

# SFP Master Class

## Open Science and Scientific Editing

Organized by SFP : Commission Science Ouverte, Réseau jeunes, EDP Sciences,  
and sections locales *Alpes, Alsace, Côte-d'Azur, Rhône, Provence*



### With local support!

- Ecoles Doctorales
- BU
- URFIST
- Laboratories
- VP/CdM Science Ouverte

# Grenoble



# Nice



## > 1820: Learned societies founded physics journals

*“To give a new impulse to physics, to stimulate training,  
to excite the spirit of research, and to initiate discoveries”*

1798: Philosophical Magazine by Taylor & Francis *commercial*

1823: Physical Review by APS

1855: Nuovo Cimento (later by SIF)

1869: Nature by NPG *commercial*

**1873 SFP founded by Curie, Perrin**

1874: Journal of Physics by IOPP

**1880: Journal de Physique by SFP →**

1920: Zeitschrift fur Physik by Springer *commercial*

**1920 Creation of EDP Sciences by SFP/SMF/, ...**

1931: JETP by RAS

**1986: Europhysics Letters (EPL) by EPLA = 18 European physical societies**

**1992: European Physical Journal (EPJ) by 25 European physical societies**

1998: New Journal of Physics by IOPP and DPG *open access*

1991 creation of **ArXiv - physics** (Green) by Paul Ginsparg

2001 creation of **HAL- physics** (Green) by Franck Laloë

2011 creation of **Sci-Hub** (violation of copyright) by Aleksandra Elbakyan

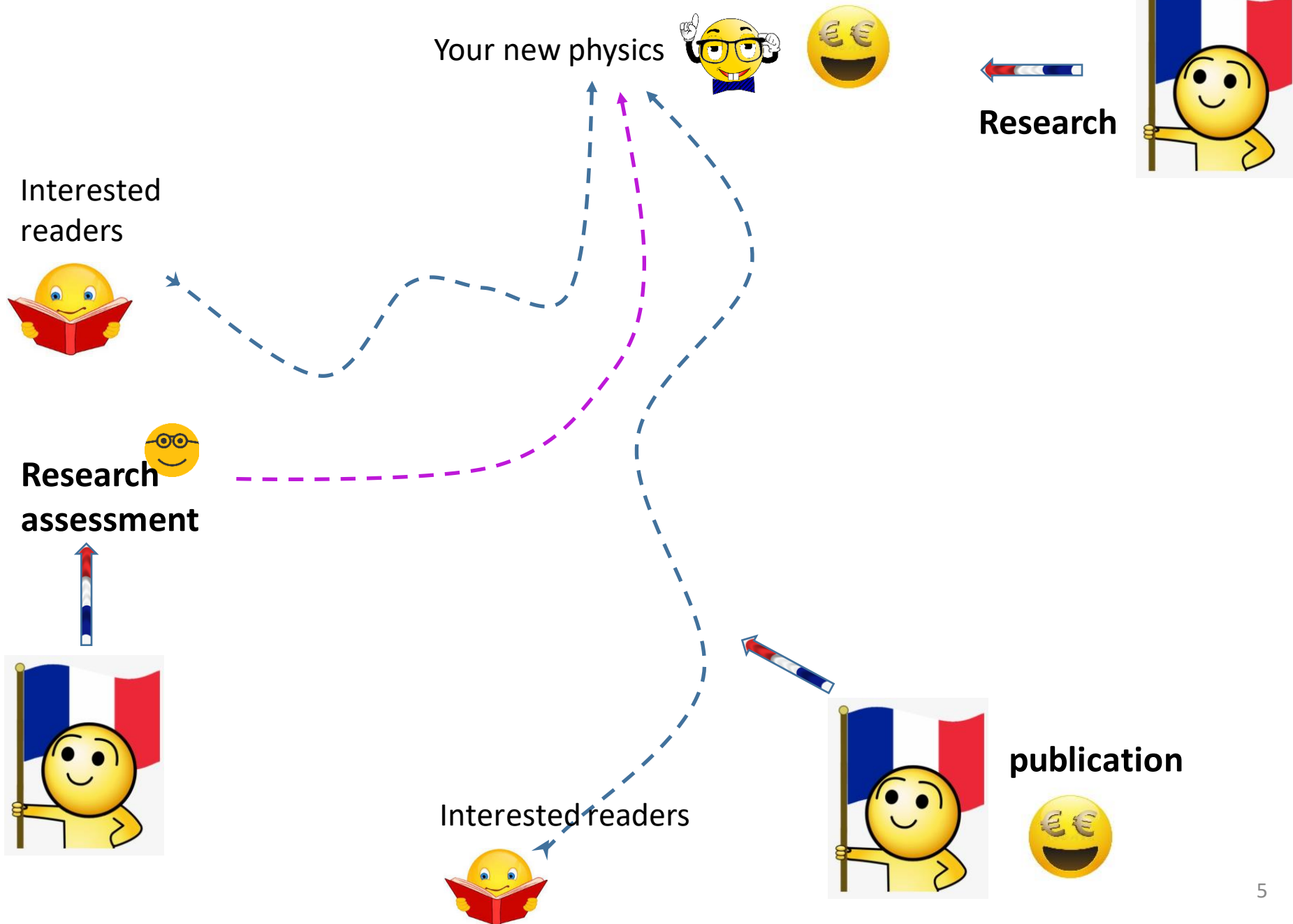
**2016 creation of SciPost (diamant) by JS Caux**



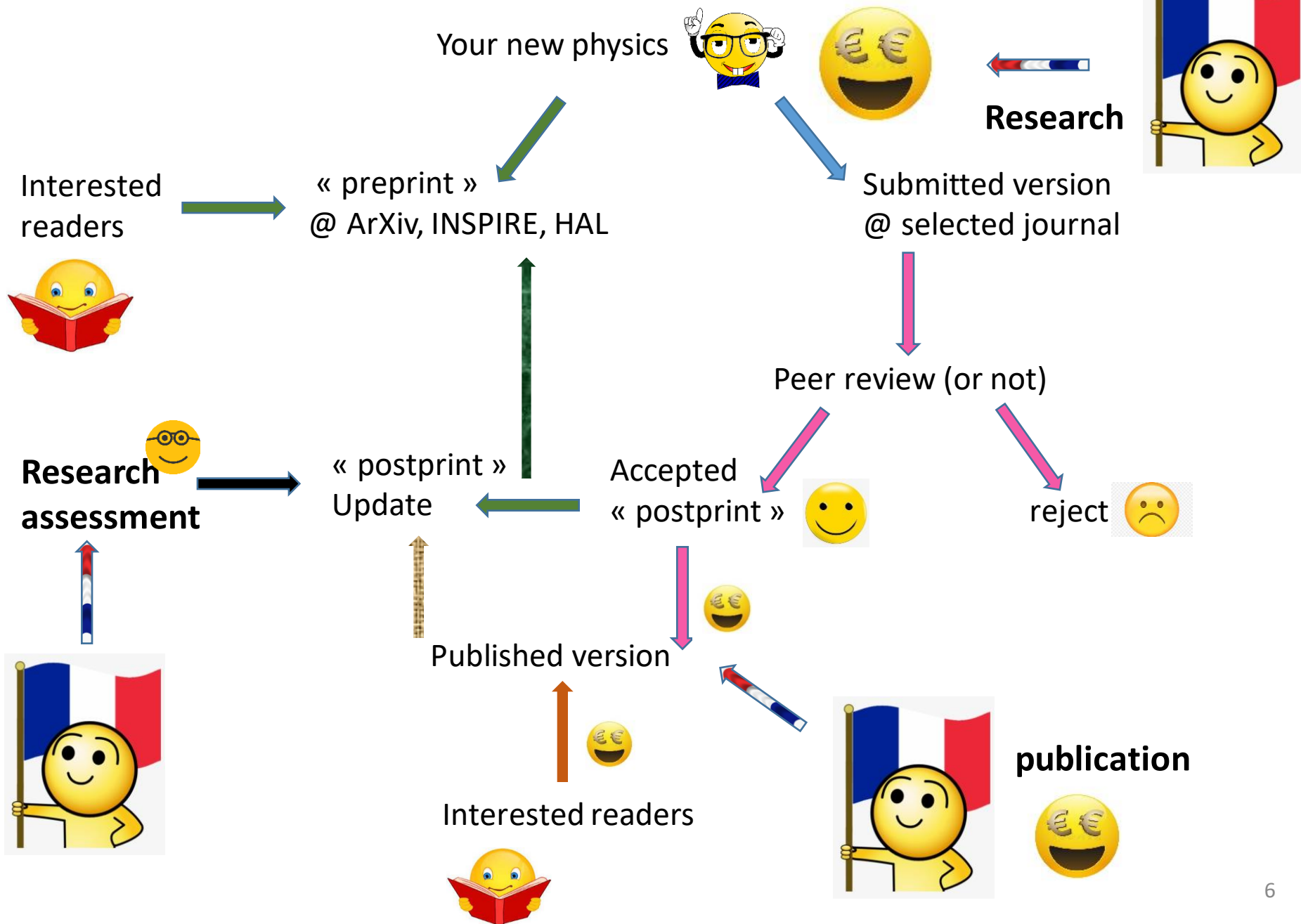
# Why is current subscription model obsolete?

- 💣 Rise of Internet offers new opportunities (no prints, one clic )
- 💣 Expensive and rising paywalls;
  - No direct access of taxpayer/entrepreneur/evaluator to published articles
- 💣 10-15% annual rise of publications, annual costs by 4 %
- 💣 Transfer of copyright from author to journal
- 💣 Obligation to subscribe to « Big Deals » (e.g. Freedom Collection)
- 💣 No transparency in costs and large profit margins
  
- 💣 Strong a link between assessment and impact factor ( = « prestige » )
- 💣 « prestige » is expensive and unfair for many authors.

# dissimination process today in France in physics



# dissimination process today in France in physics



**Traditional Model (« reader-pays »)**

**Green Open Access (“self-archiving”)**

**Gold Open Access (« author-pays »)**

**Diamond Open Access (« nobody pays »)**

+ *Subscribe 2 Open (Maths), Read & Publish (DEAL),.....* **biblio-diversity encouraged**

## Traditional Model (« reader-pays »)

- Libraries pay subscription – free publication for authors, access for associated readers, pay-wall for all others
- In France mainly negotiated by Couperin (Universities + CNRS+ CEA , ..)
- National licences exist (EDPS, Elsevier)

## Green Open Access (“self-archiving”)

## Gold Open Access (« author-pays »)

## «Diamond Open Access (« nobody pays »)

+ *Subscribe 2 Open (Maths), Read & Publish (DEAL),.....* **biblio-diversity encouraged**



## Traditional Model (« reader-pays »)

**Green Open Access (“self-archiving”)** – deposit on institutional repository (HAL) or recognized archive (ArXiv, INSPIRE). Postprint embargo < 6 months.

- Costs covered by donations (10-30€) and research organizations – free submission and access.
- No peer-review, must coexist with a real economic model (or not?)
- Overlay journals (Epi-revues) exist with peer-review

## Gold Open Access (« author-pays »)

## Diamond Open Access (« nobody pays »)

+ *Subscribe 2 Open (Maths), Read & Publish (DEAL),.....* **biblio-diversity encouraged**

## Traditional Model (« reader-pays »)

## Green Open Access (“self-archiving”)

## Gold Open Access (« author-pays »)

- « Author-Processing Charges » (APC) paid by authors **or** institution (« institutional Gold » ≈ « Publish & Read » : SCOAP3 @ CERN). Free access for all readers
- Many hybrid journals exist, many predatory journals exist

## Diamond Open Access (« nobody pays »)

+ *Subscribe 2 Open (Maths), Read & Publish (DEAL),.....* **biblio-diversity encouraged**

## Traditional Model (« reader-pays »)

## Green Open Access (“self-archiving”)

## Gold Open Access (« author-pays »)

## Diamond Open Access (« nobody pays »)

- Free to submit, free access to read
- Open Peer-review, own server
- Somebody does pay, you know !
- In physics CRAS (@Mersenne Grenoble) , SCIPOST

# *costs* : $\Psi(t) = \exp(+\epsilon t)$

- i. Science-publishing industry generated **\$9.4 Billion** in revenue in 2011 for **1.8 million** English-language articles  $\rightarrow$  **\$5,000 /paper**
- ii. Profit margins at 20 %  $\rightarrow$  **cost= \$ 4,000/paper**
- iii. 1.9 publications/ year/physicist (France)= **8000 €** > running costs UMR
- iv. Price of prestige: OA transition would lead to **35.000** /Nature paper
- v. Elsevier-Reed (RELX) turn-over 2018 = **7.5 Billion £**  
Research Budget 2019 in France = **9.0 Billion €**
- vi. Cost **1 €/download**. APS: **0.75 €/download**  
France: national Elsevier licence 35 M€/yr, 19.000 papers, 18 million downloads  $\rightarrow$  **1800 €/paper, 1.9 €/download**
- v. **30 M€ /year** APC in France

# Open Science

*Sharing of scientific knowledge is a cornerstone  
of the science method*

*and*

*essential for the advancement of science*

# Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities (2003)

- *Open Access*: Publicly funded research should be freely and easily accessible for everyone
- *One clic*: Internet provides a means to do this
- *Commitment*: Funding agencies, publishers and scientific organisations endorse the road towards open access

2018



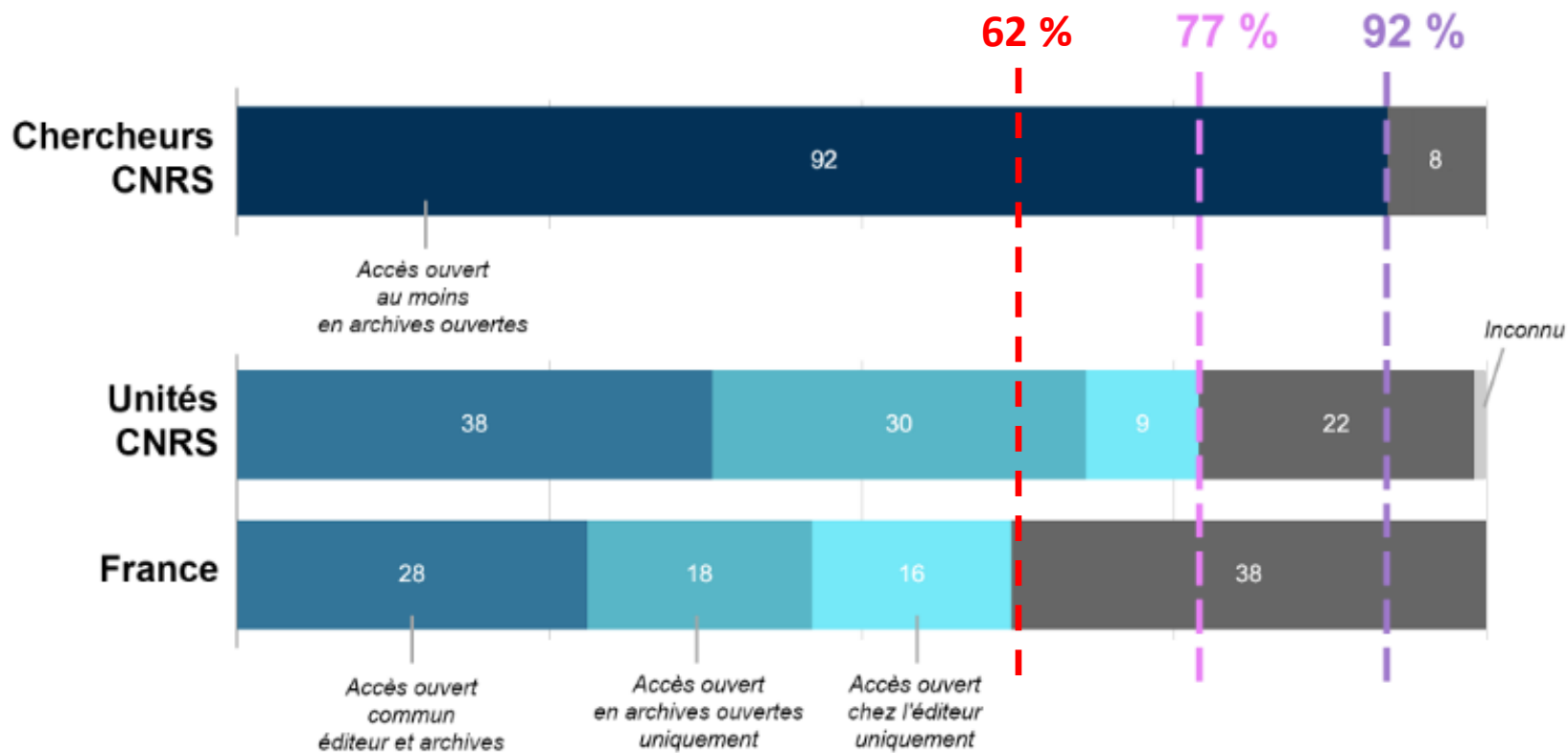
# Open Publications in France (2022)

	Open Access	Closed Access
Physics & Astronomy	81,4 %	18,6 %
Mathematics	85,1 %	14,9 %
Earth Sciences, Ecology, Energy & Applied Biology	75,7 %	24,3 %
Chemistry	48,8 %	51,2 %

# Open Publications in France

## Le CNRS, moteur des publications ouvertes en France

Comparaison du taux d'ouverture en 2021 des publications de l'année 2020 au CNRS et en France



NRS (CCSD, DAPP, DDOR, INIST) et MESR – Le recensement ne comprend pas les SHS pour les unités CNRS.



## Rate of Open Access publications :

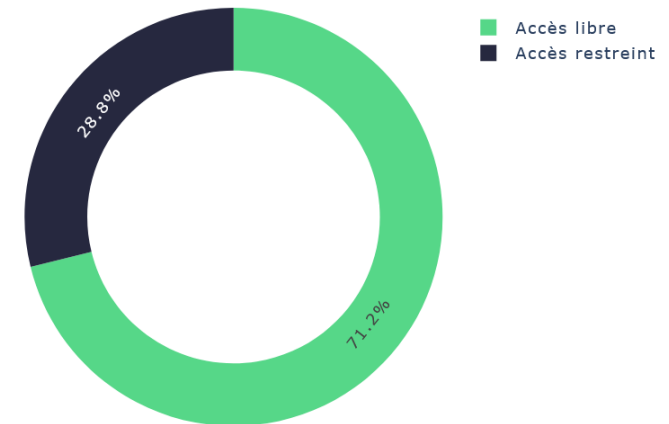
- **University Claude Bernard Lyon 1 : 74% (2021)**
- **Grenoble Alpes University : 71% (2022)**
- **University Côte-d'Azur : 68,2% (2022)**
- **University of Bourgogne : 68% (2020)**
- **University of Lorraine : 66% (2021)**
- **University of Strasbourg : 66% (2021)**
- **Paris Saclay : 64% (2019)**

**Au niveau national : 62%**

## PhD theses in France :

**71,2%**

COMPARATIF : POURCENTAGE DE THÈSES FRANÇAISES EN ACCÈS LIBRE (OBSERVÉ LE 17 OCTOBRE 2022)



*Merci à Anne Brogini and Sarah Hurter-Savie (UCA)*

- THANK YOU



**Société Française  
de Physique**

**150 ANS D'ENGAGEMENT  
POUR LA PHYSIQUE**