Formation du Collège Doctoral, UGA

Masterclass: Open Science and Scientific Publishing

Organised with the Société Française de Physique (section Alpes)

13-14 June 2023

Amphitheatre of the Maison du Doctorat Jean Kuntzmann
110 Rue de la Chimie, 38400 Saint-Martin-d'Hères

USEFUL INFORMATION:

For the practical exercises, it would be helpful to bring some material to work on. Specifically:
(1) your laptop,
(2) some code or some data that you used in your PhD or master projects (or similar),
(3) a **print out of the first six pages of your Masters 2 project report** (or similar).

TRAM B stop "Bibliotheque Universitaires" (from city-center take direction Gières-Plaine des Sports)

Summary: A two day training aimed at PhD students on "Open Science and Scientific Publishing".
The training will be in English, and will be open to all young scientists (up to available space). Each half day of the training will consist of about 2 hours of presentations by leading experts, followed by a 1 hour practical exercise in small groups (see the program below).

Organising Committee:
Robert Whitney (LPMMC),
Signe Seidelin (Inst. Neel),
Romain Lhermerout (LIPhy),
Lucie Albaret (BU-UGA),
Bart van Tiggelen (LPMMC)
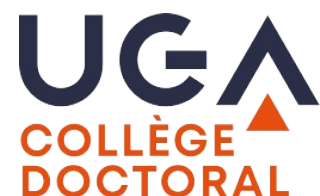
Topic: No idea or scientific result can contribute to the advancement of science if it is not shared. This makes the sharing of scientific knowledge a cornerstone of the scientific method. Yet, the way we share scientific knowledge is undergoing a revolution, which is usually called « open science ». Open science can include everything from the free and open access to scientific publications to the free and open access to raw experimental data. The guiding principle is that *scientific knowledge should be as open as possible, but as closed as necessary*. Yet it is often young scientists who have to do the work of applying this principle to their own research. Thus they are crucial actors in shaping how open science will work.

In many cases, PhD supervisors were formed by a system for sharing scientific knowledge that was developed in the 1940s-50s; where knowledge was almost exclusively shared through peer-reviewed journals, published by independent (often profit-making) editors, and paid for by university libraries. While there is much that is good in that system, it is important that young scientists are aware of its weaknesses and its evolution, and the risks and benefits of any alternative system.

This training will introduce young scientists to practical tools and fundamental questions. Practical tools include how to find and use other scientists open-access experimental data, software, and publications and how to make their own data, software and publications accessible to others. More fundamental questions about the sharing of knowledge relate to all aspects of open science ; how much data should we share, when should we publish our results, how should scientific quality be judged, what should a referee report aim to do, where do patents fit within open science, etc. We must not forget that changes in the sharing of scientific knowledge have an impact on the evaluation of the quality of scientific knowledge, and thus on the evaluation of scientists. As a result, young scientists should be prepared that it will also impact their career options in research and in industry.

PROGRAM: Tuesday 13 June .

9:00 History of Scientific Publishing: Challenges and Obstacles
>   Learned societies, creation of peer review, subscription model, prestige, author's copyright, embargoes, etc. Bart van Tiggelen (LPMMC & ex-editor-in-chief of Europhys. Lett.)

9:45 Role of a Scientific Publisher
>   Organization of Peer Review, indexation, the price of an article based on the service provided, politics of open access data). Agnès Henri, Directrice de EDP Science – Les Ulis

10:30-11:00 COFFEE BREAK

11:00 Practical Exercise on Peer Review
>   Respond to a referee report. Organized by Robert Whitney

12:25-14:00   Lunch (buffet provided)

14:00 Mini-presentation of the Société Française de Physique (Henri Mariette)

14:05 Open Data and Software
>   1 hour: Open data and software: Why and How? Lucie Albaret, Alexis Arnaud, Maria Grazia Santangelo
>
>   30min: Experience of physicist developing open software for quantum simulations: *kwant-project.org:* Christoph Groth (CEA Grenoble)

15:35-16:00 MIN COFFEE BREAK

16:00 Practical exercise on open data/software Organized by Lucie Albaret, Alexis Arnaud, Maria Grazia Santangelo

9:00 Practical exercise on writing abstracts

    Tricks to write an attractive abstract. Organized by Robert Whitney

10:00   Panorama of Dissemination of Results (& Biblio-Diversity)
- 25min - Gold Institutional: SCOAP3 in High-Energy Physics: Stefan Hohenegger, coordinator SCOAP3 France, Prof à l'UCBL.
- 25min - Diamond: Centre Mersenne -Grenoble (CRAS): Evelyne Miot-Desecures (Inst Fourier)
- 25min EPI revues (Overlay Journals): Céline Barthonnat, CNRS Centre pour la Communication Scientifique Directe (CCSD)

11:15-11:40 COFFEE BREAK

11:40-12:25 Round table on the benefits and problems of different models of scientific publishing

    Questions from participants to Evelyne Miot-Desecures, Stefan Hohenegger, Céline Barthonnat & Bart van Tiggelen.

12:25-14:00   Lunch (buffet provided)

14:00 Dissemination of Your Research: Issues to Consider
- 20 min. How to choose a journal tailored to your research, and the traps to avoid (predatory journals, expensive journals). Bart van Tiggelen
- 30min Patents *"At what moment must one think of patents/ What are the first steps? Clarifying what is open and what is techno/industrially valorized"*: Vincent Bouchiat (CEO Start-up Grapheal)
- 30 min Link to the evaluation of researchers: Jean-Louis Barrat (LIPhy) President of Section 05 of CNRS recruitment committee)

15:20 Practical Exercise: Small Group Discussion of the Subjects Addressed over the Two Days

    45min Discussions in small groups on specific questions chosen by participants.
    A few example questions could be
- Open science versus techno/industrial valorisation (patents)?
- Anonymity for referee reports (referee or author anonymity): good or bad?
- Who should pay for scientific publications?
- Evaluation of researchers?
- Legal versus illegal downloads (Scihub/researchgate/…)?
- Artificial intelligence and ChatGPT
- Publicise your work – researchgate, arxiv, social networks?

    30 min Feedback and debriefing on these questions all together.