

Welcome meeting
Doctoral School
for Life Sciences and Health,
University of Strasbourg,
ED 414

*Introduction to PhD training 2021 - 2022* 

16 December 2021



#### Outline

- Doctoral College University of Strasbourg
- DS Life Sciences and Health Organization
- DS Life Sciences and Health Facts
- Rules for PhD enrolment PhD defence
- Thesis follow-up meeting, CST, etc.
- Introduction to Open Sources
- Training
- Discussion



## **Doctoral College Strasbourg University**

10 Doctoral Schools – 5 Human and Social Sciences, 4 Sciences & technology, 1 Life Sciences and Health

2400 - 2500 PhDs

470 PhD defences / year

Transversal training

Administration - registration - PhD defences - Diploma

# Doctoral School for Life and Health Sciences, ED 414 University of Strasbourg

- 500+ PhD candidates registered
- 460+ PhD supervisors
- 152 Research teams
- 28 Research Units
- Broad spectrum of research areas:

genetics, bioinformatics, molecular biology, structural biology, developmental biology, oncology, eco-physiology, ethology, immunology, microbiology/virology, neurosciences, pharmacology, pathophysiology, behavioural sciences, plant sciences, etc.

# ED Life Sciences and Health includes 28 Research units distributed in 7 « Grands Groupes de Recherche, GGR »

**BMCPM**: Biologie Moléculaire, Cellulaire, Plantes, Microorganismes

**BP**: Biophotonique et Pharmacologie

**EE**: Écophysiologie et Éthologie

IGBMC: Institut de Génétique et de Biologie Moléculaire et Cellulaire

ICB: Interface Chimie-Biologie

MT: Médecine Translationnelle

N: Neurosciences

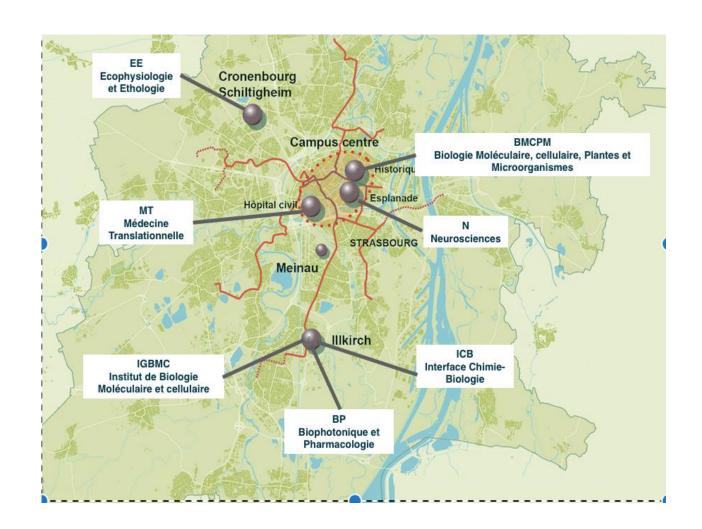
# GGR geographical distribution

#### Strasbourg

- Esplanade
- Illkirch
- Campus Médecine
- Cronenbourg

#### Colmar

Centre Inra



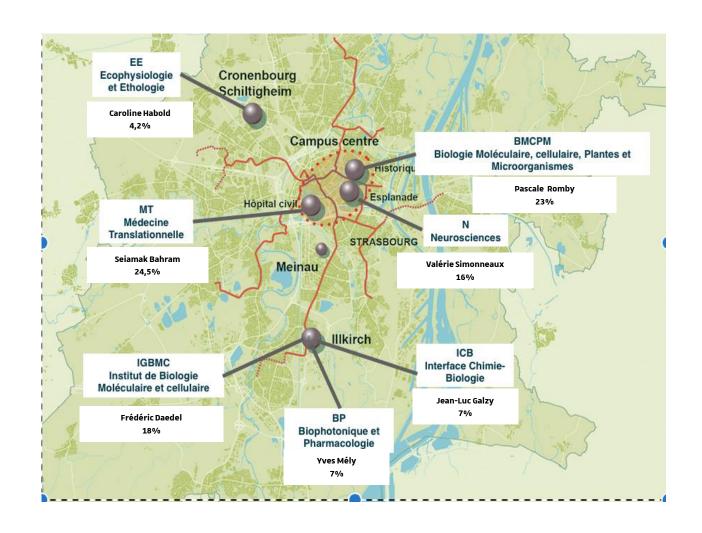
## GGR in terms of PhD supervisor forces

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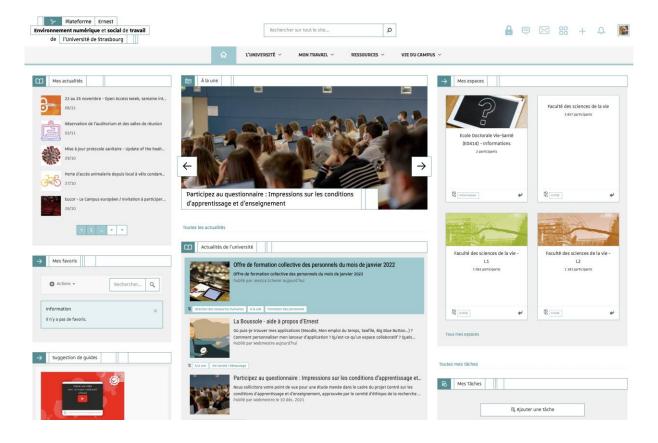
#### Doctoral School for Life Sciences and Health

For any question, please have a look on our website before sending a mail or calling <a href="http://ed.vie-sante.unistra.fr/">http://ed.vie-sante.unistra.fr/</a>



#### Doctoral School for Life Sciences and Health

☐ You can register to « personal space » through «Ernest » (Digital Work Environment) to get alerts for recent news and find useful documents



# The Doctoral School organisation is defined by the French government

Article 1<sup>er</sup> de l'arrêté ministériel du 25 mai 2016

"Doctoral training is organized in doctoral schools. It's defined as a research training, a professional research experience resulting in the highest graduation of the university.

"...Implement a policy in frame with the general policy of the university..."

-"...Ensure the quality of the PhD supervision by research teams and units, ensure the respect of the Charter of theses ..." - "...Organize interactions between doctoral scientists, possibly within a college of doctoral school programs of the university ..."

-"...Organize training courses relevant for PhD candidate's research and professional training, offering a broad scientific background..."

-"...Research units and research teams are evaluated and labelised by a national evaluation..."

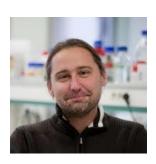
# **Doctoral School organization**

Direction **Councils and Commission** Members **Administration Staff** 

## Director board of the Doctoral School







Dr Catherine Schuster,

Head of the Doctoral School

Research Director Inserm

Deputy Head, Inserm unit UMR\_S1110

Institute for Viral and Hepatic Disease

Pr Maxime Lehmann,

Deputy head of the Doctoral School

Professor, Université of Strasbourg

Faculty of Pharmacy

Pedagogical Director

Assistant Professor, University of Strasbourg

INSERM Unit UMR\_S1109

Molecular Immuno-Rheumatology

# **Councils and Commissions**

Plenary Council – 26 members

Scientific Council- 21 members

Pedagogical Commission – 18 members

Thesis Commission - 13 members

Exemption Commission – 6 members

#### Councils and Commissions

Plenary Council— 26 members

Scientific Council- 21 members

Pedagogical Commission – 18 members

Thesis Commission – 13 members

Exemption Commission – 6 members

#### **Councils and Commissions**

5 PhD candidates are part of the ED councils and commissions

Guillaume GROB, <u>UMR 7156 Génétique</u>

Moléculaire et Génomique Microbiologie (GMGM)

Clémence GIERE, <u>UPR 3212 Institut des</u>

Neurosciences Cellulaires et Intégratives (INCI)

Marina PIERREVELCIN, UMR 7213 Laboratoire de

**Biophotonique et Pharmacologie** 

Giulia LAFOND-BRINA, <u>UMR\_S1114 -</u>

Neuropsychologie cognitive et

physiopathologie de la schizophrénie

Orian GILMER, <u>UPR 9002 Architecture et réactivit</u>

<u>de l'ARN</u>

Plenary Council— 26 members

Scientific Council- 21 members

Pedagogical Commission – 18 members

Thesis Commission – 13 members

Exemption Commission – 6 members

# Secretary of the Doctoral School



#### Mélanie MUSER

- melanie.muser@unistra.fr
- magnetice n° 127 Collège Doctoral Européen
- Committee and Councils organization
- Interlocutor for the thesis follow-up committees
- Communication
- PhD pedagogical admission (PIT)
- ED414 training courses for PhD candidates
- Financial management
- Staff assistant

# Administration staff members

#### Joëlle HUBÉ

- joelle.hube@unistra.fr
- math office n° 124 College Doctoral Européen
- Responsible of the College Doctoral
- Contact for Teaching Missions
- College Doctoral Council Organizer
- PhD Ceremony Organizer
- Many other tasks

#### Fayza FALLAH

- Fayza.fallah@unistra.fr
- math office n° 133 Collège Doctoral Européen
- Interlocutor regarding PhD defence
- <u>Contact regarding PhD admission</u> (student card, medical insurance, tuition and fees, student stickers...)
- PhD degree certificates
- Registration at University
- Staff assistant

#### **Geraldine SCHVERER**

- gs@unistra.fr
- math office n° 123 Collège Doctoral Européen
- <u>Transversal Training offers of the Collège des Écoles</u>
   <u>Doctorales</u>
- Training validations
- Staff assistant



### **Virginie HERBASCH**



magnetie office n° 134 – Collège Doctoral Européen

- International Mobility
- Program Doctoral International (PDI)
- Financing mobility
- International joint supervised thesis: co-tutelle
- International PhD candidate



#### **Marie DEROCHE**



euraxess@unistra.fr

Maison Internationale Universitaire (MUI) 11 Presqu'île Malraux - Strasbourg

- **FURAXESS Service Center**
- Accompanies the **foreign researchers** in the preparation of their stay and installation in Alsace. The partnership agreement with the Prefecture of Bas-Rhin allows for an expedited procedure for filing an application for a residence permit.

# Your implication in the life of the Doctoral School

- Scientific Council: 26 members, <u>5 are PhD</u>
   <u>candidates</u> elected by the others
- Pedagogical Council: 7 members, <u>2 are</u>
   <u>PhD candidates</u> elected by the PhD candidate community
- Participate in evaluation in the frame of the Concours ED
- Doctoral School Day: 21-22 April 2022 organized by PhD candidates for PhD candidates

Guillaume GROB, <u>UMR 7156 Génétique</u>
<u>Moléculaire et Génomique Microbiologie</u>
(GMGM), Esplanade

Clémence GIERE, <u>UPR 3212 Institut des</u>

<u>Neurosciences Cellulaires et Intégratives (INCI),</u>

<u>Esplanade</u>

Giulia LAFOND-BRINA, <u>UMR\_S1114 -</u>
<u>Neuropsychologie cognitive et</u>
<u>physiopathologie de la schizophrénie</u>, <u>Campus</u>
<u>Medicine</u>

Orian GILMER, <u>UPR 9002 Architecture et réactivité de l'ARN, Esplanade</u>

Dr Marina PIERREVELCIN, CNRS UMR 7021, University of Strasbourg Campus Pharmacy

Next election during ED Days 2021

### **ED Days**

### THE annual event to gather PhD candidates from ED414

#### What's that?

10 min presentations or 3min blitz

Round tables with professionals

PhD association presentations

**Elections** 

Presentation prizes

Lunch, drinks, exchanges, etc.

PhD prizes from the Société de Biologie de Strasbourg

Who? All PhD candidates

When 21-22 April 22

## ED Days organizing Committee 2021

Last Edition: 21/22 April 2021, online

21st: Scientific presentations

22<sup>nd</sup>: Morning career and associations

Afternoon, thesis prizes from SBS

127 registrations

**Keynote Speakers** 

Geneviève Almouzni

**Jacky Goetz** 

66 abstracts submitted

10 long talks

10 short talks

46 posters

9 prizes



Kaskci Yasenya

IGBMC

Department of Functional Genomics

and Cancer



Garcia Sanchez Emmanuel IGBMC

Department of Biology and Stem Cells department (Team TORA)



Smaida Rana CRBS-UMR1260 Regenerative Nanomedicine



Anizon Benjamin CRBS-UMR 1119

Myelin Biopatholgy, Neuroprotection and Therapeutic Strategies



Ben Abdallah Inès
ICube - Teams IMIS
LNCA- Team ENGRAM



Anasse Nounsi

CRBS-UMR1260

Regenerative Nanomedicine

#### Call for organizers for the 2022 edition!

Contact: <u>frederic.gros@unistra.fr</u>

# **Doctoral School figures**

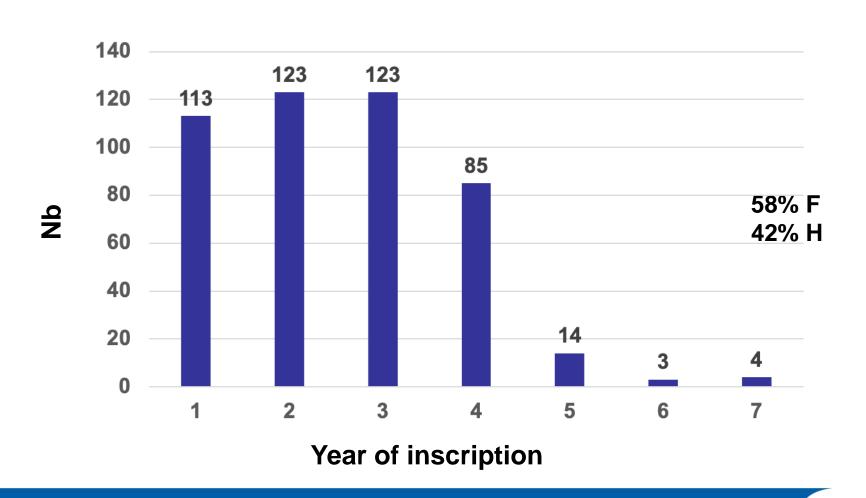
# General facts 2021-2022

465 enrolled 2021 - 2022 at the 15 Nov 2021

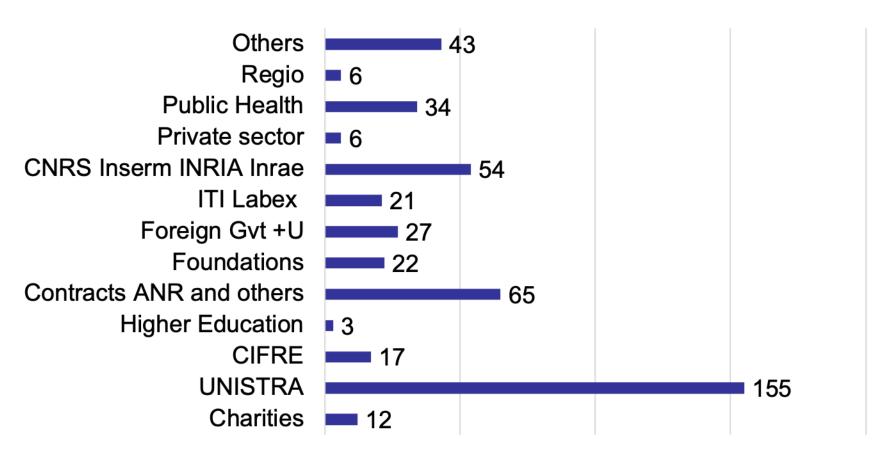
 24 co-agreements (Canada, Liban, Maroc, Pays-Bas, Belgique, Allemagne, Chine, Corée, Norvège, Finlande, ...)

80+ Teaching or mediation missions

# **Enrolments 2021-2022**



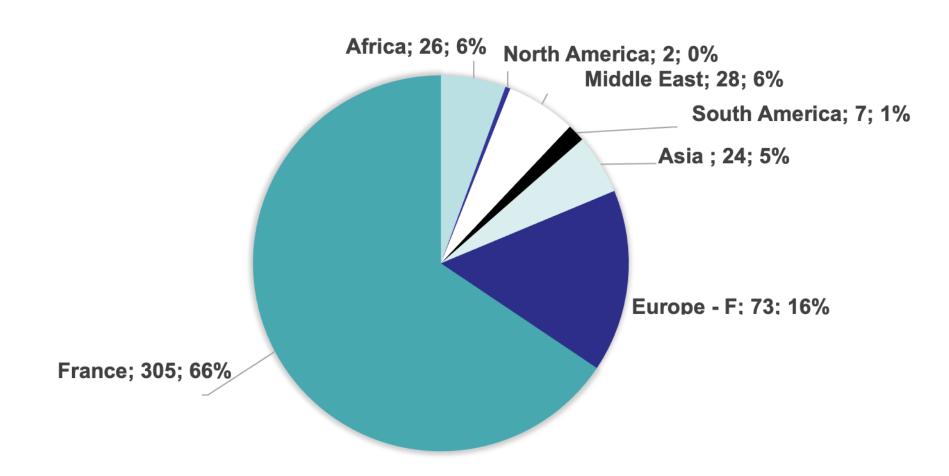
# Funding sources



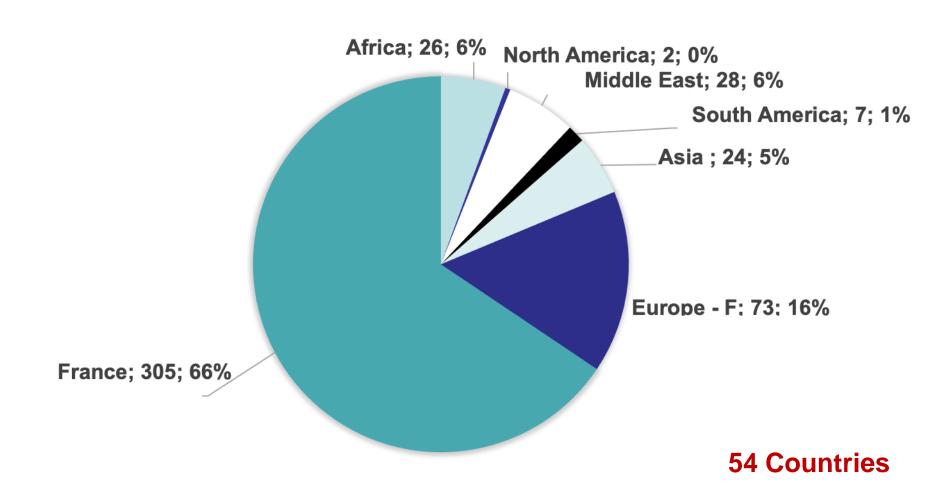
UNISTRA: CDE, Idex, ITI

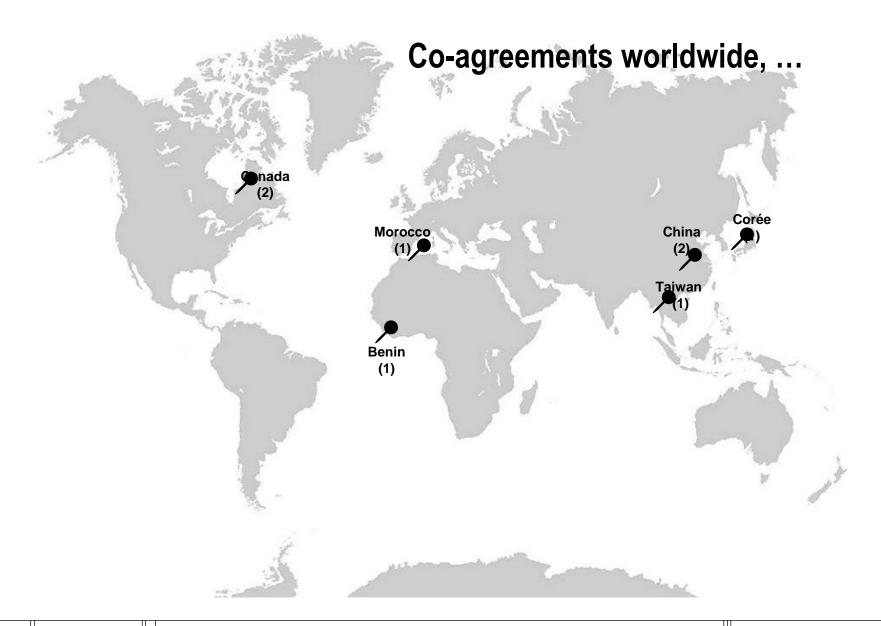
Fonds propres : Contrats ANR, LabEx, EU, etc. Autres : non renseignés, chomage, sans ressources

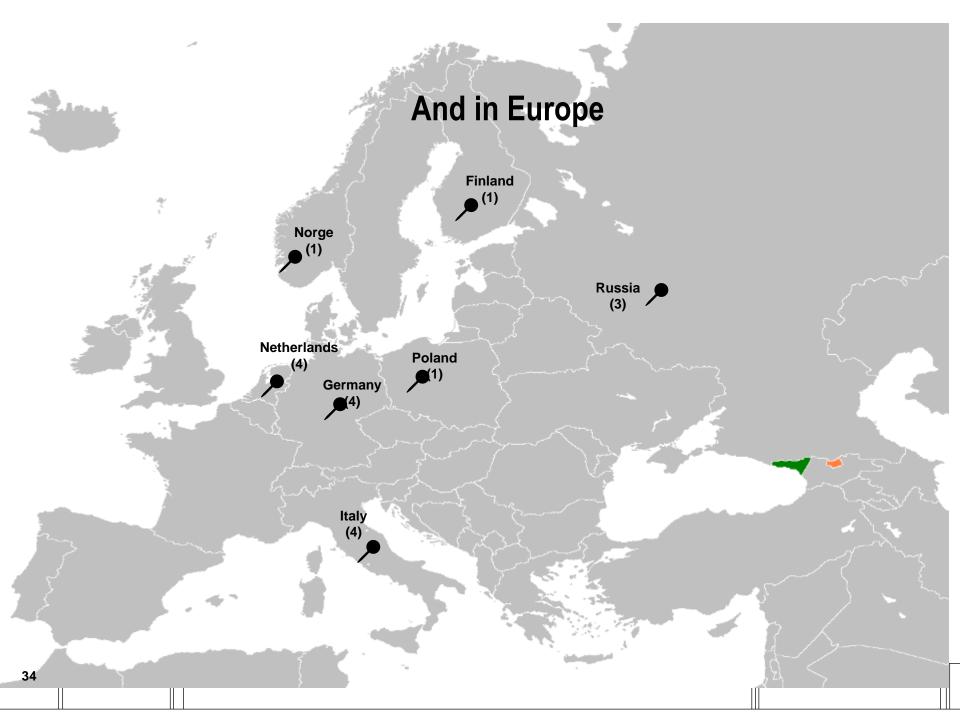
# Enrolments 2021-2022



# Enrolments 2021-2022







## PhD defences

• 120-130 PhD defended each year

Average duration 43 months

2.2 Publications/PhD

PhD is a first experience in research

# Training through research: in the lab

# Depends on a good collaboration and cooperation of all the partners

Doctorant/PhD candidate

PhD supervisor(s)

Research Unit Director

# The PhD training is framed by the Doctoral Charter...

### <u>Doctoral Charter is signed by</u>:

- PhD candidate : young researcher
- PhD supervisor(s), Research team
- Head of the Research Unit
- Head of the Doctoral School representing the University of Strasbourg

Of note – conflict management is described in the doctoral charter

# ...and the « Règlement intérieur » of the Research Unit as well as additional rules defined in the unit

- Follow working rules in the unit (« Règlement intérieur ») are defined officially in this document. It defines: Work time, holidays, authorship, deontology, confidentiality chart signed at your arrival in the lab....
- Follow Health and Safety rules: Check with your H&S officer (newcomer meeting)
- Attend unit work-in-progress, seminars, conferences,...

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- Follow Health and Safety rules: Check with your H&S officer (newcomer meeting)
- Attend work-in-progress, seminars, conferences
- Only use your unistra e-mail address for professional communication The Doctoral School will always communicate with you using this address <u></u>
   x.x@etu-unistra.fr

# Training through Research

## PhD supervisor

Trustworthy, competent, experienced researcher Many other responsibilities (teaching, administrative, ...)

**=>** Regular **follow-up** of your project, regular work-in-progress meetings with your supervisor, with the other unit members of the team/of the research Unit

# Skills and aptitudes acquired during PhD training

#### Scientific

- Knowledge
- Ability to learn and renew oneself
- Ability to formulate a problem
- Ability to analyse and master tools

#### Technical

- Project management skills
- Team work, networking
- Communicating skills
- Linguistic skills

### In general

Creativity, open mind, motivation, adaptability

# Scientific integrity

### Lab Notebook usage is mandatory

Follow up of your experiments everyday with all the details of each experiment, each special product used, etc...

#### WHY?

- Reproducibility of your experiments
- Memory for the lab after your PhD thesis defense
- Proof of date in case of patenting, licensing

No plagiarism in your scientific production

# Scientific integrity

# 1. Validation of the "scientific integrity training" is mandatory to enroll next year

- French training
- https://www.fun-mooc.fr/courses/course v1:ubordeaux+28007+session01/about
- English training
- <a href="https://www.fun-mooc.fr/courses/course-v1:Ubordeaux+28007EN+session01/about">https://www.fun-mooc.fr/courses/course-v1:Ubordeaux+28007EN+session01/about</a>
- The Success Certificate is mandatory to enrol in 2<sup>nd</sup> Year

3/01 to 1/04 (certificate delivered mid-April)

2/04 to 1/07 (certificate delivered mid-July)

2. Follow the integrity/ethics course organised by the University is also mandatory for defence

https://www.ouvrirlascience.fr/passport-for-open-science-a-practical-guide-for-phd-students/

### **Objective:**

Share and disseminate scientific content given the opportunities offered by the digital revolution

#### Concerns:

Datasets, methods, publications...

### Why:

Research is mainly funded by public money. Thus researchers have to make avalaible to the society all informations and data generated by their research in an as much as possible transparent manner. It is the democratisation of knowledge.

https://www.ouvrirlascience.fr/passport-for-open-science-a-practical-guide-for-phd-students/

**Aim :** facilitate access to scientific content and encourage its reuse

Where can you find open access resources for your project?

Open access journals

Platforms for preprint

Open archives: Ex. HAL for French research

**Databases** 

. . .

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## Planning an open approach to scientific work

How to implement Open Sciences in your everyday scientific life?

Define
Description fo the collection and documentation
Where and how your data will be stored
Protection rules
Responsibilities and resources

When?

From the first day of your project by defining the Data management plan (DMP)

And
Publish in open access journal
Store your publications on open access platforms as UNIWoak
(Unistra) and/or HAL

## Link to upload the booklet

« Passport for OPEN SCIENCE »

## **University of Lille**

https://www.ouvrirlascience.fr/passport-for-open-science-a-practical-guide-for-phd-students/

# Additional training

≥ 108 hours of scientific and transversal training have to be validated before the PhD thesis defense

54h Disciplinary/scientific training covering 3 different themes organised and validated by the DS (Ex. thematic days, statistics, microscopy, animal experimentation, etc.)

54 h Transversal tranining covering 3 different themes organised and validated by the Collège de ED (ex. IP, project management, French for foreigners, etc.)

Platform Améthis

# Additional disciplinary training that can be validated

- Program proposed by the Doctoral school
   Autumn, Winter, Spring and Summer Schools
- Thematic Days organized by the labs
- EMBO, FEBS, etc... schools
- Summer schools
- Others (as many as you wish)
- Project management
- Validation : see website

#### Training planned in 2022 (on site trainings)

#### January/February

- Image J *Jérôme Mutterer*
- Introduction to PyMOL and to 3D molecular visualization Claude Sauter
- Free software toolbox
   Claude Sauter/Jérôme Mutterer
- Statistics
  Introduction to statistical analysis of biological data with R. 4h
  Initiation to data science with R. 4h
  Bruno Kieffer, Myriam Maumy, Carine Meignin, Julien Godet. 16 seats.
  Two sessions per year are envisaged

#### Training planned in 2022 (on site trainings)

#### **March-May**

Doctoral Skills, communication and valorization

Science Me Up-David Bruchlen 30 seats

Help young PhDs to enter the job market, to identify skills and valorize them Two types of training on 3 days (2 days for only one track):

- Academic career
- Private sector career
- Identifying the opportunities available in the private sector with a doctorate degree

APEC - J Lombard

Introduction to intellectual properties

Satt Connectus - Nadia Belmahi

#### **Project**

• Managing stress, conflicts in professional life and self organization. Dedicated to PhDs in Biology (please note that a transversal training is available via the college, animated by Blanche Giraud-Beauregard)

#### October 2022

Animal experimentation: starts after summer

#### Scientific training program

### New on the ED website, examples of training equivalence and validation

Examples of hours counting		Disciplinary Training	
Transversal Training			
Member of an ethics committee (like CREMEAS) and actively participating in evaluation processes	This participation is validated (after presentation of certificate) as transversal training within the limit of one third of the	Participation in a scientific event	A fee of 7 hours of disciplinary training per day. No additional hours allocated for an oral or posted presentation.
	total training hours (i.e. 18 hours)	Master course follow-up	10 hours of disciplinary training maximum, with proof of attendance (attendance certificate signed by the teacher in charge of the module) accompanied by a letter from the thesis supervisor justifying the need to follow this course for the doctoral student.
	Is recognized as a transversal formation. Participation allows the validation of 4 hours for a one-day event (2 hours for a half-day event). Validated hours can be conjugated to disciplinary hours if a scientific presentation (oral, poster) is performed during the event.		
		Scientific MOOC	Validation up to 10h per MOOC, limited to half of the hours of disciplinary training (27h). Proof of attendance and validation required.
MOOC on transversal topics	Validation up to 10h per MOOC, limited to half of the total hours of transversal training (27h). Proof of attendance and validation required.	DU or DIU	Validation up to 30 hours per diploma, if the field corresponds to the thematic scope of the doctoral school
		Initial training in animal experiments,	30h validated.
	Validation up to 2 hours per event.	"designer" level	
		Training in experimental surgery	30h validated.
Not subject to any validation			

Not subject to any validation			
MOOC "integrity in research professions"	This MOOC is mandatory and necessary for new registration. It does not lead to any validation		
Training fully dedicated to specialized software such as GraphPrism, Icy (except in the frame of a more global topic like statistics).	Not validated owing to software accessibility and/or possibility to be trained in the host laboratory.		
Diploma or compulsory training such as training in quality control in industry, training in clinical research, training of investigators in clinical trials	Although these training courses can promote professional integration, they do allow any validation.		
Internship in a research laboratory different from the host laboratory.	This type of internship is an integral part of the research project and will be validated at the level of professional experience.  Consequently, visits in other laboratories are not recognized as hours of scientific or socio-professional training.		

#### Communication related to training

# Online surveys after trainings Workspace on Ernest (digital work environment of the University) Manual registration needed

### Do not forget!!

- Enter every training/congress on Amethis for validation (2x54h to be validated)
- Validate the MOOC "Integrity" and the onsite training about research ethics organized by the University
- Attend at least one international congress

## Summer schools



## Advanced tools for data analysis in Neuroscience

Organizers: Demian Battaglia, Romain Goutagny, Axel Hutt, Philippe Isope and Christophe Pouzat

#### Monday

- · Concepts and guidance (Organizers)
- Basics in Python (Samuel Garcia and Philippe Isope) Practicals

Beyond acquisition (Filters, Nyquist law...)(Axel Hutt)
Python toolbox (Philippe Isope and Samuel Garcia)

#### Tuesday

- · From LFP/EEG to localization, oscillations and coherence (Romain Goutagny)
- . LFP analysis on Matlab: EEMD, filtering, CSD, wavelet... (Vincent Douchamps)
- Spike train statistics: Functional Data Analysis, Confidence Set, Point Process Formalism (Christophe Pouzat and Samuel Garcia)

Practicals

#### Wednesday

- · Neuronal circuits modelling: microscale (NEST) (Arvind Kumar)
- Neuronal circuits modelling: macroscale (Virtual Brain) (Giovanni Rabuffo)
   Practicale:

Machine learning for dummies: clustering, classifiers, dimensional reduction, pattern search... (XXX, e.g. Shruti?)

#### Thursday

- Network tools and functional connectivity analyses: graph theory and beyond, metrics of functional connectivity for different types of signals (Demian Battaglia)
- Merging data and models by data assimilation techniques, e.g. Kalman filter (Axel Hutt) Practicals

Choice of tutored project

#### Friday

Tutored projects (Organizers) Presentations of projects

Université

de Strasbourg

Excellence University



**ITI Neurostra** 

# PhD – researcher exchanges

The university of Strasbourg is part of the EUROLIFE network of European Universities <a href="http://eurolifeuniversities.org/research/">http://eurolifeuniversities.org/research/</a>

Trinity College Dublin – School of Medecine – Ireland

Semelweiss University – Hungary

University of Barcelone

University of Edinburgh – College of Medecine and Veterinary – UK

University Medical Center – Göttingen – Germany

Medical University Innsbruck – Austria

Leiden University Medical School – NL

Karolinska University

- Summer and Winterschools
- DataEthics Winterschool
- Funding for PhD or young researchers short term exchanges

# CIF: Convention individuelle de formation/Doctoral training agreement





# DOCTORAL COLLEGE - UNIVERSITY OF STRASBOURG

### Individual training convention

Validated by the Council of the Doctoral College - University of Strasbourg on 17 May 2017

# CIF: Convention individuelle de formation/Doctoral training agreement

- -Identify the CST members
- -Define the professional project
- -Define your training program
- -etc...

Can be modified every year

# Thesis follow-up committee/ Comité de suivi de thèse (CST)

New: At first registration identification of the CST members (CIF)

Mandatory for next year enrolment

- Mid/end of 1<sup>st</sup> year: CST with report signed by all parties
- Mid/end of 2<sup>nd</sup> year CST with report signed by all parties
- Third year if a 4<sup>th</sup> year is needed CST with report signed by all parties

## On the website/Ernest

Thesis follow-up committee/ Comité de suivi de thèse (CST)

PhD completion 3 years

## On the website/Ernest

Thesis follow-up committee/ Comité de suivi de thèse (CST)

PhD completion 6 years

MDs with clinical duties, High School teachers,

Psychologues, sociologues, etc..

### PhD authorisation to defend

At least one publication, review, ideally first author, or a patent, obtained or submitted

Attendance to one international conference with presentation of the PhD results

Training 108h - 54h Disciplinary (DS) /54h Transversal (collège des ED)

Integrity training – MOOC validated

Of note Integrity training and its validation is mandatory at the University level so that the University and the research units therein are allowed to apply for major funding from the EU

## Conflict solving – step by step

- Discussion with the supervisor
- Meeting/discussion with the team leader if not the PhD supervisor or the unit director
- Mediation at the level of the Unit
- Meeting with the Doctoral school head PhD candidate/supervisor together or independently
- Meeting with all parts in an official meeting with Pedagogical director – PhD candidate representative and any other person designated by the supervisor or the student – report written – decisions officialised

## Conclusions

- The rules are established by the Ministry
- The University and the Doctoral Schools apply them
- Take the CST as a time to make a point on motivation professional project, etc...

# Questions

# Jury composition

#### All members hold an HDR

- PhD supervisor (s)
- 2 external reviewers holding an HDR and/or the title of Prof or DR (report)
- 1 internal supervisor with HDR
- optional additional jury members to balance the number of external/internal
- Jury members designate the president, he/she has to be Prof or DR

#### **AND**

- half of the members are Prof or DR
- half of the members are external reviewers
- external reviewers and internal member have no conflict of interest in terms of copublications
- jury composition should strive to come as much as possible to M/W parity

# Jury composition: one more point

A non-HDR supervisor can not act as a jury member (no HDR)

However he/she can be present at the defence as an invited member (does not sign the documents) but participates to the discussion

## Jury composition exception

If the external reviewer has no HDR and has not the title of Prof or DR, however he/she is the perfect expert

### THEN everything becomes more complicated

We need a detailed CV of the person The letter from the PhD supervisor

Then I have to write a "lettre circonstanciée" to support his/her presence in the jury

PhD mentoring

Independence in funding – prestigious funding

Group leader since ...

The CV will be analysed by the Commission Recherche from the University and accepted or not.