

Ecole Doctorale - 104 Sciences de la Matière, du Rayonnement et de l'Environnement

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Kick-off meeting

2020-2021

ORGANIZATION OF DOCTORAL TRAINING IN THE HAUTS DE FRANCE REGION

- 6 « Thematic » Doctoral Schools, regional, multi-institutional :
 - ED 73 SESAM : Sciences Economiques, Sociales, de l'Aménagement et du Management (Economic, Social, Planning and Management Sciences)
 - ED 74 SJPG: Sciences Juridiques, Politiques et de Gestion (Legal, Political and Management Sciences)
 - ED 473 SHS : Sciences de l'Homme et de la Société (Human and Social Sciences)
 - ED 72 SPI : Sciences Pour l'Ingénieur (Engineering Sciences)
 - ED 104 SMRE : Sciences de la Matière, du Rayonnement et de l'Environnement (Mater, Radiation and Environmental Sciences)
 - ED 446 B&S : Biologie et Santé (Biology and Health)
- The « Collège Doctoral Lille Nord de France », place of mutualization and coordination between regional EDs (http://www.cue-lillenorddefrance.fr/?q=college-doctoral)
- The « Département Carrières et Emplois » (DCE), pooling of non-disciplinary training initiatives, in particular those aimed at the pursuit of doctoral careers (Doctoriales, DocEmploi, Challenge Doc, ...)
- The « Département Actions Internationales » (DAI), to promote internationalization, with 2 annual calls for tenders for mobility funding grants, PhD Welcome, visiting professors

A BIT OF STORY

1992: Mater and Radiation Sciences (chemistry + physics)

2000: SMRE (current disciplinary contours + Earth Sciences, Ecology, Biotechnologies)

2006-2007: Implementation of regional DSs: co-accreditation of ULCO and Artois Universities

2009 : Start-up of the PRES (Pôle de Recherche et d'Enseignement Supérieur)

2014: PRES => ComUE (Communities of Universities and Institutions) Lille Nord de France

Period 2015-2019

2016: co-accreditation UVHC (=> UPHF), Centrale Lille, IMT Lille Douai

2018: Merger of Lille1, Lille2 and Lille 3 => Univ Lille

Period 2020-2024

2020 : ULCO and Artois Universities leave SMRE and join STS DS in Amiens

POSITIONING OF THE SMRE DS IN THE REGIONAL DOCTORAL TRAINING OFFER (2019)

Doctoral School	U Lille	UPHF	CLI	IMT Lille D	TOTAL	% of registrations	% of defences
SHS	494	83			577 registrations	25,25%	
3113	66				69 defences 2019		14,1%
SESAM	199	5			204 registrations	8,6%	
JEJAIVI	31				31 defences 2019		6,6%
SJPG	224	17			240 registrations	10,1%	
JUFG	22	1			22 defences 2019		4,7%
B&S	340				340 registrations	14,3%	
DQS	90		90 defe	90 defences 2019		19,2%	
SMRE	290	14	29	29	362 registrations	15,2%	
SWINE	85 1 1 13 100 defences	100 defences 2019		21,4%			
SPI	402	116	100	37	655 registrations	25,5%	
SFI	126	14	13	6	159 defences 2019		34%
Total	1949	235	129	66	2379 registrations		
IOIAI	420	15	14	. 19	468 defences 2017		

ED SMRE: 15,2% of registrations, 21,4% of PhD defences, 17,5% of HDR of the région HdF

SMRE: a multidisciplinary (regional) school

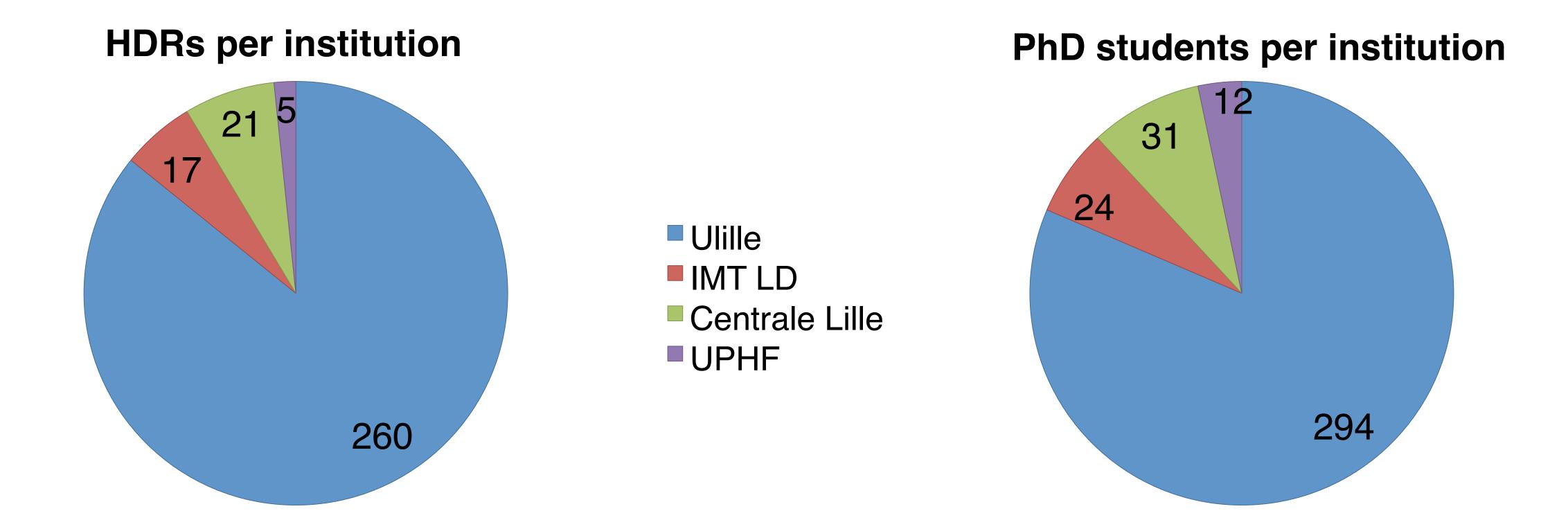
4 co-accredited institutions: Univ Lille, UPHF, Centrale Lille Institut, IMT Lille Douai

=> they award the doctoral degree

Doctoral potential and scientific support for SMRE

14 research laboratories (2 Labex: Cappa, Cempi; Institutes : Chevreul, Physique, IRePSE; Hub2 I-SITE)

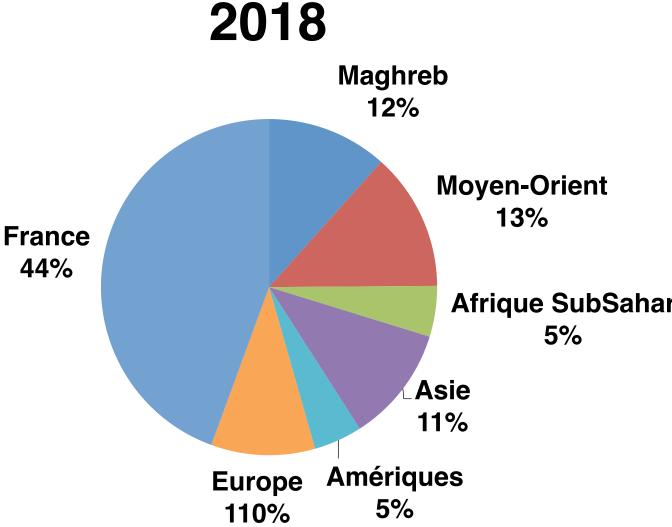
• 531 scientists including 310 Habilités à Diriger des Recherches (HDR) (263 in 2009, 307 in 2015)



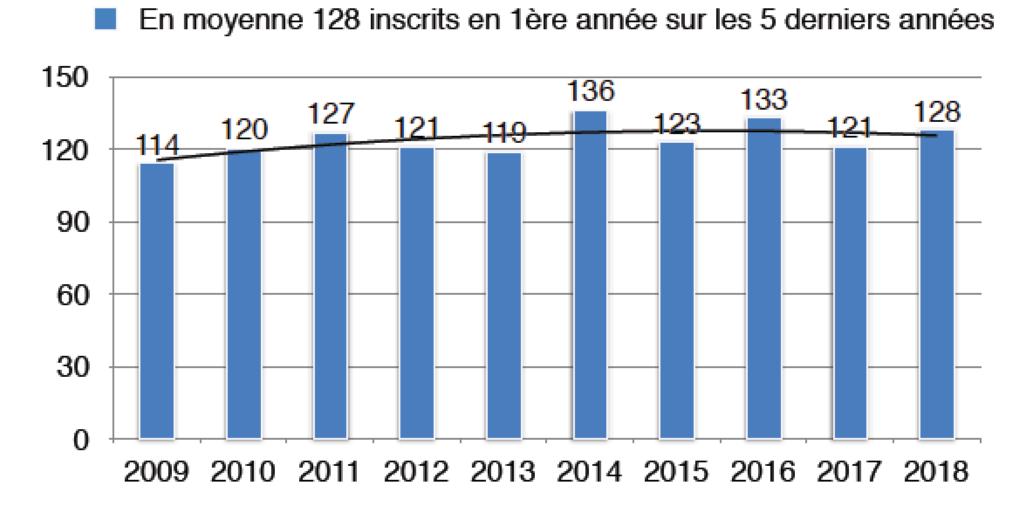
SMRE: a multidisciplinary (regional) school

International PhD students: 58% in 2019 (56% in 2018, 50% in 2013, 37% in 2009)

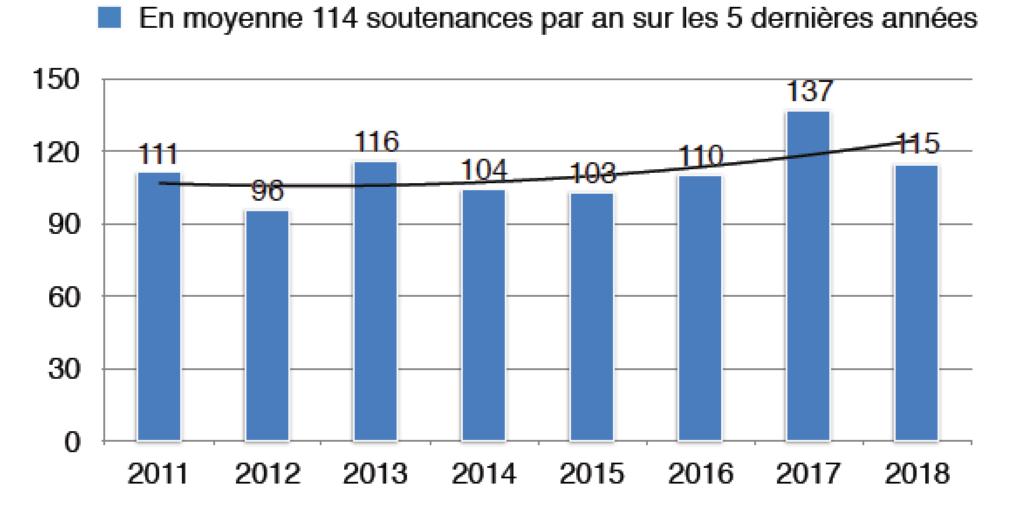
Ratio M / F: 50% / 50% in 2020 (52,4% / 47,6% in 2018, 64% / 36% in 2013, 57% / 43% in 2009)



PhD thesis flow







100 thesis defences in 2019

THE DOCTORAL SCHOOL COUNCIL Ministerial order of 25 May 2016 relating to doctoral training

To be renewed this academic year

The Council is composed of 25 members:

- 13 laboratory representatives including 10 Directors of Doctoral Studies (DED)
- 2 representatives of the technical and administrative staff
- 5 PhD student representatives
- 5 external personalities from the scientific and socio-economic world

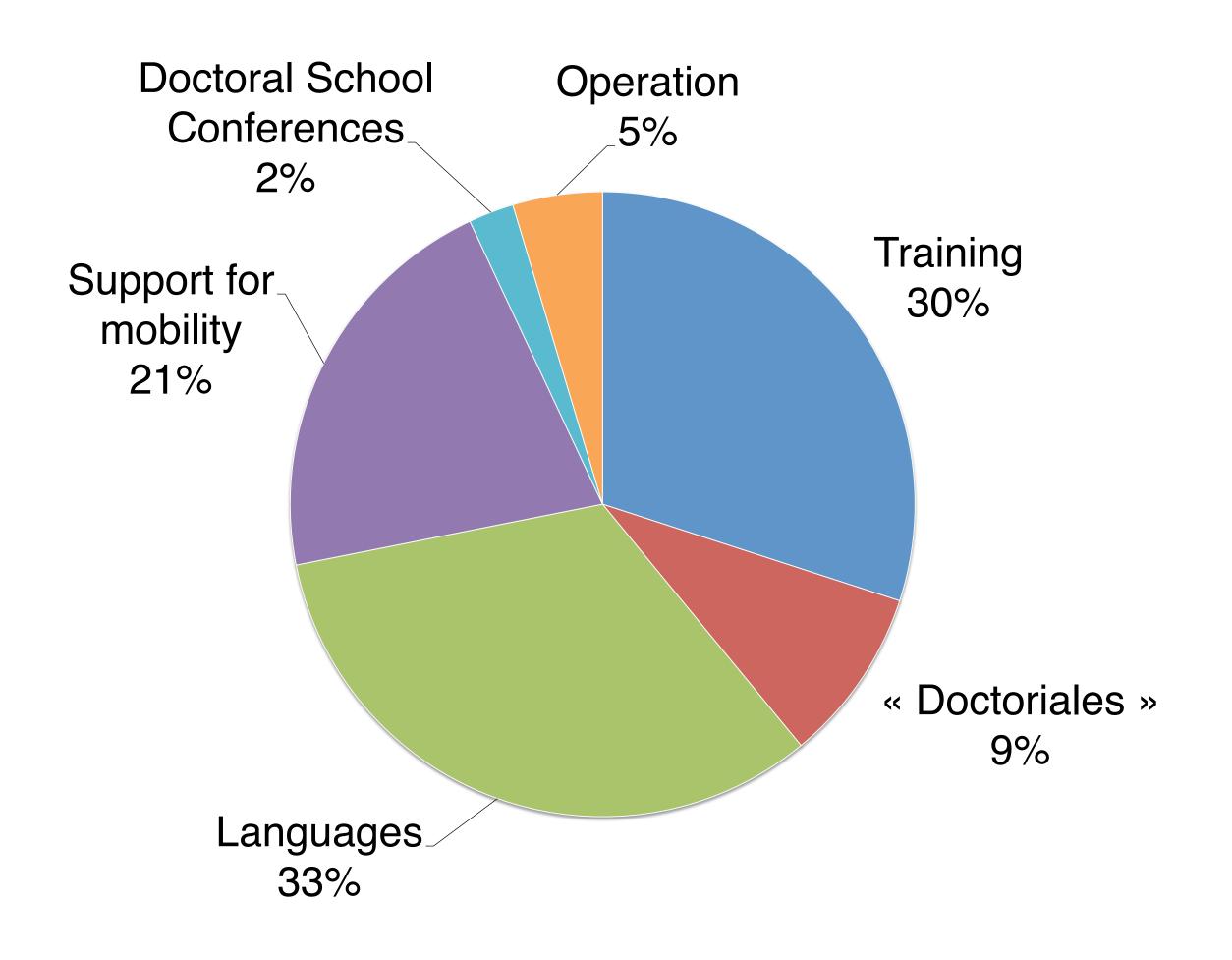
Permanent invited members:

- 4 representatives for co-accredited institutions (Vice President Research or equivalent)
- 1 representative of the Doctoral College

THE RESOURCES ALLOCATED TO THE DOCTORAL SCHOOL

- Human resources: 1 (full-time) assistant engineer (C. Van Brussel)
- Buildings and technical resources :
 - ⇒ Pedagogical Secretary: Room 17, Building P5, Campus Cité Scientifique, Villeneuve d'Ascq
 - ⇒ Institutional correspondents (U Lille, UPHF, IMT, CLI)
 - ⇒ Web site, mailing lists: PhD students, supervisors, DS Council, laboratory directors
- Financial resources:
 - ⇒ About 150€ /year/PhD student brought by U Lille, IMT, CLI
 - > 57,500€ in 2020 for approximately 360 registered PhD students

EXPENSES OF THE DOCTORAL SCHOOL (2014-2018)



THE MISSIONS OF THE DOCTORAL SCHOOL

- > Recruit doctoral students and ensure the follow-up of the thesis
 - Thesis funding
 - Recruitment of PhD students
 - Follow-up of PhD students
- Organising doctoral training and international openness
 - Training plan
 - Doctoral life and mobility support
- Preparing for the continuation of PhD's careers
 - Training of the Doctoral College
 - Doctoriales, ChallengeDoc, DocEmploi,... (refer to « Startdoc » conference on last Tuesday)

RECRUITMENT OF PHD STUDENTS: RESEARCH GRANTS

Every year:

More than 25 research grants from co-accredited universities and institutions:

20-22 (Univ Lille); 1 (UPHF); 2,5 (CLI); 1 (IMT)

Research grants co-financed by local and regional authorities:

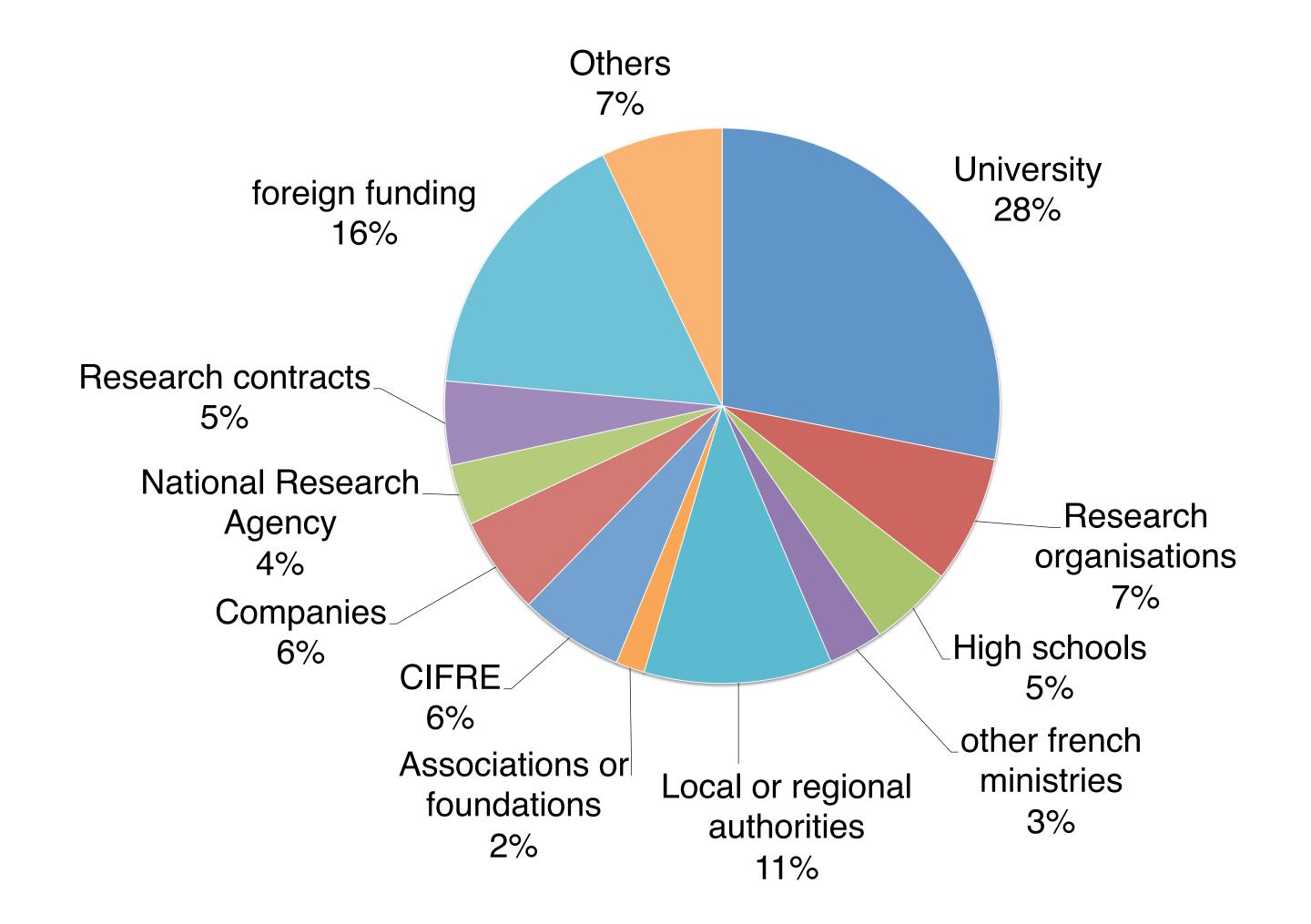
• 20-25 co-financing by the Hauts de France region

Others:

ERC, ANR, CIFRE, Companies, ADEME, DGA, CNES, research contracts, international funding, embassy scholarships,...

I-SITE: Pearl Programme (Cofund EU/I-SITE), Co-tutorship programme (Kent, Gand)

THESIS FUNDING



No registration of unfunded PhD students in a thesis

~ 50 % of PhD students are enrolled under the Doctoral Contract system.

doctoral contract (decree of 04/23/2009, fixed-term public law employment contract, 36 months)

THE PROCEDURE FOR THE SELECTION OF CANDIDATES FOR GRANTS FROM INSTITUTIONS AND LOCAL AUTHORITIES

Census of subjects (January-April):

- List of priority subjects for laboratories
- Call for proposals from the Hauts de France Region
- Preparation of applications for "Labelised" grants when they exist
- Posting of topics via the Doctoral School website and laboratory websites
- Search for candidates by laboratories
- at most 3 candidates per subject, 3 subjects per candidate

Selection of candidates by open competition (June):

- Pre-selection in the laboratories to rank the applications
- Selection of candidates by the Doctoral School Council (main list + supplementary list)

FOLLOW-UP OF PHD STUDENTS

Monitoring of the supervision rate: per HDR, no more than 5 supervised or co-supervised theses (average: 1.26 PhD students / HDR).

First enrolment: Enrolment interview, Doctoral Charter, Training Egreement (PhD Student + Supervisor + Laboratory Director + Director of Doctoral Studies (DED) + Doctoral School Director)

Kick-off meeting of the new academic year: presentation of the Doctoral School, presentation of the training courses and the doctoral course within the Doctoral College

Each time you re-register: individual interview with the Director of Doctoral Studies (DED) of the scientific domain concerned, annual validation of the training credits

Thesis monitoring: individual monitoring commitee (end of 1st year and 2nd year)

Authorisation to undertake the defence process: final interview with the DED, closure of the training plan, then proposal of reviewers and jury in the ADUM application software.

Mediation procedure in case of particular difficulties in order to limit abandonment

MISSION AND ACTIVITIES OF DIRECTORS OF DOCTORAL STUDIES (DED)

Ensure the link between the Doctoral School and the research domains (laboratories). To ensure the link with PhD students and close monitoring within the research units.

Reception/information of the doctoral student on arrival in the laboratory

Annual interview with each PhD student, before each re-enrolment:

- construction/evaluation of his/her training plan
- allocation of training credits
- progress of the thesis/ possible difficulties
- valorisation of the thesis (publication(s), oral communication,...)
- endorsement of the composition and report of the Individual Monitoring Committee

If 4th registration is necessary and defense beyond the 1st quarter of the year:

- participation in the meeting of the Individual Monitoring Committee

MISSION AND ACTIVITIES OF DIRECTORS OF DOCTORAL STUDIES (DED)

In case of problems during the thesis period:

- participation in a mediation meeting

At the beginning of the PhD defence procedure :

- assessment of the Doctoral School trainings/credits
- assessment of valorisation (publications, conferences, others)
- control of the composition of the jury

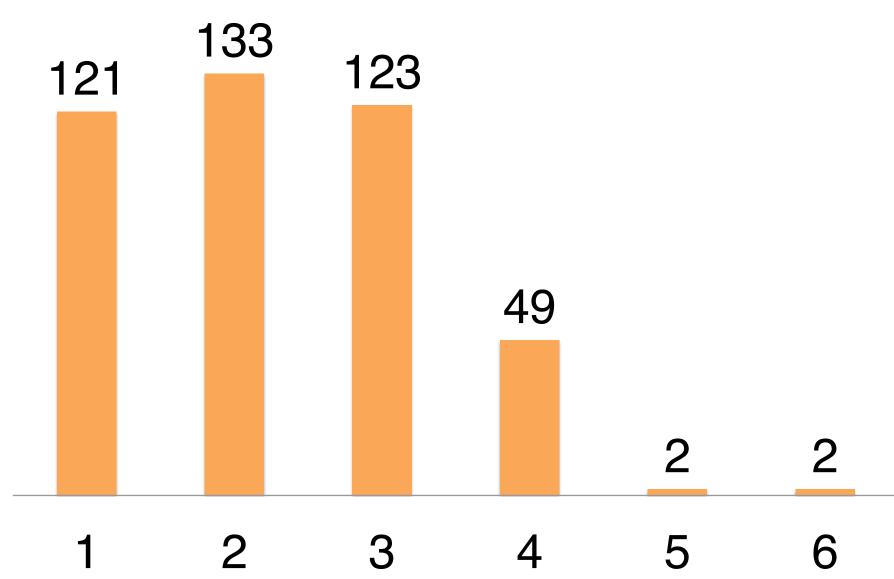
WHO ARE YOUR DIRECTORS OF DOCTORAL STUDIES (DED)?

Doctoral Specialities (Scientific Fields) and DEDs

	V/ Dia alia	V V - I		E Daniel		JP Composed		
Spécialities	V Phalip BioEcoAgro	X vekemans (EEP)	N Tribovillard (EEP)	F Parol (LOA)	C Focsa (PhLAM)	Cornard (LASIRe)	JF Paul (UCCS)	P Cordier (UMET)
Aspects moléculaires et cellulaires de la biologie								
(DS5)	X				X			
Biotechnologies agroalimentaires, sciences de								
l'aliment, physiologie (DS10)	X							
Biologie de l'environnement, des organismes,								
des populations, ecologie (DS10)		X	X					
Sciences de la terre et de l'univers (DS3)		X	X					
Terre, enveloppes fluides (DS3)				X				
Milieux dilués et optique fondamentale (DS2)				X	X			
Energetique, thermique, combustion (DS8)					X	X		
Chimie theorique, physique, analytique (DS4)						X	X	
Chimie organique, minerale, industrielle (DS4)						X	X	
Chimie des materiaux (DS4)							X	X
Milieux denses, materiaux et composants (DS2)								X
Electronique, microélectronique,								
nanoélectronique et micro-ondes (DS9)								
Mécanique des solides, des matériaux, des								
structures et des surfaces (DS8)								X

DURATION OF THESES

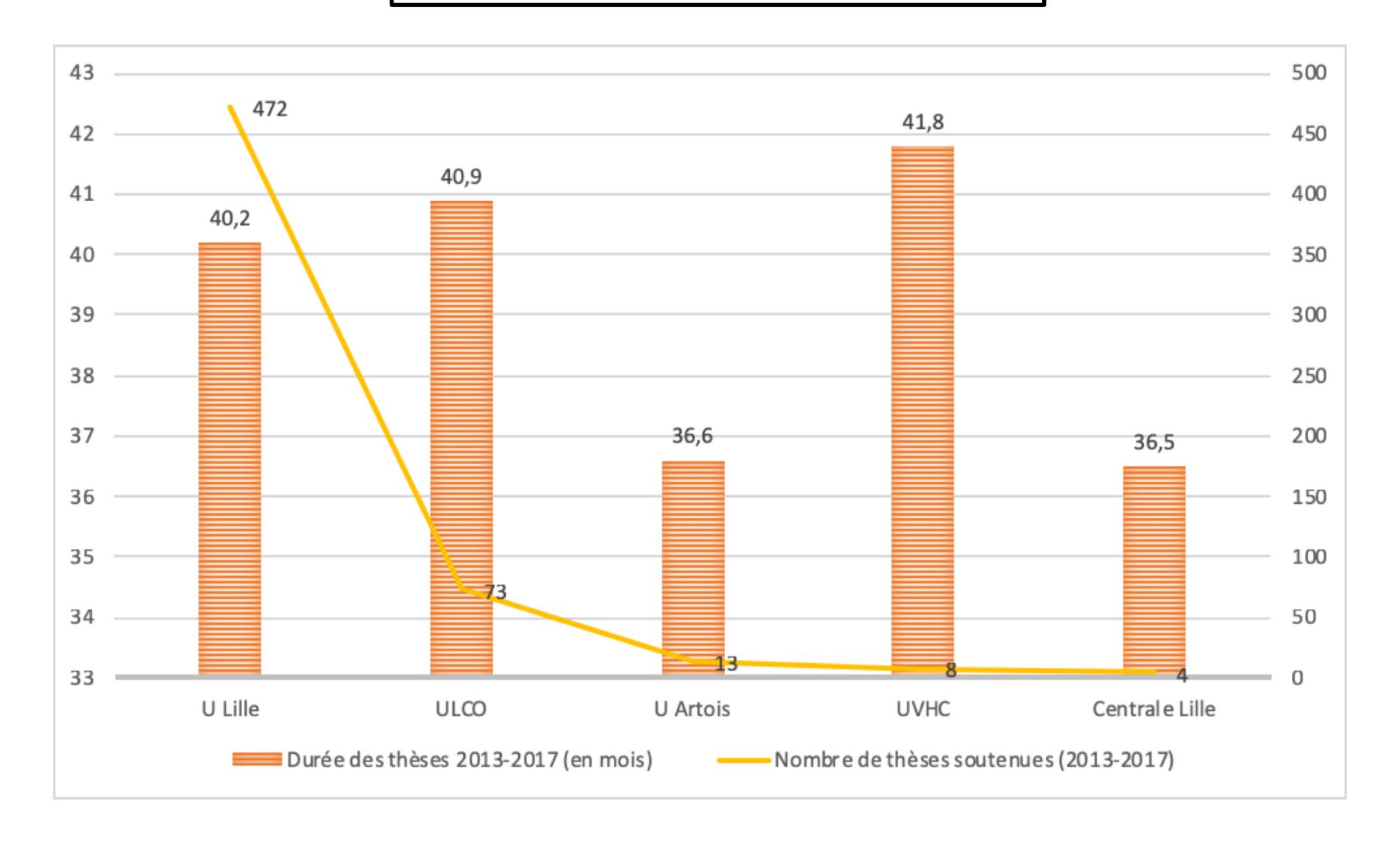




Enrolment in 4th year subject to a financing plan until the manuscript is submitted, authorisation from the institution of enrolment.

About 8% dropout per incoming cohort.

DURATION OF THESES



THE INDIVIDUAL TRAINING PLAN

Principle: obtain a minimum of 60 credits spread over the 3 years of the thesis with a minimum of 10 credits per field of study.

3 fields of study

- Scientific (ED courses, Master courses, summer school, ...)
- Openness (languages, FLE, Latex, popularization of science, scientific ethics, ...)
- Professionalization by Doctoral College (professional training, Doctoriales, etc...)

On average 5 credits / day or 5 credits / 10 hours of classes

PhD students elected to the Doctoral School Council, 1 credit/ Council meeting

Possibility to "color" your profile

Cotutelles: 30 credits instead of 60

PhD students in charge of teaching: specific training proposed by the College Doctoral

Training courses are managed via the ADUM application

DOCTORAL LIFE AND INTERNATIONAL OUTLOOK

Scientific exchanges between PhD students :

PhD students' days => Scientific fields, institutes and laboratories

> Multidisciplinary scientific culture:

conferences of the Doctoral School and/or research structures (institutes, labex projects, CPER, etc...)

> European and international opening:

Doctoral School support to mobility during the thesis (1 support / PhD student)

Co-financing/participation of the DS up to a maximum of 500€ => conferences and symposium, short stays 20% of the ED budget, down due to the high demand for Doctoral College courses

PREPARING THE PROFESSIONAL INTEGRATION OF DOCTORS

Support system for professional integration: professionalization actions pooled within the framework of the Doctoral College (DCE):

> Doctoriales®: on average 30% of doctoral students come from SMRE Doctoral School

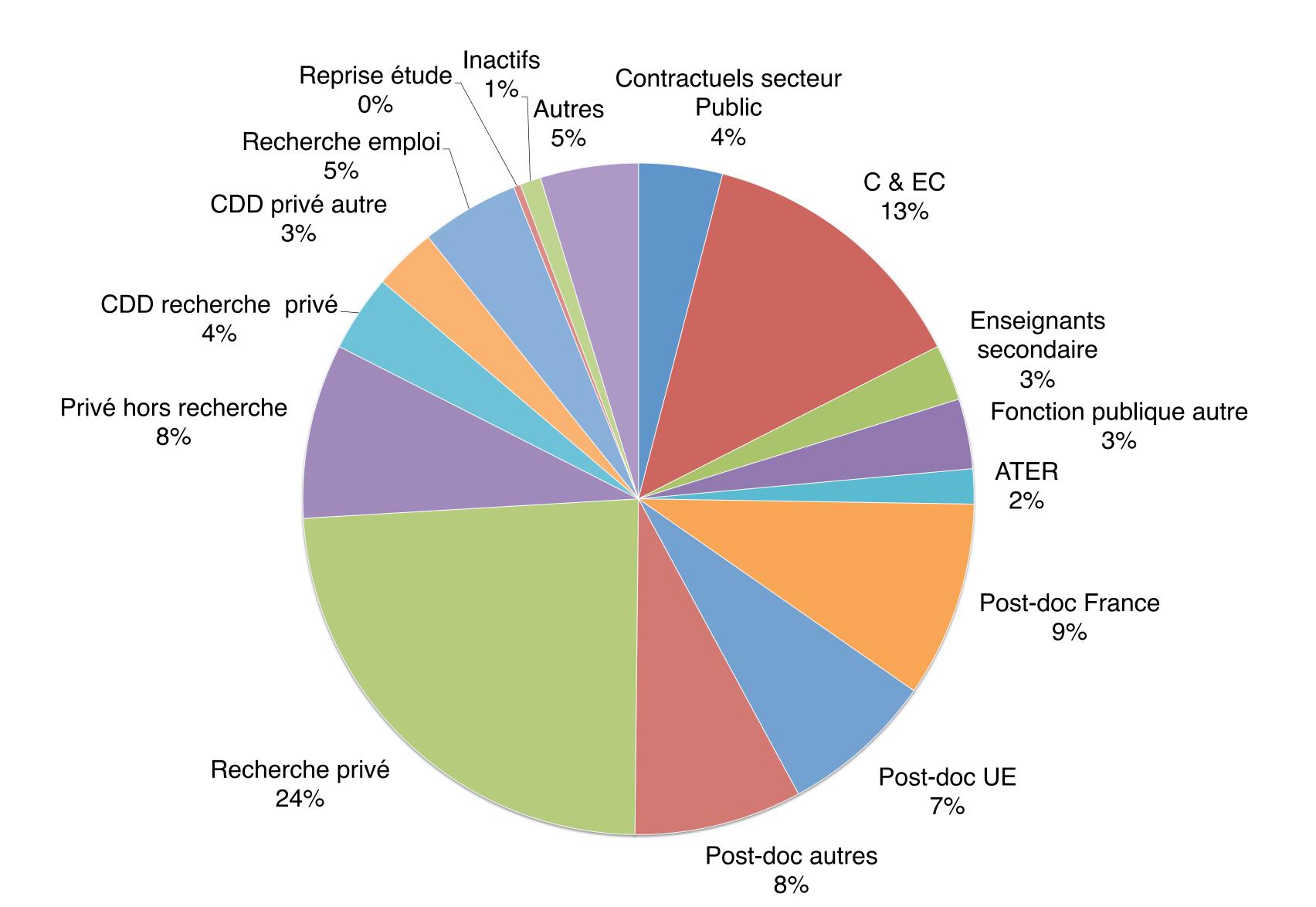
To make the doctor known and valued outside the academic world:

- > Partnership with companies and their representative organizations
- > Communication actions of the Doctoral College

Follow-up of doctors' career development:

- > pooled at the Doctoral College level
- > ADUM (coming soon)

FOLLOW-UP OF PROFESSIONAL INTEGRATION AT 3 YEARS OF PHDS 2012-2014



- 53% of doctors have a **permanent** job in the public or private sectors, 37% in research, public (13%) or private (24%).
- 11% of doctors have a non-permanent position
- 26% are in **Post-doc** in France or abroad (including assistant professor (ATER))
- 5% declare **looking for a job**, often after completing one or more post-docs
- Compared to the results of the previous period,
 - Slight increase in private research insertion (25% => 28%),
 - Decrease in integration in public research and higher education (31% => 13%)
 - Increase in the proportion of postdocs in progress 3 years after the thesis (16% => 26%)

Tableau 3 - l'insertion professionnelle des docteurs 2012 - situation au 01/12/2015

	Taux d'insertion (en %)	Part d'emplois à durée déterminée (en % de docteurs en	Part de cadres et professions libérales (en % de docteurs en	% d'emplois dans le secteur de l'enseignement supérieur (privé ou public) et la recherche	Secteur d'emploi Privé Public		Salaire net mensuel médian des docteurs en emploi en France et à temps complet	
DISCIPLINE		emploi)	emploi)	scientifique	(dont associatif)	I ubiic	(en euros)	
Sciences et technologies (hors biologie, santé, sport)	92	33	98	53	46	55	2 417	
dont mathématiques, physique, chimie	91	42	97	58	39	61	2 341	
dont sciences pour l'ingénieur	u	24	98	50	50	50	2 417	
Biologie, santé, sport (BSS)	93	50	98	57	27	73	2 782	
Lettres, Arts, Langues, Sciences humaines et sociales (LALSH)	97	34	90	50	29	71	2 250	
Sciences Politiques, Juridiques, Economiques et de Gestion (SPJEG) ^a	100	12	100	48	40	60	2 417	
ENSEMBLE	94	34	97	53	40	60	2 400	

Source: ORES - Ecoles Doctorales de l'Académie de Lille - Enquête IPDOC 2015-16

⁽a) : les docteurs de SPJEG représentent l'effectif le plus réduit selon la décomposition disciplinaire retenue (9 % de l'ensemble, soit 42 docteurs). Les indicateurs sont présentés à titre indicatif pour cette sous-population mais doivent être interprétés avec prudence.

Tableau 4 - Localisation des emplois des docteurs 2012 (en %) - situation au 01/12/2015

DISCIPLINE	Hauts-de-France	Autres régions françaises	Étranger
Sciences et technologies (hors biologie, santé, sport)	21	35	44
dont mathématiques, physique, chimie	17	39	44
dont sciences pour l'ingénieur	24	32	44
Biologie, santé, sport (BSS)	50	19	31
Lettres, Arts, Langues, Sciences humaines et sociales (LALSH)	42	27	31
Sciences Politiques, Juridiques, Economiques et de Gestion (SPJEG) ^a	46	17	37
ENSEMBLE	32	29	39

Source: ORES - Ecoles Doctorales de l'Académie de Lille - Enquête IPDOC 2015-16

(a) : les docteurs de SPJEG représentent l'effectif le plus réduit selon la décomposition disciplinaire retenue (9 % de l'ensemble, soit 42 docteurs). Les indicateurs sont présentés à titre indicatif pour cette sous-population mais doivent être interprétés avec prudence.

For your information: PhD Welcome Wednesday 2nd December 2020 2 days to welcome international PhD students

Thank you for your attention

