

The background of the slide is an aerial photograph of the EPFL campus, showing various buildings, green spaces, and a river.

Assemblée d'École de l'EPFL

EPFL School Assembly

**Scientific misconduct and inappropriate
behaviour – status and planned measures**

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Aleksandra Radenovic EPFL**

**Common School Assembly
Meeting – 4.11.2021 Zurich**



Status at EPFL

- **Scientific misconduct**

- « **Scientific integrity** » defines the commitment of researchers to adhere to the fundamental rules of good scientific practice. Concern for the truth, open-mindedness, self-discipline, self-criticism and rectitude are essential characteristics of ethical behaviour. They represent the **basis of all scientific activity** and are prerequisites for the credibility and acceptance of science.

'it is better and more useful to meet a problem in time than to seek a remedy after the damage is done'. Desiderius Erasmus Roterodamus

source <https://www.epfl.ch/research/ethic-statement/research-integrity/>



Status at EPFL

- **Legal framework**

The Directive concerning research integrity and good scientific practice at EPFL ([LEX 3.3.2](#)).

Defines the rules, based on long experience, that apply to EPFL researchers in all disciplines.

- **In 2020 –revision of LEX 3.3.3.**

“Ordinance concerning the procedure to follow in cases of suspected scientific misconduct – Lex 3.3.3”.



Status at EPFL

'it is better and more useful to meet a problem in time than to seek a remedy after the damage is done'. Desiderius Erasmus Roterodamus

- **Prevention –through communication and education**

*Responsibility of all EPFL researchers to uphold the good reputation of the institution, to respect its rules, policy and guidelines and undertake their activities accordingly. It is thus of the utmost importance that all EPFL members should conduct **research with total integrity**.*

source <https://www.epfl.ch/research/ethic-statement/research-integrity/>



Status at EPFL

- Prevention –through communication and education
- Online training course



This online course was created by the Research Office under the Direction of **Caroline Vandevyver**, PhD, Head of the Research Office, with the support of the Learning & Development team (EPFL Human Resources).

<https://www.epfl.ch/campus/services/internal-trainings/keep-learning-en/trailers-en//>



Status at EPFL

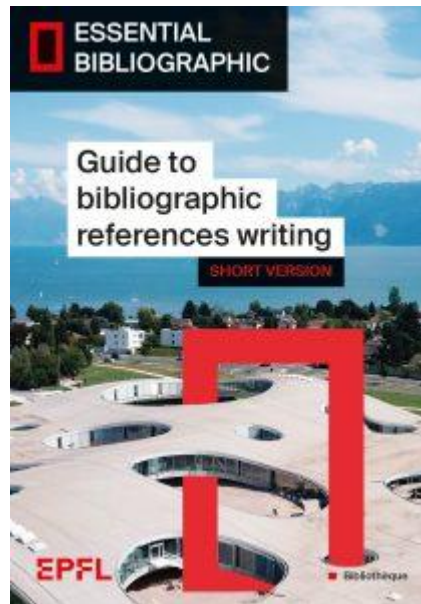
- **Prevention –through communication and education**
 - a) Lab-protocols & data management
 - b) Scientific writing and submission of manuscripts
 - c) Authorship
 - d) Plagiarism and scientific misconduct
 - e) Ownership of scientific results
 - f) Possible areas of conflict
 - g) Duties of supervising persons (professor, scientific mentors)

<https://www.epfl.ch/campus/services/internal-trainings/keep-learning-en/trailers-en//>



Status at EPFL

- **Prevention –through communication and education**
- **Essential Bibliographic: Guide to bibliographic references writing**



This document is created in March 2021 by EPFL Library

Directive concerning the citing and referencing of LEX 1.3.3 sources of information in written work submitted by students

https://www.epfl.ch/campus/library/wp-content/uploads/2019/12/Bibliotheque_EPFL_de_Rational_Bibliographic.pdf//



Status at EPFL

- **Prevention –through communication and education**

The EPFL Animal Research Ethics Committee (AREC) performs an ethical review of animal experiments conducted abroad by EPFL researchers.



Mandate of the AREC can be found in the HREC Bylaws **LEX 1.3.5**, on the [deontology and ethics webpage](https://www.epfl.ch/research/ethic-statement/animal-research-ethics-committee/).

<https://www.epfl.ch/research/ethic-statement/animal-research-ethics-committee/>



Status at EPFL

- **Prevention –through communication and education**

The EPFL Human Research Ethics Committee reviews projects conducted by EPFL researchers that involve human participants and/or personal data. These projects do not fall within the scope of the Federal Act on Research with Human Beings (HRA)



Mandate of the HREC can be found in the HREC Bylaws (see LEX 1.3.4 on [this page](#)).

<https://www.epfl.ch/research/ethic-statement/human-research-ethics-committee/>



Status at EPFL

■ Treatment

*Implementation of the **whistleblowing procedure** allows EPFL members to report any serious misconduct that may occur as soon as possible.*

The main objective of these directives is to protect the whistleblower and avoid the creation of an incriminatory atmosphere at EPFL that would be detrimental to the working environment.

■ Whistleblower procedure

■ Examples:

- *illegal or unethical conduct observed by members of the EPFL in the course of EPFL-related activities.*
- *scientific fraud, undisclosed interests.*
- *non-compliance with laws or supervisory regulations.*
- *unauthorised use of funds.*
- *non-compliance with or circumvention of internal regulations and control mechanisms.*

■ LEX 1.8.1 Whistleblowing

<https://www.epfl.ch/research/ethic-statement/research-misconduct/>



Status at EPFL

- **Open Science**
- **Publishing in open access journals or granting the open access**

Open access (OA) is a pledge to make scientific outputs freely and immediately available online, without any financial (access fees) and legal barriers (copyright and license restrictions).

- **Sharing Research Data**

Sharing openly research data, regardless of the format, is the last step of a **research management process** which requires careful attention.-Data management

- **EPFL Open Science Fund**

At EPFL, we want to support bottom-up ideas that make our research more open and reproducible.

18 projects funded – srm.epfl.ch

<https://www.epfl.ch/research/open-science/>



Status at EPFL

- **Treatment**
- **Reform Retractions**
 - *Retractions are essential to keep the scientific literature trustworthy, but the notices for them are inconsistent and often uninformative. That prevents people from assessing papers and strategies to promote integrity; it also stigmatizes honest errors. Including more information could help.*
 - ([Q.-H. Vuong Learn. Publ. 33, 119–130; 2020](#)). A little more than half did not say who initiated the retraction. Around 10% gave no reason. Some simply read: “**This paper has been retracted.**”

Status at EPFL

■ Reform Retractions

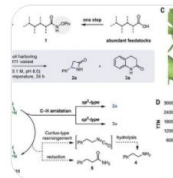
the credibility of the scientific enterprise has never rested on the veracity of individual experiments; rather, it is about the collective advancement of knowledge and understanding. And to that end, a flawed experiment — and the subsequent discovery of the flaw — can be as valuable as the perfect study.



Frances Arnold ✓

@francesarnold

For my first work-related tweet of 2020, I am totally bummed to announce that we have retracted last year's paper on enzymatic synthesis of beta-lactams. The work has not been reproducible.



science.org

Site-selective enzymatic C-H amidation for synthesis of div...
Evolved enzymes selectively form β -, γ -, and δ -lactams from simple precursors.

<https://undark.org/2020/01/30/frances-arnold-retraction/>



Merci !

Thank
you!

ae.epfl.ch