FRONTIÈRES DE L'INNOVATION EN RECHERCHE ET EDUCATION

FIRE DOCTORAL SCHOOL

Program Handbook 2018/2019

FdV

LIFE SCIENCES

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FAN

LEARNING AND DIGITAL SCIENCES

Catalysing a fruitful future

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Dear FIRE PhD Student,

We are happy to welcome you to our program.
This booklet summarizes the majority of the courses and opportunities offered by our program.
Its goal is to guide you through the year and help you make the most of it.
Together, we will make sure your time spent at the CRI is exciting and productive.

The FIRE PhD Team

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FIRE program guidelines

The FIRE guidelines are based on the five-year project (2018-2023) of the doctoral school approved in 2018 by HCERES, the French evaluation agency for research and higher education. The FIRE program, as part of the EURIP graduate school (École Universitaire de Recherche Interdisciplinaire de Paris), bridges fundamental and applied research at the interfaces of Life, Learning and Digital Sciences.

1.01 — FIRE SPIRIT

The pedagogic FIRE program is focused on the active participation of the PhD students in their own education at the frontiers of knowledge. The FIRE program fosters an environment of cooperation and excellence that enables students to develop their potential as young researchers. The program enables labs to host unconventional theses, with respect to their usual doctoral school, to participate in an interdisciplinary community, and to take advantage of resources made available by the doctoral school to their students.

1.02 — THESIS RESEARCH PROJECTS

FIRE PhD theses make a significant contribution to an interdisciplinary domain through an original research project. The following are necessary conditions for a PhD thesis in the FIRE doctoral school:

• Conduct an original research investigation, in which the question, problem, and/or methodology are novel for the hosting lab

• Pose a research question or problem that is relevant to the interdisciplinary community

• Apply an appropriate research methodology that reveals the knowledge generated by the research outcome and/or processes

• Document and disseminate the research outcome and/or processes in an appropriate manner to the research community and the wider public

Ultimately, the PhD supervisor, Thesis Advisory Committee, dissertation reviewers, and defense jury provide the guidance and evaluation of content and execution of the thesis research

// SUBJECT MATTER //

A wide range of research aims are associated with the FIRE doctoral school due to the interdisciplinary nature of the program. They can be broadly categorized into: Frontiers in Life Sciences or Frontiers in Learning and Digital Sciences.

FRONTIERS IN LIFE SCIENCES ("FRONTIÈRES DU VIVANT", FDV)

These projects advance knowledge in life science through an original research investigation Traditionally, students have pursued interdisciplinary research projects in natural sciences, engineering and technology, medical and health sciences, and recently, projects have also incorporated approaches and applications from the social sciences and humanities.

These projects expand collective intelligence where improvements in social, biological and cognitive sciences associated with a quantitative apprehension of learning could gradually lead to an ever-increasing understanding of learning and teaching processes and new educational paradigms.

Traditionally, students contribute to solving global challenges in health, environment and education through original investigations using learning with games, teaching through research, information and communication technologies, participatory science, action based research approaches of design, etc.

1.03 — ADMISSION TO THE PHD PROGRAM

Applications to the FIRE doctoral school are first reviewed by a pre-selection committee composed of scientific members of the doctoral school council to determine eligibility for the program. Next, eligible candidates are invited for an oral presentation of their project and prospects in front of the International Scientific Council (ISC). Students who are deemed eligible by the ISC will be admitted to the doctoral school.

The hosting labs are committed to support and facilitate the participation of their FIRE PhD students in the doctoral training program.

// PHD FUNDING //

All PhD students must have doctoral funding for three years. Since the doctoral school is not able to support all the eligible candidates, students and their supervisors are encouraged to apply for funding available from other institutions and organizations. In most cases, funding is issued to the student through the universities. However, it is also possible to have an agreement between the university and any funding provider such that the student's stipend is issued to him/her from the funding provider directly. In either case, all students must have explicit 3-year funding of at least 1 747,20 euros per month gross for his/her doctoral studies.

// UNIVERSITY REGISTRATION //

FIRE PhD students must be registered at Paris Descartes, Paris Diderot or Paris Sciences et Lettres (PSL) University for every year of their PhD studies. At the beginning of each academic year, all students must complete the registration process, as registration does not automatically renew from one academic year to the next. The administrative registration deadline is in mid November of each year. The exact deadlines can be found on the University websites.

The PhD diploma is issued by Université Sorbonne Paris Cité (USPC) or PSL, not by the doctoral school. Thus it is imperative that students are registered, otherwise the diploma and student benefits cannot be granted.

1.04 — TRAINING PROGRAM

The FIRE docral school offers an extensive training program that combines research with a curriculum of advanced courses and workshops on interdisciplinary research, science-related topics and transversal skills for scientific and non-scientific professions. The interdisciplinary nature of students' interests and projects requires a broad set of skills and knowledge. Students are required to validate at least 300 hours of academic training including advanced, interactive training sessions, student-led scientific clubs, workshops, and conferences before the thesis defense is granted.

At least half of this training should be earned through FIRE courses, workshops, and other activities organized by the CRI. The remaining hours may be validated through courses taken at other institutions in France and abroad, massive open online courses (MOOC), international meetings and summer schools, teaching activities, etc. upon prior approval from the FIRE staff.

// REQUIRED FIRE TRAININGS //

A number of FIRE courses are mandatory for each student to complete before the end of their third year of studies. These courses aim to develop the transversal skills necessary in the research community such as scientific communication, interdisciplinary collaboration, and responsible research practices. They include:

- Oral communication
- Critical assessment and publication of research articles
- Written communication
- Well-being, integrity, and responsibility in research

Additionally, to foster interactions and community building in the FIRE doctoral school, students are expected to participate in the following student seminars and workshops throughout their studies.

CREATING INTERDISCIPLINARY RESEARCH PROJECTS

The Creating Interdisciplinary Research Projects (CIRP) workshop assembles PhD students from the FIRE program and Master 2 students from the AIRE program, coming from broad academic backgrounds, to conceive creative research projects at the frontiers of Life, Education and Digital Sciences. This five-day on-site workshop attempts to provide the primary basis for collegiality and communication through dialogue and brainstorming on open interdisciplinary research questions. To encourage collaboration and sharing, student teams present their proposals and ideas in a number of formats throughout the week.

INTERDISCIPLINARY THURSDAYS

During their first year, PhD students give a short presentation to introduce their research project, the main issues, and approaches. Because these presentations are held in front of an audience of student researchers from a variety of backgrounds, this is an effective training for accessible communication. These seminars are intended to promote discussions and scientific exchanges among the students and to build the interdisciplinary FIRE community.

THEMATIC WORKSHOPS

The second-year presentation occurs during the Thematic Workshops, which groups FIRE and AIRE students according to specialized areas of expertise. Each student group collaborates to host a day-long academic conference in which they present their work, invite experts to give specialized talks, organize collective activities, etc. While the type of presentation may take many forms (e.g. powerpoint/slides, poster, group presentation, demonstration, etc.) the aim is for more advanced and specialized research discussions between students, invited members of their lab and outside researchers.

INTERNATIONAL CONFERENCES

Students must also participate in at least two international workshops/conferences during their thesis to maximize the visibility of their work and develop contacts for their professional projects. To this aim the program provides up to 1 000 euros per year per student to help cover the expenses for attending international workshops and conferences.

Additional mobility grants are available through Paris Descartes and Paris Diderot universities.

// ANNUAL TRAINING REPORT //

The doctoral school monitors the academic progress of the PhD students through the annual training report, which is an editable document shared between each student and the FIRE staff. At the end of the academic year, students must submit a training report where they document the courses and training hours accrued during the year. Hours will be validated by the FIRE staff according to the following guidelines:

- Hours from approved FIRE courses will be validated if student attended at least 80% of the course, or upon instructor approval
- Hours from approved CRI activities will be validated upon approval by the FIRE staff
- Hours from external activities will be validated with proper documentation of completion (e.g. attestation letter from conference organizer, certificate of completion for a MOOC, etc.)

The annual training report will be reviewed by the FIRE staff before yearly university registration or the thesis defense can be granted.

1.05 — THESIS ADVISORY COMMITTEE

The Thesis Advisory Committee (TAC) follows the student throughout his/her PhD. Its role is to ensure the progress of the research, with respect to the original aims and in the light of new advances in the field, and the general well being of the student. The TAC consists of the PhD supervisor(s) and two senior scientists (tutors) of complementary expertise to cover the different interdisciplinary facets of the student's project. To ensure that students receive broad and unbiased feedback, the tutors should work outside of the supervisors' labs and should not be past or present collaborators of the supervisor. The TAC tutors are selected by the student and should be approved by the PhD supervisor before final approval by the FIRE staff.

The PhD student meets with the TAC members at least once per year. The first meeting should take place six months after the start of the PhD. Because this meeting occurs relatively quickly after the start of the PhD, the purpose of the first TAC meeting is not necessarily to present results, but to evaluate the current stage of the research and further develop the plan for the coming years. The subsequent meetings should take place no more than one year apart such that the last meeting takes place approximately six months before the thesis defense.

Before each meeting, the student submits a written progress report to the members of the TAC using the following guidelines:

// TAC REPORT GUIDELINES //

In order to prepare the discussion at the meeting, the document should address the following questions:

- What were the most important results since the last meeting (or since the beginning of the PhD for first year students), in terms of scientific achievements and progress in your work?

- Were there changes in the project since the last meeting (or since the beginning of the PhD for first year students)? If so, what was the cause of the changes and/or delay and what was the response to this?

- What were the main challenges encountered? What measures/actions have been taken in response to them? In addition, the PhD student should also take advantage of the TAC progress report to include questions on issues they would like to address during the meeting.

FIRST YEAR - 5 PAGE REPORT

For fisrt year students, the report is intended to be an updated thesis project (~5 pages). It should be structured as a research proposal and should discuss the existing experimental and theoretical bases of the subject and preliminary results.

SECOND YEAR - 10 PAGE REPORT

The second year report should grow to an intermediary summary (~10 pages) including the scientific context, the aims, the results, conclusions and perspective on the remaining work to be done.

THIRD YEAR REPORT - 20 PAGE REPORT

Building on the previous documents, the third year summary (~20 pages) aims to provide an outline of the thesis manuscript.

// TAC MEETING AND TUTORS REPORT //

During the meeting, the progress of the PhD work is discussed and the TAC provides advice and criticism on the proposed research plan for the next year(s). The TAC also advises the student on career prospects and on the choice of conferences and training courses.

The TAC is expected to complete the tutors report with feedback for the student on his/her research progress, plan, and training program. Copies of the student's TAC progress report and tutors report should be submitted to the doctoral school along with the annual training report.

See the TAC meeting guidelines section for more details.

A COMBINATION OF RESEARCH EXPERIENCE GAINED IN THE HOSTING LAB AND EXPERIENCE IN INTERDISCIPLINARY SCIENCE AND EDUCATION GAINED THROUGH THE FIRE PHD PROGRAM

1.06 — CRITERIA FOR DOCTORAL DEGREE

The PhD at the FIRE program represents a combination of research experience gained in the hosting lab and experience in interdisciplinary science and education related activities gained through the doctoral school training program.

Approval to defend the thesis is granted by the doctoral school director. The director will consider the following: the TAC recommendations, research achievements, publications or dissemination of the work in the thesis, and completion of the doctoral school training program including courses, conferences, and involvement in the FIRE doctoral program. The defense criteria rely on the quality of the thesis manuscript, the doctoral training, experience gained during the thesis and the capacity to defend within three years.

The doctoral school does not require a particular number of publications to authorize the defense. However, the research processes and outcomes should be documented and communicated in an appropriate way to the research community and, as far as possible, to the wider public.

The doctoral school recommends that the students are involved in three (pre-)publications during their thesis:

- One research article written with the lab, not necessarily as lead author, and not necessarily on the student's main subject
- One review type article, taking advantage of the work of interdisciplinary synthesis expected by the doctoral school
- One research article as lead author on the student's main subject.

For students who have components of their thesis work in a discipline where peer reviewed publishing is not common (e.g. Art, Design), the doctoral school recommends that the students share his/her work in venues appropriate for the field. These venues may include international conferences, interactive demonstrations, exhibitions, etc.

In addition to wider dissemination of the work, students are expected to document their research progress in the TAC reports and present the state of their research to their TAC annually.The final outcomes and process are documented and presented in the final PhD dissertation and defense. While other media is permitted to accompany the dissertation, a written document is mandatory for completion of the FIRE PhD.

The doctorate degree is awarded after examination of the candidate's work by two reviewers and defense in front of the doctoral jury. Neither reviewer can be affiliated with USPC or PSL (for students registered at USPC or PSL, respectively), and at most one of the reviewers can be a member of the TAC. The composition of the defense jury must follow the requirements of the university to which the student is registered.

1.07 — DURATION OF THE THESIS

PhD students of the FIRE doctoral school are expected to finish their PhD within three years. Extensions are only granted under exceptional circumstances and need the approval of the TAC and the director of the doctoral school. Extensions will only be considered if funding is available. Students must submit a fourth year registration request form to the FIRE office and follow the required procedure of the university to which they are registered.

DEFENSE PROCEDURES AND DEADLINES

Students must defend their thesis by November 30th of their third year. Ideally, they should defend in September or early October. The defense procedure must be initiated at least 2 months before the intended defense date. If students plan to defend in September or early October, the process must be initiated before July 15th to account for the university closure from mid July-August.

If students have been granted a fourth year, they must defend by November 30th at the end of the fourth year. The fourth year defense procedure must be initiated by September 30th.

1.08 — POST-THESIS PREPARATION AND FOLLOW-UP

The FIRE doctoral school provides training and assistance to help students and alumni initiate a successful professional career after the PhD. When publications related to the PhD work are accepted before or after the defense, the FIRE doctoral school should be informed to maximize the visibility of the students achievements. FIRE alumni are featured on the doctoral school's website to facilitate contact between current PhD students and alumni. To keep the strength of the FIRE community, alumni will be invited to various CRI events and are encouraged to participate in the FIRE alumni network.

1.09 — SIGNATURES AND ACKNOWLEDGEMENTS

Signature regulations of the hosting lab and employer must be respected. In particular, students holding a "contrat doctoral" fellowship with university funds must include the following affiliations on their publications:

1. Funding university (Paris Descartes, Paris Diderot or Paris Sciences Lettres), Paris, France.

2. University/Institute where the PhD takes place (if different from the funding university), lab name, unit label (e.g. CNRS UMR, INSERM U), post code, city, country.

Holders of a "contrat doctoral" paid from non-university funds (case of convention between an external payer organism and the university) have to mention in the signature the university at which the PhD takes place.

Due to the financial support they receive, FIRE PhD students are also expected to rightfully acknowledge at the end of the publication their funding organism and the "Ecole Doctorale FIRE - Programme Bettencourt."

1.10 — WEBSITE REPRESENTATION AND STUDENT NETWORK

At the beginning of their PhD, students are asked to sign a photo release form giving the CRI permission to use photos and/or videos of themselves on the CRI website and other promotional materials. Photos and videos include those provided by the student for their profile page and those from CRI events/courses where photos and videos are taken. Students are not obliged to grant photo/video permission, and may opt out of the photo release at any time by submitting a new photo release form to the FIRE office indicating that they do not grant permission for the CRI to publish photos/videos featuring them. In this case, the CRI staff will do their best to remove existing photos and videos from published materials, but cannot guarantee that everything is removed immediately.

// STUDENT WEBSITE PROFILE //

The FIRE staff will create a basic academic profile page for each student on the doctoral school website. The page will contain the thesis title, abstract, supervisor, hosting lab, funding source and photo of the student. This information will be taken from the original FIRE application. Students may update their profile content at any time by emailing the FIRE office with the necessary changes.

// CRI MOODLE //

FIRE students may contact other CRI students, alumni, and partners through the CRI Moodle. Students will be given a login to the Moodle at the beginning of their PhD which will give them access to a number of resources and forums.

1.11 — SCIENTIFIC ETHICS AND RESPONSIBLE CONDUCT

Ethical behavior is expected during the course of the PhD. This includes originality and reproducibility of the results generated and confidential treatment of privileged communications.

The financial support by the doctoral school (to attend conferences and workshops), yearly registration renewal at the university, and authorization to defend are conditional upon the respect of the present guidelines (e.g. organization of the yearly TAC meeting, attendance to mandatory courses, realization of approximately 100 hours of training per year).

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Thesis advisory committee guidelines

The Thesis Advisory Committee (TAC) meetings are meant to help the PhD students' progress, to plan the project for the forthcoming year(s), and to promote scientific exchange. They aim to to summarize and analyze the research results obtained thus far, which will provide the basis for discussing and drawing up a research plan for the coming year. During the meetings the PhD student should give a 30 minute talk followed by a discussion about the progress of the project. The tutors can also give advice on measures to be taken with regard to supervision and/or training. They are asked to evaluate the student's progress and express recommendations in their tutors report.

2.01 — TUTORS SELECTION

The TAC consists of the PhD supervisor(s) and two senior scientists (tutors) of complementary expertise to cover the different interdisciplinary facets of the student's project. The tutors should work outside of the supervisors' labs and should not be past or present collaborators of the supervisors. The TAC tutors are selected by the student and should be approved by the PhD supervisor before final approval by the FIRE staff.

First year FIRE students must submit the selection of their tutors within 2 months after the start of their PhD. We recommend that you share these TAC meeting guidelines with your tutors so they can familiarize themselves with the TAC process.

Please indicate your selection of tutors using the Tutors Selection Form available on our website.

2.02 — TAC PROGRESS REPORT

At least one week before the meeting, the PhD students should send a summary of their research (TAC progress report) to the TAC members. The document should address the following:

- What were the most important results since the last meeting (or since the beginning of the PhD for first year students), in terms of scientific achievements and progress in your work?
- Were there changes in the project since the last meeting (or since the beginning of the PhD for first year students)? If so, what was the cause of the changes and/or delay and what was the response to this?
- What were the principal difficulties encountered? What measures of actions have been undertaken in response? In addition, the PhD student should also take advantage of the TAC report to include questions on issues they would like to address during the meeting.

FIRST YEAR – 5 PAGE PROGRESS REPORT

For 1st year students, the report is intended to be an updated thesis project (~5 pages). It should be structured as a research proposal and should discuss the existing experimental and theoretical bases of the subject and preliminary results.

SECOND YEAR – 10 PAGE PROGRESS REPORT

The 2nd year report should grow to an intermediary summary (~10 pages) including scientific context, specific aims, results, conclusions and perspectives on the remaining work to be done.

THIRD YEAR – 20 PAGE PROGRESS REPORT

Building on the previous documents, the 3rd year summary (~20 pages) aims to provide an outline of the thesis manuscript.

2.03 — TAC MEETING AND TUTORS REPORT

The PhD candidate is responsible for organizing the TAC meeting with the tutors and the thesis supervisor(s). External guests can be invited. The first meeting should occur 6 months after the beginning of the PhD and once a year thereafter. Because the first meetin occurs relatively quickly after the start of the PhD, its purpose is not necessarily to present results, but to evaluate the current stage of the research and further develop the plan for the coming years.

During the meeting the PhD student gives an oral presentation (30 minutes) of the research project, during which specific scientific problems can be addressed. The student is invited to bring to the meeting his/her lab books, in order to be able to answer questions and get more precise feedback on experimental and theoretical work.

Following the general discussion, the tutors should meet with the student separately without his/her supervisor(s). Then, the tutors should meet with the supervisor(s) without the student present. The tutors should then deliberate alone, during which time they discuss and summarize their views and formulate their recommendations. The tutors should use the Tutors Report Form to give the student feedback on the presentation, research progress, and PhD training. All responses must be typed in English and signed by the tutors. The Tutors Report Form is available for download on the FIRE website.

After the TAC meeting, the PhD student needs to sign the tutors report and collect the signatures from the tutors. Handwritten signatures are preferred, but electronic signatures are accepted.

2.4 — SUBMISSION OF TAC REPORTS

PhD students are expected to submit their TAC progress and tutors reports in pdf format to the FIRE doctoral school. The TAC documents should be uploaded to the Google Drive folder with the annual training report by the 1st of July. Please see the section on the annual training report for details on accessing the Google Drive folder.
Additionally, students should periodically visit the FIRE website and check his/her *@cri-paris.org* email for any changes to the submission process.

2.5 — TAC BUDGET

In order to encourage the exchanges between the PhD candidate, the TAC members and possible guests on the day of the TAC meeting, a budget of up to €200 is available from the doctoral school for lunch/dinner. For reimbursement the candidate should return the receipt and invoice (with the name of the participants) to the FIRE office.
Please see the “Important Procedures” section for more details on how to use the TAC budget.


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Annual training report

FIRE students may complete their 300 hours of training in a number of ways including FIRE and external courses, workshops, conferences, teaching, CRI activities, etc. At the end of the academic year, students are expected to report all of their training hours to the FIRE doctoral school through the Annual Training Report.

3.01 — ONLINE TRAINING REPORT

Each student has a Google Drive folder that is shared with the FIRE staff. Students can access their folder by logging into Google Drive with their *@cri-paris.org* email address. The Google Drive folder should be used to upload the annual report documents which include:

- Training report (Google Spreadsheet document, template already loaded into folder)
- Supplementary documentation for validation of external trainings
- TAC progress report
- Tutors report

Additional documentation is required for validation of external courses, workshops, conferences, etc. Documentation may include a certificate of completion, attestation letter, registration receipt, etc. Documentation is not necessary for FIRE courses where attendance was taken and reported to the FIRE staff. Once the training report is completed, the FIRE staff review the documents and provide feedback to the student.

By the end of their first year, PhD students meet individually with the FIRE staff to provide feedback on the courses they have taken and are welcome to express their need for new courses.

The training report should be completed and all accompanying documents uploaded to Google Drive by the first of July.

3.02 — HOURS VALIDATION

Fifty percent of the training hours should be done through CRI approved activities (e.g. FIRE courses, CRI workshops, Les Savanturiers, Game Lab, Open Lab, CRI Summer Schools, etc.)

In general, students must attend 80% of FIRE courses in order to validate the hours. In the case that a student cannot meet the requirements for validation, he/she is encouraged to talk to the FIRE staff and course instructor to make alternative arrangements. In some cases, the number of hours a student validates will come directly from the course instructor.

The remaining training hours can be earned through external courses and workshops, international scientific conferences, teaching activities, etc. Typically journal clubs, research group meetings, internal seminars do not count towards FIRE training hours. Please do not hesitate to contact the FIRE team with questions about validation of training hours.

University registration or thesis defense will be authorized only after students complete their Annual Training Report.


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Important procedures

4.01 — UNIVERSITY REGISTRATION

Every student is required to register with their designated university (Paris Descartes, Paris Diderot or Paris Sciences Lettres) every academic year.
Registration is not automatically renewed.

At the beginning of the academic year, students will receive an email from the doctoral school with the steps needed to register with the university. Students will need to make an appointment with the university and go to the university in person to complete the registration.
After completing the university registration, students will need to send proof of their registration to the FIRE office.

Students must complete the university registration by the deadline indicated in the email from the doctoral school.
Failure to register by the deadline could result in dismissal from the doctoral school.

4.02 — CRI PARIS EMAIL ADDRESS

First year students are assigned a *@cri-paris.org* email address at the start of the academic year. The email address is managed by Google Apps for Education and comes with 30 GB of storage in the Google Apps (e.g. Gmail, Google Drive, Calendar, etc.). The account is free for students of the CRI and will remain active even after the student graduates. All email communications from the doctoral school will be done through the *@cri-paris.org* email addresses.
Students are therefore encouraged to link their CRI email account to their personal accounts and/or check their CRI account regularly.

Students will receive instructions on how to activate the account at the beginning of the year.

Please contact the IT department (it-team@cri-paris.org) with questions or problems with their CRI email account.

4.03 — CRI MOODLE

First year students will automatically be added to the CRI Moodle, an online platform with important information about CRI programs and forums for job offers, wide communication with students, teachers, and staff of the CRI. FIRE students should visit the FIRE News and Info Page of the Moodle for answers to common questions, documents, and procedures, before asking the FIRE staff.

All student also have access to a number of forums on the Moodle including the General CRI forums that send notifications to the entire CRI community, and the FIRE forums which only notify people associated with the FIRE PhD program.

4.04 — FIRE COURSE REGISTRATION

Course registration is done using Google Classroom, which students can access using their *@cri-paris.org* email address. Students must register for each course they wish to take, including the required courses.

To register, students must visit https://classroom.google.com and log in with their *@cri-paris.org* email address. Next click the + in the top right corner of the screen and click Join Class. Enter the course code to join the course.

The 2018-2019 courses are briefly described later in this handbook and in more detail on the FIRE website. The registration codes for all courses are given on the FIRE website: http://cri-paris.org/FIRE

4.05— TAC MEETING

Students are responsible for scheduling and organizing their TAC meetings themselves. There are no set time slots or locations where the meetings must take place.
Students are welcome to schedule their TAC meeting at the CRI, but arrangements must be made with FIRE staff in advance.

FIRE students have an annual budget of 200 euros for their TAC meeting. This budget should be used for lunch/dinner after the TAC meeting with the committee and/or refreshments during the meeting.

After the TAC meeting, students can submit their expense documents to be reimbursed for their approved TAC expenses up to 200 euros. The reimbursement procedure is listed below (section 4.07). The TAC progress report written by the student and the tutors report completed by the TAC committee should be uploaded to the Google Drive system with the training report at the end of the academic year, and no later than July 1st.

4.06 — TRAVEL BUDGET

FIRE PhD students have an annual budget of 1000 euros for conference/workshop travel and accommodation.[1] Before using any of this travel budget, students must receive approval from the doctoral school board, which they can obtain by sending an email (CC the scientific coordinator) explaining how the budget will be used and how the conference/workshop is relevant for his/her professional project. “Frontiers in Life Science” (FdV) students should contact David Tareste for approval, and “Frontiers in Learning and Digital Sciences” (FAN) students should contact Muriel Mambrini for approval. After returning from the conference/workshop, students may submit their reimbursement documents according to the procedure below (section 4.07).

Students who did not receive approval to use the travel budget prior to attending the conference/workshop will not be reimbursed.

1. The 1000 euros travel budget must be approved by the doctoral school board. This financial support is conditional upon the respect of the FIRE guidelines (e.g. organization of the annual TAC meeting, attendance to mandatory courses, completion of ~100 hours of training per year).

4.07 — REIMBURSEMENT

Reimbursements are simple and generally only take a few weeks after they are submitted.

// DOCUMENTS NEEDED //

- SCIRE Expense Report signed by one of the Directors
- Original receipts for purchases
- RIB (Relevé d'Identité Bancaire)

The SCIRE Expense Report is available for download on the FIRE News and Info Page of the Moodle.

// PROCEDURE //

1. Complete the SCIRE Expense Report with signature from David Tareste or Muriel Mambrini (note: electronic signatures are acceptable)
2. Attach your original receipts and/or invoices
3. Send your expense report, receipts, and RIB to accounting@cri-paris.org
4. Wait 1-2 weeks for the reimbursement to be done (*via* bank transfer)

If the deposit is not received 2 weeks after submitting the documents, please contact the accounting service by email or phone (see contacts section at the end of the handbook).

It is possible to have travel expenses taken on directly by the CRI (not applicable to housing expenses). In this case, FIRE staff can purchase your ticket through a travel agency, which sometimes requires time and management costs, and may thus increase the price of the ticket.

Conference registration fees can also be paid directly by the CRI if the conference organizer sends an invoice to the CRI with the exact amount owed by the student for registration. Students should contact the conference organizer to find out if they can issue an official invoice. Invoices should be addressed to the accounting service and should clearly state the name of the student, amount, and conference details.

4.08 — REQUEST FOR DEFENSE

// DEADLINES //

Students must defend their thesis by November 30th of their third year. Ideally, students should defend in September or early October. The defense procedure must be initiated at least 8 weeks before the intended defense date. If students plan to defend in September or early October, the process must be initiated before July 15th to account for the university closure from mid July-August.

If students have been granted a fourth year, they must defend by November 30th at the end of the fourth year. The fourth year defense procedure must be initiated by September 30th.

// PROCESS //

To initiate the defense procedure, students must complete the Request for Thesis Defense Form and the University Jury Approval Form (available on the FIRE Moodle) and return it to the doctoral school.

Paris Diderot Paris Descartes and Paris Sciences et Lettres Universities have different defense procedures, please check the respective university website for the exact steps. The links to each page are available on the FIRE moodle.

4.09 — FOURTH-YEAR REGISTRATION

PhD students in France are expected to finish their PhD in 3 years. Extensions are only granted under exceptional circumstances. Each application for a fourth year needs to be discussed with the FIRE directors. Prolongation in a fourth year can only be granted by the University President, upon proposal by the director of the PhD program and motivated letter of the supervisor(s).

In order to ask for a fourth-year registration, students should provide the FIRE staff with:

- An application letter written by the student explaining the request for registering in fourth year. The letter should detail the advancement of the thesis. There is no specific format requirement for this letter
- A support letter by their supervisor(s)
- The approval of the thesis advisory committee, either written statement in the TAC report, or motivated letter signed by the tutors. The tutors should provide scientific arguments to support the prolongation
- Completed FIRE Fourth Year Prolongation Request form, available on the FIRE News and Information page of the Moodle.
- Completed official university request form (in French), available from the university web page
- A formal proof of fourth year funding
- Third year TAC and tutors reports and training report

Fourth year registration is completed at the same time as regular registration, in September-November.

5

Required FIRE trainings

— 300 hours

In total, FIRE students must complete 300 hours of training during the three years of their PHD studies.
Included in those 300 hours are the following required courses/workshops :

FIRST YEAR REQUIREMENTS

Creating Interdisciplinary Research projects (CIRP)

Interdisciplinary Thursday (IT) Seminars

Oral Communication and Public Speaking

Critical assessment and publication of research articles

SECOND YEAR REQUIREMENTS

Thematic Workshops

REQUIREMENT TO BE COMPLETED ANYTIME BEFORE THE END OF THE PHD

Written Communication
Well-being, integrity and responsibility in research

In keeping with the spirit of the FIRE program, the required courses are designed to develop the transversal skills necessary for the research world. While we strongly recommend that all students take the courses above, we understand that in some cases students have already completed similar trainings or have found alternative means to develop these particular skills. In this case, students should contact the FIRE staff to customize their curriculum plan.

// COURSE REGISTRATION AND CANCELLATION //

Students must register for each course they wish to take, including the required courses, on Google Classroom using their *@cri-paris.org* email address and the Google Classroom registration code. Students will be notified when registration opens and closes at the beginning of the academic year.

At the end of the registration period, the list of students will be transferred to the instructor(s) for course planning. If an inadequate number of students register for a course at the end of the registration period, the course may be cancelled.

If students need to cancel their course registration, they must remove themselves from the Google Classroom page at least 2 weeks prior to the start of the course. If students are registered for a course but do not attend, they may lose their annual travel budget.

5.01 — REQUIREMENT 01
CREATING INTERDISCIPLINARY RESEARCH PROJECTS WORKSHOP

COORDINATOR AIRE & FIRE TEAMS
CONTACT masteraiv@cri-paris.org / fdvphd@cri-paris.org
ORGANIZATION AIRE & FIRE Teams One week intensive workshop in September

// OBJECTIVE //

The CIRP workshop intends to assemble free spirited students and researchers from broad scientific backgrounds to conceive creative research projects. This workshop provides the primary basis for collegiality and communication through dialogue and brainstorming on open questions in interdisciplinary research projects.

// SPECIFIC AIMS //

— To be able to focus on an important scientific question and to define the means to approach it from different disciplines.
— To be able to zoom out (have a broader view) and zoom in (be precise and define the key experiments)
— To think and express your ideas more clearly.
— To gain confidence in your ideas.
— To be able to discuss, reject or accept ideas.
— To learn to take constructive scientific criticism.
— To learn how to write a research proposal.
— To discuss scientific questions thoroughly.
— To learn to interact with people from different backgrounds.

5.02— REQUIREMENT 02
NTERDISCIPLINARY THURSDAYS (IT) SEMINARS

COORDINATOR Eugenia Covernton
CONTACT eugenia.covernton@cri-paris.org
ORGANIZATION Every other Thursday from October-June

// OBJECTIVE //

The Interdisciplinary Thursday seminars aim to provide an overview on a wide scope of interdisciplinary research in life sciences and education. They are intended to promote discussions and scientific exchange among the fellows and senior scientists and develop an interdisciplinary scientific community. Each session consists of 3 short talks (~15 minutes) aimed at a general but scientific audience by first year FIRE students introducing their research question and experimental/theoretical strategy followed by a discussion. The student should present the general scientific questions addressed in his/her lab and then focus on his/her specific research work.

5.03 — REQUIREMENT 03
CRITICAL ASSESSMENT AND PUBLICATION OF RESEARCH ARTICLES

INSTRUCTOR Benoît Sorre, Saskia van der Vies
CONTACT benoit.sorre@univ-paris-diderot.fr, saskia@cri-paris.org
ORGANIZATION Tentatively 3-4 full days in February-March with introduction session a few weeks prior

// OBJECTIVE //

This course is intended to train students to improve the critical reading of interdisciplinary research papers and to introduce them to the different aspects of the peer review process.

// PEDAGOGIC OBJECTIVES //

Students will be exercised on their ability to capture rapidly the content of a paper, including conceptual framework and technical aspects. Several aspects of the methodology to perform this task efficiently as well as retaining the content of papers will be discussed with the instructors. Emphasis will be put on analyzing methodological aspects and the writing of method sections, with illustrations and comparisons between different articles. Examples of seminal work involving methodological breakthrough will be presented and discussed. Finally, scientific misconduct leading to ethical issues will be exemplified and analyzed.

The course will also exercise and lead students through all critical steps of the peer review process, the tasks of Editors and board, the writing of appropriate reviews and will include some aspects of paper submission (ex: the writing of a cover letter). Examples will be given of crosstalk between reviewers and authors with the support of available transparent reviewing process provided by particular journals.

5.04 — REQUIREMENT 04
ORAL COMMUNICATION AND PUBLIC SPEAKING

// OBJECTIVE //

Oral Communication and public speaking are essentials for scientists and researchers to master. These courses aim to help students effectively communicate their research in a variety of settings. To meet this requirement, students may take one of the three following courses:

- **GENERAL PUBLIC SPEAKING** - Intended for students with lower proficiency in English or who are not comfortable speaking in public
- **HOW TO TALK ABOUT SCIENCE TO DIFFERENT AUDIENCES**

GENERAL PUBLIC SPEAKING

INSTRUCTOR Ray Horn
CONTACT ray.horn@free.fr
ORGANIZATION One day per week for 3 weeks in October - November

// OBJECTIVE //

The main objective of the course is to (re)discover the tools for an effective and adapted oral communication. This 3-day workshop is designed to help young scientific researchers develop their communication skills, with the primary focus on presentations before small and large groups. Working from self-evaluation of their skills and objectives, participants will receive hands-on training in effective techniques in public speaking in academics, including physical preparation (stage presence, voice, non-verbal communication, branding), organization (structure, materials), content (convincing, storytelling, etc.), audience involvement, and the particular problems of presenting in a foreign language. Participants should prepare some their past and current presentations for activities in day 2.

// PEDAGOGIC OBJECTIVES //

— To stimulate interaction
— To manage stage fright
— To encourage effective listening
— To develop an individual presentation style
— To use the body language
— To create effective support materials
— To optimize the preparation

// PROCESS //

— Experimentations to understand the communication basis
— Actors' techniques to manage the emotions and the verbal/non verbal aspect of public speaking
— Exercises to develop listening, adaptation and attention
— Suggestions to master relationship
— Techniques to manage the group dynamics
— Theory

HOW TO TALK ABOUT SCIENCE TO DIFFERENT AUDIENCES

INSTRUCTOR Cécile Michaut
CONTACT michautc@wanadoo.fr
ORGANIZATION 2 full days in March

This workshop will give an overview ofscientific outreach and the variety of audiences that you may interact with: journalists, general public, patients, fundraisers etc. Workshop goals include building researchers' communication skills and confidence in engaging with public audiences and providing best practices for use of different communication methods and mechanisms.
Participants can expect to come away from this workshop with:
- the skills to adapt their communication to a variety of audiences;
- the ability to use narrative, analogies, and other effective communication techniques to engage and hold an audience's attention;
- the different way to communicate and how to use social media : blogs, Twitter, Youtube, etc.

Through discussion, self-reflection, small group work, mock interviews, and practice sessions, workshops focus on the importance of effective communication: clear, precise and interesting. We encourage workshop participants to find the communication that suit them, and to think about how content applies to their own work and future communication opportunities.

5.05 — REQUIREMENT 05
THEMATIC WORKSHOPS

COORINATORS 2nd year FIRE students, AIRE M2 students with help from FIRE and AIRE coordinators
ORGANIZATION Introduction workshop in January and one week intensive worshop in April

// OBJECTIVE //

The thematic workshops give FIRE and AIRE students an opportunity to conceive and organize a workshop to showcase their research and interests in an interdisciplinary and open setting. The workshops aim to create a setting for discussion and exchange amongst PhD students, Masters students, and the scientific community at large.

FIRE PhD students and AIRE M2 students work together to create the thematic workshops week at the CRI. The students decide on themes then register to the thematic club corresponding to the main theme of their PhD research or M2 internship. The students have the opportunity to organize each component of the thematic workshop, including format, guest speakers, scheduling, advertising, etc. A budget is available to the clubs for invitations of external scientists to participate in the workshop and interact with the students.

M2 students are expected to present and defend their research internship before a panel of M2 teachers. FIRE students must also present their PhD research in the format of their choosing. All presentations should be aimed for a general, scientific audience and should be connected to the theme of the day. They should include an introduction to the basic scientific concepts that define the project, an overview of the latest scientific knowledge in this area, and a clear description of the scientific questions that the project is going to address and how these fit into the wider picture of contributing to the scientific and theoretical advances.

During the mandatory intro session, details of the workshop organization will be presented and collectively decided by the group. Students will select the themes and join the workshop they wish to attend.

5.06 — REQUIREMENT 06
WRITTEN SCIENTIFIC COMMUNICATION

Requirement objective: Written communication is essential for researchers to master. These courses aim to help students effectively communicate their research process and findings.

SCIENTIFIC WRITING

INSTRUCTOR Jean-Luc Lebrun
CONTACT jllebrun@me.com
ORGANIZATION 2.5 days in November

// OBJECTIVE //

The course promotes clarity, fluidity, conciseness, and organization in scientific writing. Students will learn to write fluidly to maintain the attention of the scientific reader.
Based on the book Scientific Writing 2.0: a Reader and Writer's guide, the course promotes clarity, fluidity, conciseness, and organization in scientific writing. The trainer looks at the scientific writing style through the lens of human factors. To be reader-friendly, course participants write with the reader scientist in mind (and especially the reviewer and editor). They use checklists and open-source assessment tools (SWAN, etc) to control the quality of their figures and of their manuscript's title, abstract, introduction, structure, conclusions and references. They learn how to write fluidly to maintain the attention of the reader.

// COURSE OUTLINE //

Introduction: Write to be read – a reader, reviewer, and editor perspective. How to avoid the writing pitfalls that make the memory-bound, attention-bound, time-bound, and knowledge-bound reader stumble.

Module 1: The "Why" and the "How" of elements of the standard scientific paper structure: title, abstract, introduction, body (headings, subheadings, tables and graphs), conclusion, and references.

Module 2: Elementary principles of composition: reaching clarity, conciseness, organization, precision and fluidity in writing to support the scientific contribution and be accepted for publication.

Module 3: Identification of writing problems: a walk through process to detect fluidity problems at sentence and paragraph level.The participants bring to the course a published paper they have written or read and are familiar with. No review, no short letter. The paper should have informative headings and subheadings.
At the end of the course, the participants will know clearly how to improve their writing and their paper.
During an optional half-day session, students can bring a paper they are working on for one-on-one advice and guidance from the course instructor.

5.07 — REQUIREMENT 07
WELL-BEING, INTEGRITY, AND RESPONSIBILITY IN RESEARCH

// OBJECTIVE //

Scientific research often involves complex issues of maintaining integrity, managing conflict, balancing work and personal life, dealing with stress, etc. These courses aim to address some of these common issues in a comfortable, collaborative, and open setting.
To meet this requirement, students must take one of the following courses:

- **INITIATING AND MANAGING SCIENTIFIC COLLABORATIONS**
- **BEST DOC:** Well-being, health, and work for the doctorate
- **RESPONSIBILITY IN RESEARCH AND ENTREPRENEURSHIP**

INITIATING AND MANAGING SCIENTIFIC COLLABORATIONS

INSTRUCTOR David Karlin
CONTACT davidgkarlin@gmail.com
ORGANIZATION 2 days in March

Students will learn how to identify and contact potential collaborators, and how to get the most of collaborations

The US Office of Research Integrity wrote about collaborations: “we are struck by how many disputes could have been avoided if only the collaborators had taken a few precautionary steps at the outset”. This course, which includes numerous practical applications, will ensure that you acquire the right reflexes to manage your scientific collaborations.

// GAINED SKILLS //

- Gauge the compatibility of prospective collaborators
- Knowing your personal rights and duties in relation to the collaboration process
- Communicating assertively
- Receiving and giving criticism
- Managing conflicts

// CONTENT //

- Why collaborations fail
- Identifying and approaching potential collaborators
- Creating a collaboration agreement
- The key principles for ensuring harmonious collaboration
- Assertiveness practice
- Non-violent communication practice
- Managing conflicts
- Practice on issues encountered by trainees

BEST DOC: WELL-BEING, HEALTH, AND WORK FOR THE DOCTORATE

INSTRUCTOR Pascale Haag
CONTACT pascale.haag@gmail.com
ORGANIZATION Tentatively one 2-hour meeting a per week for 4 weeks in May

//OBJECTIVE //

The Best DOC workshops offer students a space to discuss the challenging and stressful aspects of the PhD and to provide support to their peers who are also facing similar issues. Students will gain more control over their negative emotions and improve their resilience in the PhD program. Doing a PhD is a stimulating, but also a challenging and stressful experience, as pointed out in the growing body of literature on doctoral education. Many stress factors affect PhD students: elaboration of a research project, integration in a research lab and into various networks, relationships with the supervisor(s) and with peers, growing competition, quest for funding, the doctoral writing, solitude, lack of self-confidence, precariousness, uncertain future, etc.

It is perfectly normal to face obstacles during the "doctoral journey" and there seems to be an increasing awareness among academics of the need for a specific support during this long adventure. Various institutional initiatives flourish around the world and intervention programs at schools and universities have shown their efficiency. The SPARK Resilience program, which aims to help people gain more control over their negative emotions and improve their resilience skills, has been adapted to address the specific needs of doctoral students in this series of workshops.

During the small group discussion sessions students will collaborate to improve engagement at work, self-motivation, personal growth and well-being; as well as develop techniques to reduce anxiety, unpleasant/negative emotions and depression.

RESPONSIBILITY IN RESEARCH AND ENTREPRENEURSHIP

INSTRUCTOR Melanie Marcel
CONTACT melanie.marcel@soscience.org
ORGANIZATION 2 full days in March

// OBJECTIVE //

This course is intended for those students who are interested in responsibility in research, innovation and entrepreneurial activities. Students will gain tools necessary for ethical practices in entrepreneurial work and a vision of the work field of Responsible Innovation. This course will feature a number of short modules with external participants to discuss ethical behavior in research and entrepreneurship.

The modules will cover the following:
- Social entrepreneurship and link between research and entrepreneurship
- Deepening the concept of Frugal Innovation and Bottom of the Pyramid markets
- Intellectual Property issues and innovative IP management for collaborative work
- Useful tools: evaluation grid, opportunity matrix, ...
- Apply these concepts to actual research and innovation projects - including the research work of the students


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6

« À la carte » Courses

FIRE offers a number of technical, teaching, and transversal skills courses. Please note that this list might grow during the academic year, the updated list of courses is available at https://cri-paris.org/fire

6.01 — TECHNICAL AND TEACHING COURSES

LIFE SCIENCE OF NARUTO?!

INSTRUCTOR Stephane Douady
CONTACT stephane.douady@univ-paris-diderot.fr
ORGANIZATION Tuesday evenings in October and November

// OBJECTIVE //

Apart from having the pleasure to (re)discover Naruto, or to discover at least what everybody around you know and you don't, the aim of this module is to use this Manga series to discuss:

- The deep significance that we can find in the story and behaviors shown. This part is mostly about cognitive/neurosciences and psychology. It shows how we can describe the functioning of our brain, from very clear and detailed examples.
- The analogies that can be drawn from some aspect of Naruto's world, or how they can be related to "common" biological theories. The idea is to reveal them and then to discuss and challenge them.

Each session will begin with a viewing of an episode or parts of episodes of Naruto and will continue with a discussion around the theme of the day. The discussion can then go on about the meaning of analogies, their significance and importance, usefulness. Some possible themes include:

- Naruto and cognitive sciences: perception and interpretation (with illusions and their mastering), communication and language (and what is actually communicated) and an original (involuntary?) representation of the unconscious brain.
- Naruto and psychology: individual freedom, predetermination, social interactions, resilience...
- Naruto and Biology: notion of life (vital fluid? what is alive? dead?) the individual, the notion of species, trans-species and bifurcating ones and an (involuntary) and original representation of DNA encoding

ONE WEEK IMMERSION INTO PYTHON PROGRAMMING FOR SCIENTISTS

INSTRUCTOR Antoine Angot
CONTACT antoine@leaneous.com
ORGANIZATION One full week in January

// OBJECTIVE //

The aim of the course is to provide an intensive introduction to Computer Programming using the Python programming language.

This course will cover basics to advanced programming skills that you'll learn almost exclusively solving problems and exercises of a daily-based progressive difficulty. While this course is both adequate for people without any prior experience in programming, and to those having already programmed but who are willing to get better.

During the weekday sessions students will be presented with numerous exercises with a level of difficulty spanning from very easy to very hard. The idea is that anyone can start doing the exercises and struggle at the point of difficulty that will make him/her improve his/her understanding and abilities to code. During the weekend sessions, students will team up to realize a project. They will be given a choice between several projects involving scientific computing, web, network, etc. This will be an opportunity to realize a full program and to discover libraries (i.e..existing code) adapted to their area of expertise.

INTRODUCTION TO MACHINE LEARNING

INSTRUCTOR Yann Le Cunff
CONTACT yann.lecunff@gmail.com
ORGANIZATION 2 full days in May

As biology is becoming more and more quantitative, today's scientists end up with a huge amount of numbers to describe their experiments / their empirical observations. Traditional approaches, based on p-values and hypothesis testing, are very often pushed beyond their capabilities in these cases. In this 3 days workshop, we will cover the basics of machine learning (ML), namely how to extract information from datasets that could not be analyzed with the naked eye or manually. The aim is to share both the underlying mathematics (in a gentle way !) as well as provide a practical use of the methods, through dedicated softwares. Students are more than welcome to come with their own datasets and/or share the ML methods they could have been already using. In that sense, the proposed schedule is only an outline and many of its parts could be covered by one or more willing participant. In the same spirit, if a specific method is of interest for a good number of people, it can be added in the program.

CELL MODELING

INSTRUCTOR Vincent Danos and Guillaume Terradot
CONTACT vincent.danos@gmail.com and guillaume.terradot@symbiose6.fr
ORGANIZATION 3 full days in January

// OBJECTIVE //

In this course students will learn about and implement a physiological model of a cell then propose their own improvements and additions inspired by their research interests.

// DESCRIPTION //

A large amount of work has been devoted to the mathematical and computational modeling of specific cellular processes. As accurate as these models may be, their isolation from the physiological cellular context hampers the study of the role they can play in global cellular behaviors. A whole cell model is an aggregate of mathematical representations of cellular subprocesses (e.g. translation, protein maturation, etc.) [see an example of a whole cell model]. Of course, such sub models need to be validated against experimental data. Eventually, we expect the aggregate model to explain high level behaviors of a cell like the growth rate.
During this hands-on workshop, such a model will be realized.

INTRODUCTION TO OPTICAL IMAGING AND IMAGE ANALYSIS

INSTRUCTOR Bassam Hajj
CONTACT bassam.hajj@curie.fr
ORGANIZATION 3 full days in February

Optical microscopy is one of the most useful tools in life science studies. This course aims to introduce the different optical microscopy modalities. The course begins with basics in optics and image formation, then steps through the different contrast mechanism before detailing the latest advances super-resolution microscopy. The goal is to familiarize students with the different approaches in order to correctly identify the best technique to investigate their biological question. A second part of the course is dedicated to image handling and analysis using the widespread imageJ software. It includes a hands-on session with real data examples. The course will cover the following:

LIGHT MICROSCOPY

- Basics in optics: lens and image formation
- How does a microscope work?
- Noise: origins and characteristics
- Contrast modalities in microscopy: transmission, phase contrast, fluorescence, other contrast mechanisms
- Imaging in 3D problems and solutions: confocal imaging, light sheet excitation, multiplane imaging
- Super-resolution methods: insights into single molecule localization techniques: fluorofores, excitation power, localization.
- Localizing molecules in 3D: challenges and the different available solutions
- How to choose the best technique to treat your biological question: pros and cons of each

BASICS IN IMAGE PROCESSING

- Detection: detectors, camera, pixels
- Image handling
- Image handling: histogram, contrast, brightness
- Background substraction, denoising, filtering, debluring
- Deconvolution, correlation
- Single molecule localization: thresholding, localization, precisions and accuracy, tracking

HANDS-ON SESSION USING IMAGEJ

- Interface
- Image handling and visualization
- Measurements, profiles, projections
- Deconvolution
- Building macros
- Single molecule localization

PRINCIPLES OF FLUORESCENCE SPECTROSCOPY - APPLICATION TO LIFE SCIENCES

INSTRUCTORS João Miguel Freire
CONTACT joaofreire.peu@gmail.com
ORGANIZATION 2 full days in March

// OBJECTIVE //

Radiation phenomena allow us to experience amazing things in life. The blue sky, the sunset, or the rainbow during a soft rain are all result of interactions between light and matter.

In Life sciences, spectroscopy techniques allow us to quantify, visualize and monitor in vivo how our system behaves. Among the possible tools, Fluorescence spectroscopy is one of the most widely used. It can be applied for quantitative colorimetric analysis and/or to label and detect organelles in a virus, bacteria, eukaryotic cell, tissue or even a living organism, among other possibilities. To reach these possibilities, the discovery of fluorescence proteins, as well as the development of bright artificial probes and chemical reactions that would allow site-specific labelling of our desired target, have contributed extensively.

This course will address the fundamentals of Fluorescence spectroscopy, explore the various applications (quantitative and qualitative) that it may be used for and allow the students to get familiar with several techniques that use Fluorescence spectroscopy. It will allow them to pose their questions and address which technique and approach would be the best option to answer their biological question.

// COURSE OUTLINE //

- Principles of Fluorescence spectroscopy (Steady state and life-time)
- Sources of Fluorescence in life sciences (natural fluorescence, fluorescence proteins, artificial probes)
- Fluorescence spectroscopy in life sciences (Toxicity, SNR, multicolor)
- Quantitative techniques using Fluorescence spectroscopy
  - Partititon, Quenching, FRET
  - Co-locallization, FLIM
  - Live imaging and quantitative kinetics
  - FRAP
  - ICS, STICS
  - Single molecule techniques (FCS, FCCS and RICS)
  - Photoactivation techniques - Superresolution techniques (PALM/STORM)
  - Flow Cytometry and kinetics
  - Anysotropy

BASIC PRINCIPLES OF CANCER CELL BIOLOGY

INSTRUCTORS David Silvestre
CONTACT davidcsilvestre@gmail.com
ORGANIZATION 2 full days in April

// OBJECTIVE //

Cancer as a phenomenon is at the crossroad of most (if not all) basic cellular processes: cell signaling, motility, gene transcription, DNA repair…Indeed, many of the fundamental mechanisms taking place in normal cells have been identified due to their dysregulation in cancer cells. This course will focus on the molecular and cellular origins of cancer, the consequences of cellular transformation at the level of organs and in the potential use of abnormal function as a target to treat the disease, according to the models of translational research and precision medicine. In particular, we will study the past and current trends on the field of drug discovery in oncology, as well as their efficient and safe delivery, discussing strengths and weaknesses. Throughout discussions, we will identify and discuss the main opportunities and challenges in basic and applied cancer cell biology, on the aim to propose new and unexpected potential clinical strategies.

// COURSE OUTLINE //

The main topics of this course will be:

- Cancer cell hallmarks
- Cellular origins of cancer. The Cancer Stem Cell model
- Drug discovery in oncology: target identification and validation strategies
- Delivery technologies to enhance drug safety, specificity and activity
- New fields in cancer cell biology: what's next?

Students should have an undergraduate level knowledge of cellular and molecular biology (e.g "Molecular Biology of the Cell", by Bruce Alberts et al).

DATA-DRIVEN RESEARCH IN SCIENCES

INSTRUCTOR Celya Gruson-Daniel, Constance de Quatrebarbes
CONTACT celya.gruson-daniel@cri-paris.org and 4barbes@gmail.com

// OBJECTIVE //

This course offers an introduction to open and data science combining a pragmatic approach (initiation to programming using python language) with a reflexive perspective.
We will follow the different steps of data processing (from data collection to their visualization). Applied exercises will enable students to learn about programming so as developing a critical thinking of the technical and socio-political stakes undertaking these practices (Science Technologies Studies approach).
The aim of this course is not to train engineers but to give technical autonomy to PhD students with their digital research.
They will be prepared to solve data-driven research projects by expressing their need, contributing to open communities, and working with developers, data scientists, computer engineers, project managers, product owners, etc.

ORGANIZATION The course will be split in two modules, that can be validated separately

Module 1 (2 full days in February): First step into open and data sciences: two days to manage your digital research environment (Digital dip)

These two days will give you a better understanding of your digital research environment and help you to manage your Phd project with open and data science practices.
Step by step, we will open together the «black box» of your computer, take the control of the shell, learn how to structure your working documents and discover free and open source softwares that fits with your needs in terms of open and data sciences. This practical introduction to data-driven research comes with its own context in background. You will be shown critical perspectives on major changes in today's research produced by the digital world (open access, open data, data driven research, digital methods, etc.).
Requirements: No requirements at all. For a fruitfull session, list all technical needs related to your digital research workflow you have faced during your PhD or think you will encounter.

Module 2 (3 full days in February): Practicing open and data sciences: initiation in programming and the basics of data-driven research (Digital dive)

After crossing the gate and opening the «black box» of your computer, these three days are designed to let you, in practice discover all the open ingredients to start sucessfully open and data sciences project. Understanding the basics of programming means understanding both how to use it and what it is about (automatisation of algorithmic processes).
You will experiment it by learning at your own pace with simple exercises in Python on a dedicated online learning platform. Moreover, you will learn how to organise your daily research workflow in an open environment (agile methods, free and open source softwares, international and online cooperation, team management, etc.) Along this session, illustrations of open sciences issues, sociopolitical stakes and data sciences challenges - that you might encounter on your research projects - will be given as critical lightning.

Requirements: Validation of the first module or basic understanding of computer organisation, knowledge of daily tasks using the shell, previous installation made during the module 1: python, git, a code editor (Atom, SublimText)

GAMES TO TEACH AND DO RESEARCH

INSTRUCTORS Amodsen Chotia and Raphael Goujet
CONTACT amodsen@cri-paris.org and raphael.goujet@cri-paris.org
ORGANIZATION 2 full days in May

// OBJECTIVE //

The aim of this course is to first assess the potential and the limitations of using games to do research and teach, and secondly for participants to "gamify" their PhD projects.

Recently, a great number of scientific projects were developed around massive online games (Foldit, Galaxy zoo, Picbreeder, Phylo). Also, it is well recognized that learning can be achieved through playing games. In this course, we will review some example related to:

1) the use of games to perform a given research subject,

2) scientific research which can be done with games,

3) games to teach a oriented concept, and

4) knowledge one can get from games.

The objective is to assess the potential and the limitations of using games to teach and do research. In particular, we will discuss "normal" games to emphasize the key rules of a successful game play. Eventually we will see how to "gamify" your PhD as a concrete and practical example of how to turn a scientific project into a game.

6.02 — TRANSVERSAL COURSES

ENGAGING PRESENTATIONS FOR THE SCIENTIFIC AND GENERAL AUDIENCES

INSTRUCTOR Eugenia Covernton
CONTACT eugenia.covernton@cri-paris.org
ORGANIZATION 2.5 days in March

In this course students will improve their skills to delivering research talks that engage their audience and get their message across. Students will learn how to effectively present a clear message while enjoying the process of presenting their research. The main focus of the course is on how to adapt the message to different types of audiences (scientific, expert/non-expert and general audiences) and how to explain a complex subject using visual aids.
A short (half-day) practical session will allow students to present their own work and implement the learned techniques.

FIGURES FOR PRESENTATIONS AND PUBLICATIONS

INSTRUCTOR Diana Zala
CONTACT diana.zala@espci.fr
ORGANIZATION One full day in May

During this hands-on workshop, students will explore the art of conveying a message through figures from scientific journal, oral and poster presentations. Students are highly encouraged to bring their own figures of documents they are currently working on, e.g. TAC report, poster or journal paper such that they have a tangible output from the workshop.

In a first theoretical part, we will cover the following topics:
- Role of figures
- Differences between figures for publications, oral and poster presentations
- How to design figures for different contexts and how to conceive a good poster
- What to do or not to do in figures
- Which colours? Be colorblind-friendly
- Recognizing good and bad figures
- Examples of software for preparing graphs, images, drawings and assembling figures

After this first theoretical introduction, students will have one week time to work on their own figures and bring back their results for the second practical part. During this second session, they will present to the class their results, so that they will have a constructive feedback.

EFFECTIVE READING

INSTRUCTORS Ray Horn
CONTACT ray.horn@free.fr
ORGANIZATION 3 full days in October/November

A three-day workshop (1 day per week) in reading skills for academic purposes
The goals of the course are:
- Gaining speed
- Refining reading practices
- Managing texts more efficiently
- Improving note-taking and retention skills

A variety of texts will be used to work on these different skills, and students should plan on working on their own scientific texts between sessions.
The content includes analyzing individual reading habits, understanding reading as a process, viewing how information is processed, and developing personal objectives.

Priority will be given to non-native-speakers.

IDENTIFYING AND LEVERAGING YOUR SKILLS FOR AN EFFICIENT JOB SEARCH

INSTRUCTOR David Karlin
CONTACT davidgkarlin@gmail.com
ORGANIZATION 2 full days in March, 8 week break from meetings for student to work independently,
1 full day in May

Students will learn how to identify their key skills and transform them into an offer of services. Indeed, researchers have numerous technical skills, but also other "transferable" skills of they are probably not aware. Such skills may include working in a multicultural environment, dealing with failure, communicating efficiently, etc. Presenting these skills as an offer of services will improve job search prospects, as employers are not necessarily looking for precise transferable skills, but for what services researchers can offer them.

// GAINED SKILLS //

- Identifying your key transferable skills
- Presenting them concisely as an offer of services
- Carrying out informational interviews to get your chosen job

// CONTENT //

- Common transferable skills of PhD students
- A systematic method to present and evidence your skills: selling points
- Transforming your skills into an offer of service
- A methodology to make the best possible CV
- Why you must go out there and knock on doors to get a job
- Informational interviews
- Practical application:
    - Design a better CV
    - Get 2 informational interviews before the course

TIME MANAGEMENT, PRIORITIES AND PERSONAL ORGANIZATION

INSTRUCTOR Aurélien Baelde
CONTACT aurelien.baelde@gmail.com
ORGANIZATION 2 sessions in November

This training is dedicated to the improvement of time management and personal organization of PhD Student.
The training will take place in 2 sessions: the first one is dedicated to the presentation of tools and methods, and the second one to feedbacks on how the participants were able to use the training.

Our brain receives 5 times more information than it can handle daily, leading to a strong need to select high value tasks and to be able to implement them in an efficient manner. Such tools are now compulsory to strive in the current, very competitive research environment. Even if research results are not predicable, actions that lead to such results are. Learning to plan and organize research reduces uncertainty and therefore PhD student stress.
The aim of this training is to provide methods and tips on time management, priority management and personal organization in the context of research projects, and addresses several issues related to PhD students work.

The training is built on 3 aspects:

1. First, students will learn how to identify high value tasks associated to their personal project and objectives, and how to organize their working day taking into account these high value tasks.

- What are the strategic tacks of my project?
- How to organize my day?
- How to measure my progress?

2. Then, student will learn how to improve their work intensity using several methods linked with their brain natural behavior. This part is strongly related with the reduction of stress and tiredness.

- How to reduce stress and tiredness?
- How to harness the full potential of modern communication tools?
- Why and how to build my 3rd pillar?

3. Finally, the last part deals with the laws of productivity, and explains how to use these laws to reduce dead times during the day. Procrastination reduction and habits creation methods are proposed to promote the future use of the elements provided during the training.

- Laws of productivity: how to take advantage of your own behaviors?
- How to defeat procrastination?
- How to create habits?

THE VALUE OF SCIENCE

INSTRUCTOR Andres Couve
CONTACT andres@neuro.med.uchile.cl
ORGANIZATION 4 sessions in November – December

This workshop sets off to provide the time and the inspirational atmosphere to reflect on the broad value of science in today's society.

In an era of short-term goals driven by economic needs and governed by competitive and standard parameters, the wider value or impact of science for life has been overlooked. Variable degrees of appreciation possibly exist depending on whether the problem is analyzed in the context of more or less developed countries, and perhaps a handful of exceptions may be recalled, but the issue is essentially the same no matter where we go. Why is this? By analyzing the fundamental characteristics of contemporary research we will work to develop a renewed argument on the value of science to society.

We will discuss the difficult issue of measuring how fruitful science is to individuals and the community at large. First, we will examine science as an act of joy, impacting creativity and education. We will then study the pursuit and accumulation of scientific knowledge, a curiosity driven intellectual enterprise, as an end onto itself and not exclusively as a means to an end. Finally, we will consider more conventional, concrete and immediate utility criteria such as technology, and examine the role of science in power, democracy and the organization of social life.

Finally, we will explore the institutional changes that may support a new agreement between science and society. Our attempt is to navigate countercurrent, away from the majority of studies that focus on the economic dimension of science simply because it is easier to measure, and explore other areas of influence, whether indirect, diffused in space and time, or simply intangible, that have been investigated less systematically or seldom used to guide public policies.

We will develop a 5-session workshop (4 h per session plus an introductory session of 1 h) to study how science impacts society at multiple levels including economic, political, social and cultural. The workshop will be targeted to approximately 10 PhD students. It will include selected readings, research of cases and examples, group discussions and a summary of collective conclusions. We will work on four areas:

1. Joy;
2. Knowledge;
3. Technology, power and the organization of social life;
4. Renovated institutions.

The task will be co-creative. Students are expected to investigate cases/examples of impact for each session. I will contribute with my previous experience as a committed scientist, my involvement in outreach, education and science advocacy as Director of BNI (www.loligo.cl) and my expertise in the boards of non-profit organizations (www.puertodeideas.cl, www.fundacionvivechile.cl) to outline the logic of the general argument and help identify topics of discussion.

We expect to elaborate a product draft to summarize our conclusions as a written document or audiovisual piece. This product will be used and distributed in subsequent courses, lectures, outreach activities, online platforms. If possible, it will be converted into a publication-type article for a wide interest science journal/book.

BEYOND SCIENTIFIC THINKING

INSTRUCTOR Aurelien Peilloux and Charlotte Salvatico
CONTACT aurelien.baelde@gmail.com and csalvatico@imaginesciencefilms.org
ORGANIZATION see FIRE calendar

// OBJECTIVE //

To become aware of the frameworks that shape scientific thinking, to ponder on the creative process and to develop a sensitive approach to research from a personal artistic work.

Research-as-creation
Art-science
Creative process
Emotions
Reflexivity

After completing graduate studies in physics and biology, Aurélien Peilloux entered La Fémis in order to learn film-making. At the same time, he carried out at the CRI a PhD on the relationships between art and science, both in the works and in the creative process.
During her thesis in neurosciences at École Normale Supérieure, Charlotte Salvatico co-wrote and directed an hybrid short film intertwining the dissemination of scientific knowledge and the loss of the loved one, with the involvement of dance students of the Conservatoire national.

// DESCRIPTION //

Aurélien and Charlotte will question the framework of thought that underlies the scientific approach, that is to say its founding paradigms, implicit rules, from the assumption of objectivity implying a separation between the subject and the object to the postulate of objectivity.
A reflection on the creative process and on its vivid contradictions will allow students to become aware of the whole emotional, subjective and irrational part of any research process.
Finally, a personal artistic work will be required so that the students will experience an approach both close and far away from the scientific practice: based on their personal life or using elements to which they are sensitive, they will have to create an object that will express their questioning sensitively rather than rationally. Re-establishing the link between Being and Being-in-the-world, they will be led to think of ethics from an inner, sensitive and personal perspective.

// FORMAT //

The course will be divided into three sessions of two days which will include:
“Alive theory” module: theoretical teaching, open discussions and debates :

- Framework of scientific thinking (birth of experimental science, founding paradigms, subject/object separation) : what scientist am I to the world?

- Introduction to research-creation and didactic of artistic creation (founding principles and necessity, methodologies, epistemology of the mystery)
- Tiers included and creation (dynamic contradictions, complex thinking)
- Reasoning with emotions (sensible approach of the world, idea-feeling, logic, intuition and advances in neurosciences)

Personal enquiry module: Creation of yourself by the creation - several collective sessions over the duration of the semester.

Conception of an artistic object in a chosen form (film, photo, story, etc.) structured around a central motif in the life of the student and his/her research.

“Off the beaten path” module (3 sessions of 3 hours): Plurality of point of view encouraged by a shared experienced
Invitations of researchers / artists to present their art-science field trips.

SENSE ABOUT SCIENCE: THE ROLE OF EVIDENCE AND SCIENCE IN SOCIETY

INSTRUCTOR Sense about science EU team
CONTACT hello@senseaboutscience.org
ORGANIZATION see FIRE calendar

Climate research, biotechnology, nanomaterials, vaccination... More and more research fields are suffering from a bad reputation with large parts of the public. This can even result in regulations which make further research and innovation difficult.
How can you make your voice heard in polarised debates? How can you prevent further polarisation? How can you make sure that your research benefits society and that the public understands the benefits?
We will start this course with an ice-breaker exercise, sharing some of our own experiences with the public perception of our research.
From these experiences, we will learn how you can improve your interaction with citizens, how you can open up to society and how you can defend evidence in controversial topics.

In the second part, we will focus on the role of research and evidence in policy. Where lies the balance between evidence and values? What is your role as a researcher in evidence-based policy? How do you interact with politicians and how do you inform policy? With some concrete examples, we will learn how you as a young researcher can make a difference in society.

Outline of the course:

- Introduction: what is Sense about Science EU, what is my perspective?
- Why should you care, as an early career researcher, about the use of evidence and science in society? Why should you care about EU policy?
- Impact of misinformation (vaccination, detox,...)
- Importance of well informed societal debates (e.g. climate change)
- Impact of policy and polarised debates on research (e.g. biotechnology)
- Citizens care about evidence! -> responsibility of researchers towards society
- What is the role of evidence in public debates?
- Good and bad examples of public debates and public engagement
- How can young researchers make a difference?
- What is the role of evidence in EU policy?
- Outline of the policy process, balance between evidence and political debate
- Current mechanisms of science advice
- How can young researchers make a difference?

NATURALIST AND SCIENTIFIC ILLUSTRATION

INSTRUCTOR Julien Norwood
CONTACT juliennorwood29@gmail.com
ORGANIZATION 4 sessions (one a week) in March

Hand illustration is still one of the best tool to describe behaviors, morphological characteristics and subtleties between different species or individuals of plants & animals. Whether using ink line drawing or paint: studying your subject in a goal to illustrate it is also a new way to discover it in depth, and find new approaches to analyze it. This new artistic skill will add to your work a scientific iconography that combines professionalism and accuracy, with a rewarding self-made and personalized touch.
The course is opened to any level. Art material supplied (paper, pencils, ink, paint and brush)

// COURSE OUTLINE //

— Session 1:
- How to represent your subject, and what medium is best?
- Draw it with a pencil: how to take proportions?
- Once the drawing finished, report it on the final paper.

— Session 2:
- Learn to “create” the volume” with shades of Black&white, or colour.
- Start placing the general volumes and details on your illustration.

— Session 3:
- Create the textures (if necessary): hairs, scales, reflections, veins on the leaves…

— Session 4:
- Finish the final touches of light and shades.
- Clean the illustration: first with a blade or paint, then you scan and clean your illustration on Photoshop.

ONLINE LANGUAGE LESSONS: FRANTASTIQUE AND GYMGLISH

INSTRUCTOR Elodie Kaslikowski
CONTACT fdvphd@cri-paris.org
ORGANIZATION self-paced study

This courses aim to familiarize non-native speakers with the French and English languages. Each morning you will receive an e-mail with an assortment of written content and audio recordings. Each lesson takes 10-15 minutes to complete and includes a story with dialogue, questions, 'mini-lessons' and revisions. After clicking the 'send' button, you'll receive your e-mail corrections with your score of the day, explanations on why you got each question right or wrong, transcripts of the audio recordings, the vocabulary you wanted to learn more about, etc. The next lessons will be customized according to your previous answers, your expectations and your needs.

GROUP LANGUAGE LESSONS: FRENCH AND ENGLISH

INSTRUCTOR AIRE team
CONTACT masteraiv@cri-paris.org
ORGANIZATION 1 hour sessions every week for French lessons, 1 hour sessions every 2 weeks for English lessons

Group language courses are offered to PhD and Masters students at the CRI who want to learn/improve their French or English. The focus will be on general communication, not specifically on science communication.

Students who register will have unlimited access to the InLingua online learning system plus weekly or biweekly small group lessons. An assessment test will be given to determine the students' level and place him/her in a group.

The French lessons will be given for one hour once a week for 6 months. The English lessons will be given for one hour every other week for 6 months. All of the lessons will take place at the CRI. The lessons will likely be in the evening on a weekday, but the exact dates will be determined once all interested students have completed the assessment test.

6.03 — DIY PHD CURRICULUM

All FIRE students are welcome to take a "Do It Yourself" (DIY) approach to their PhD curriculum. This is especially true for the FAN students as their interests and needs are broad and may not be fully addressed by the current curriculum. We want students to be an active part of their PhD training, so we encourage you to DIY your PhD curriculum.

The following are a list of options for FIRE students to participate in while developing their custom curriculum. The FIRE staff is available to advise students through the process and to provide any support that may be needed.

EDTECH COURSES AT THE CRI

FIRE students are welcome to participate in any of the EdTech courses, provided they get approval to join from the EdTech Directors.
Please contact masteredtech@cri-paris.org for admission into the EdTech courses.

BOOT CAMPS

The aim of these boot camps is to provide you with the framework (method, toolbox, strategy, a vision of the ecosystem and some network) you need to achieve you own research or entrepreneurial projects. Moreover, since participants come from different backgrounds we try to give you common practical knowledge to feed your experimentations.
While some of the subjects might be familiar to you, others will probably be new and challenging. Luckily, you are part of an interdisciplinary crowd, so there should always be someone nearby who can help you out. This is one of the most important lessons at the CRI: work together.

The boot camps available to FIRE students are: 3-7 Sept : Create & design our learning space. Tools, rules and vision of the year. 17-21 Sept : Research practices, open talks & testimonies.

COURSES

The following courses may be of interest to FIRE students.
Please see the AIRE handbook for details and the EdTech calendar for course dates.
- Game design for learning (A. Lautrou, M. Bari)
- Learning by doing (J. Chevrier, D. Assayag, K. Lhoste, L. Tourneboeuf)
- Cognition & Learning (F. Zenasni)
- Philosophical foundations as a pathway to social science research (M. Heard)
- Innovative pedagogy and learning society (S. Pène)
- Instructional Design (M. Cisel)
- Open Science (M. Mambrini)

CREATE A "WHITE COURSE"

Students are welcome to work together to create a course/workshop on a topic of their choosing, for example: open science, innovative education, science and design, etc.
In order to create a course, students would need to contact and arrange for speakers and presenters. They are encouraged to work with the FIRE staff to make contacts with members of the CRI network. A budget is available to facilitate such a course, please contact the FIRE staff for details.

CREATE A MOOC

In keeping with the DIY approach, students are welcome to work with the MOOC factory at the CRI to a create an online course on a topic of their choosing. A number of programs and resources are available for interested students.
Please contact the FIRE staff for details.

TAKE A MOOC

Students are welcome and encouraged to participate in MOOCs on subject matter that is relevant to their doctoral training. Coursera is a good resource to find upcoming MOOCs. Many MOOCs are offered for free and only the certificate at the end of the training requires payment. FIRE does not require this certificate to validate the MOOC hours. Rather, students may take a screenshot of the completion page and submit that image as the validation document with their training report.

OTHER WORKSHOPS

A number of workshops are held by members of the CRI or its partners. Many of these may be suitable for PhD training for New Frontiers students, including:

- Sage bionetworks
- Night Science
- Hello Tomorrow Challenge
- iGamer workshops
- World Innovation Summit for Education (WISE) events
- Frontiers in Education (FIE) international conference

// STUDENT INITIATIVES //

Student led initiatives are a welcome and encouraged as part of the FIRE doctoral school curriculum. Involvement in activities like CRI academic clubs and organization of the FIRE PhD retreat can be validated as training hours.

// STUDENT CLUBS //

Students have the opportunity to form clubs based on mutual interests during the CRI Discovery Days. They will have access to a budget for club events. Please contact the FIRE staff for more information on how to form new clubs. Previous Fire student clubs include:

- Brain Control Club
- WAX Science
- Gamelier
- In Vitro Artificial Intelligence
- Retrospective and Visionary Talks
- Fabelier
- Synthetic Biology
- Open Science School

// FIRE PHD RETREAT //

In June of 2018, the third annual FIRE PhD retreat took place in Portugal. The retreat is an opportunity for FIRE students, staff, and alumni to come together to reinvigorate the community. Typically, the retreat features scientific talks in the morning, social activities in the afternoons, and

informal meet-ups between all of the participants in the evenings.
Future editions of the FIRE PhD Retreat are welcome and encouraged.
Please contact the FIRE staff and FIRE student representatives if you would like to be involved in planning the next retreat!

7

Important contacts

7.01 — FIRE PHD PROGRAM CONTACTS

NAME	EMAIL	PHONE
FIRE PhD Office	fdvphd@cri-paris.org	01 76 53 11 22
Muriel Mambrini FIRE PhD Director (FAN track)	muriel.mambrini@cri-paris.org	01 42 75 94 78
David Tareste FIRE PhD Co-director (FdV track)	david.tareste@cri-paris.org	01 58 27 80 38
Eugenia Covernton FIRE PhD Scientific Coordinator	eugenia.covernton@cri-paris.org	01 76 53 11 26
Elodie Kaslikowski FIRE PhD Administrative Assistant	fdvphd@cri-paris.org	01 76 53 11 22
FIRE Student Representatives	students.representatives.ed474@gmail.com	

7.02 — CRI CONTACTS

NAME	EMAIL	PHONE
Accountancy	accountancy@cri-paris.org	01 76 53 11 10
	—> Contact for submission of invoices and receipts for reimbursements	
Jean François Gianni General Services Manager	jean-françois.gianni@cri-paris.org	01 76 53 46 01
Youcef Benarezki General Services	youcef.benarezki@cri-paris.org	01 58 27 80 38
Nathalie Sussfeld Human Resources	nathalie@cri-paris.org	01 76 53 11 08
IT support team	it-team@cri-paris.org	01 76 53 11 18

7.03 — OTHER CRI PROGRAMS

NAME	EMAIL	PHONE
AIV Masters Program	masteraiv@cri-paris.org	01 76 53 11 25
EdTech Masters Program	masteredtech@cri-paris.org	01 76 53 11 29
FdV Bachelor Program	licencefdv@cri-paris.org	01 76 53 11 24
Les Savanturiers	savanturiers@cri-paris.org	01 76 53 11 24

7.04 — PARIS DESCARTES UNIVERSITY CONTACTS

DIRECTEUR DE L'INSTITUT DE FORMATION DOCTORALE
Michel VIDAUD

RESPONSABLE ADMINISTRATIVE DE L'INSTITUT DE FORMATION DOCTORALE
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BUREAU DE LA GESTION ADMINISTRATIVE DES CONTRATS PARIS DESCARTES
(Contrats doctoraux Paris Descartes, CDD, Mission Enseignement et Mission Hors Enseignement)
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FORMATION DES DOCTORANTS A L'INSERTION PROFESSIONNELLE - MISSIONS COMPLEMENTAIRES (Responsable du Comité Paris Descartes)
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7.05 — PARIS DIDEROT UNIVERSITY CONTACTS

DIRECTEUR
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7.06 — *PARIS SCIENCES ET LETTRES RESEARCH* UNIVERSITY CONTACTS

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