soon as possible

For a 4th, 5th or 6th re-enrollment, interviews to decide the relevance of re-enrollment

Objective: defense after 36-40 months



What kinds of support you can get?



Financial support (max 1000€/ year / phD student):

- Financial support (50%) for participation in international conferences, thematic schools, periods in foreign laboratories
- Financial support (50%) for days and scientific exchanges between PhD: workshop...
- International training and exchanges
- Registration in associations (IEEE, OSA, SPIE,)
- Financial support (50%) for a foreign member in the defense committee **Technical support**:
- Preparation of joint supervision contract between UBFC and foreign university

Examples of technical or financial support:

- Involvement for Student chapters (OSA, SPIE, IEEE Chapter)
- ERASMUS Mundus « TARGET » (3 PhD exchanges)
- FORMITEC and SMYLE (european support for EPFL/UFC cooperation)
- Joint supervision contracts
- -Organisation of PhD seminars





Within the three years of doctoral work, the PhD student must follow a **training equivalent to 100 hours. The** training courses must be distributed according to the following quota:

- "Science" training (40 hours minimum) → to be chosen from the
 "Sciences" courses of the SPIM catalog link:
 http://www.adum.fr/script/formations.pl?site=UBFC&matricule_resp=4
 3730
- Training "Scientific and technical tools" (20 hours minimum) → to be chosen from the "Scientific and technical tools" courses in the SPIM catalog.
- **General training** (20 hours minimum) → to be chosen from the catalog of cross-curricular courses. It has the following 10 sections:
 - Languages, Career pursuit, Knowledge and teaching tools,
 - Management and entrepreneurship, Communication,
 - Research ethics and scientific integrity (mandatory 9h)
 - Open sciences (mandatory 3h)
 - International scientific culture and valorization ,
 - Bibliography...

Contacts:

- Emilie.Faivre@ubfc.fr
- morgan.poggioli@u-bourgogne.fr





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Available Training Plan

- Each UBFC PhD student is allowed up to attend 7 transversal training courses per academic year. Beyond this number, he/she will be entitled to attend specific courses offered by his/her doctoral school.
- All doctoral college/ doctoral school training courses are free of charge

Contacts specific training SPIM: edeline.elie@ubfc.fr
Caroline.delamarche@utbm.fr

Available courses

http://www.ubfc.fr/ecoles-doctorales/catalogue-de-formations/ + registration on ADUM:

https://www.adum.fr/





Formations SPIM_2022-2023 (november)									
Rubrique	Code	FORMATION	Intervenants	Durée (équivalent heures CM)	Site	Mode			
	SPIM - CCEET	Climate Change and European Energy Transition	Thierry de LAROCHELAMBERT	28	BELFORT	Hybride			
	SPIM-CC	Cloud computing	Ana ROXIN		DIJON				
	SPIM SI	Scientific instruments	Enrico RUBIOLA	15	BESANCON	Hybride			
	SPIM - TENSORS	Engineering of devices : anisotropy of materials and functional properties	Ausrine BARTASYTE	14	BESANCON	Présentiel			
	SPIM - MNR	Micro and Nano Robotics : design, fabrication and task realization	Cédric CLEVY / Aude BOLOPION / Kanty RABENOROSOA	14	BESANCON	Présentiel			
SCIENCES	SPIM - MAS-PC	Modélisation Agent et Simulation des Phénomènes Complexes	Christophe LANG / Nicolas MARILLEAU	12	BESANCON	Présentiel			
	SPIM - PNFSO	Phase Noise and Frequency Stability in Oscillators	Enrico RUBIOLA	15	BESANCON	Hybride			
	SPIM - PHYSA	Physical acoustics: acoustic and elastic waves	Vincent LAUDE	14	BESANCON	Présentiel			
	SPIM - WOD	The Web of data : from WWW to GGG -	Ana ROXIN	14	DIJON				
	SPIM-PHS	Introduction to control of Port Hamiltonian System	Yann LE GORREC	14	BESANCON	Présentiel			
	SPIM - NLS	The remarkable landscape of nonlinear science	John DUDLEY	6	BESANCON	En ligne			
	нім	Highlights in microtechnology	EPLC (Neuchâtel) et FEMTO -ST	30	NEUCHATEL	Présentiel			
	SPIM - IOT	The 4th Industrial Revolution from sensors to smartphone	Jérôme ROSSIGNOL	14	DIJON	En ligne			
	SPIM - MCTO	Mathematical modelling: cells, tissues, organs	Raluca SEFTIMIE	14	BESANCON	Présentiel			
	SPIM-HES	Hybrid Energy Systems		14	BELFORT	Présentiel			
	SPIM-HYPMAT	Hyperelastic Materials		14	SÉVENANS	Présentiel			
	SPIM-MLPB	Machine Learning By Practise (for computer sicence & Engineering students)		14	BELFORT	Présentiel			
	SPIM-TSF	Thermal Spray Fundamentals		14	SÉVENANS	Présentiel			
	SPIM-MA70	Approches de soft-computing en optimisation combinatoire et reconnaissances de formes		10	BELFORT	Présentiel			





Formations SPIM_2022-2023 (november)								
Rubrique	Code	FORMATION	Intervenants	Durée (équivalent heures CM)	Site	Mode		
	SPIM-MB73	Gestion de projet		10	BELFORT			
	SPIM-MA72	Ingénierie robuste et optimisation d'expériences		10	BELFORT			
	SPIM-MA76	Introduction à la simulation de vie en réalité virtuelle et au jeu sérieux		10	BELFORT	En ligne		
	SPIM-MA74	La démarche expérimentale : capteurs et mesures	J. ROSSIGNOL	10	SÉVENANS	En ligne		
	SPIM-ISIS	Cleaning, splicing and processing optical fibers Acronym	J-C. BEUGNOT / Gil FANJOUX	14	BESANCON	Présentiel		
OUTILS	SPIM - MT	Microfabrication technology	Franck CHOLLET	7+7	BESANCON	Présentiel		
SCIENTIFIQUES ET TECHNIQUES	ISPIN - LESEIC	LabVIEW, des fondamentaux aux structures évoluées pour l'instrumentation et le contrôle-commande	Patrick NECTOUX	12	BESANCON	Présentiel		
	SPIM - SCICOMM	Science Communication	John DUDLEY	6	BESANCON	En ligne		
		IH / & Renewanie Energy Startling (Inaliendes	Sylvain COMPAGNON / Antoine PONCE / Fanny ROBICHON / Sophie MAGNIEZ	14	BELFORT	En ligne		





Training courses which **are not on the lists** provided and approved by the ED SPIM must be subject to **prior validation** by the ED, to be included in the Individual Training Plan (PIF). All training validation requests, once validated by the ED, must be deposited on your ADUM account.

- Congress tutorials can be accepted under "Science" or "Scientific and technical tools" or "General: transversal" according to their content.
- Seminar, congress are not part of PIF.
- E-learning: 3 MOOCs max
- Thematic school: 20h max in sciences per thematic school
- Master courses: 20h max in the PIF

The PIF must be provided for each re-enrollment.

Ensure that the PIF is complete prior to any request for authorization of the PhD thesis defense (the summary of training courses followed by the PhD student, approved by the director of ED).







The PIF must be provided for each re-enrollment. DOCTORANT / PhD STUDENT NOM / Name : Visa du directeur de thèse : Prénom / First name : Je soussigné(e), Dept recherche / Research dept : Nom: Année de thèse en cours / Year thesis in progress : Projet professionnel / Professional project with PhD : certifie avoir préparé ce Plan Individuel de Formation avec le doctorant (recherche publique,, enseignement, recherche et développement (entreprise), création entreprise, autres) public research, professor, teacher, research and development (compan, other) Informations complémentaires sur le projet professionnel / Complementary informations on the professional project : Nombre arrondi de mois de séjour hors université (thèse CIFRE, co-tutelle, ...) : Signature: Rounded number of month outside university (thèse CIFRE, co-tutelle, ...) Remarques / remarks : ANNEE 1 / Year 1 ANNEE 2 / Year 2 TOTAL ANNEE 3 / Year 3 FORMATION GENERALE/ GENERAL EDUCATION FORMATION GENERALE/ GENERAL EDUCATION FORMATION GENERALE/ GENERAL EDUCATION **OUTILS SCIENTIFIQUES ET TECHNIQUES / SCIENTIFIC AND TECHNICAL TOOLS OUTILS SCIENTIFIQUES ET TECHNIQUES / SCIENTIFIC AND TECHNICAL TOOLS** OUTILS SCIENTIFIQUES ET TECHNIQUES / SCIENTIFIC AND TECHNICAL TOOLS SCIENCES* SCIENCES* SCIENCES* Cours ED/PhD School training Cours ED/PhD School training Cours ED/PhD School training Tutoriaux congrès/Congress tutorials Tutoriaux congrès/Congress tutorials Tutoriaux congrès/ Congress tutorials Ecoles d'été / Summer schools Ecoles d'été / Summer schools Ecoles d'été / Summer schools Cours autres établissements /Training other institutions Cours autres établissements /Training other institutions Cours autres établissements /Training other institutions TOTAL: O TOTAL : O TOTAL:







•SPECIAL CASES:

- ➤ Students in international joint supervision living abroad → Follow the courses offered by their institutions and enroll in training courses offered by ED SPIM during their visits to France *
- ➤ Employees of a company or CIFRE → Have the possibility to follow the trainings offered within the framework of their companies*
- ► ICE (Itinéraire Chercheur Entrepreneur) → should follow, 120h in 2 years on business management and administration proposed by Pépite. Therefore, they are exempted from performing other training.
- * Please contact the Doctoral school for the possibility to reduce the total number of training hours.



National REDOC SPI network Alumni network



UBFC

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1) Two websites: https://www.docteurs-spi.org/

Very complete information for graduates (employment, networking, companies, labs..)

https://www.redoc-spi.org/

News, partners, companies, Thesis proposals

2) Two LinkedIn Groups:

Opportunities to exchange with the Community in its diversity of specialities, professional backgrounds and nationalities.

- 2-1 A LinkedIn Group open to PhD students https://www.linkedin.com/groups/12092465/profile
- 2-2 A LinkedIn Group open to PhDs & PhD students in their third year of thesis (publishing a carefully completed LinkedIn profile):

https://www.linkedin.com/groups/12092465/profile

UBFC Alumni network

Alumni network provides support and direct contact with its community of current and former PhD students, as well as partners such as laboratories and recruiters https://www.ubfc.fr/formations/insertion-professionnelle/reseau-ubfc-alumni/





Questions?