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# Tools to foster Open Science: Green and Diamond Open Access

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*BARCAMP, Wikimedia, Berlin*



# What is Open Science

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Ideas are not of the same nature as material products,  
since when you give an idea you do not lose it.

Knowledge is not a product to be traded  
but a commons to be shared.

Open Science means sharing articles, codes and data.



*Charlotte Hess and Elinor Ostrom,  
Understanding knowledge as a Commons,  
MIT Press, 2006*

In 2009 *Elinor Ostrom* got  $\frac{1}{2}$  of the  
Nobel prize in economic sciences for  
*'her analysis of economic governance,  
especially the commons, showing how  
common resources can be managed successfully  
by the people who use them, rather than  
by governments or private companies'*.



# Some tools for Open Science

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- In 1978 the computer scientist *Donald Knuth* (Stanford University) published the Open Software *TeX* for typesetting research articles, especially complex mathematical formulae.
- In 1990 the physicist and computer scientist *Tim Bernes-Lee* (CERN) created the Open Protocol *http* of *WWW* without patenting it, in order that it could be adopted by anyone.
- In 1991 the physicist *Paul Ginsparg* (Los Alamos National Laboratory) created the Open Platform *ArXiv* to share preprints for exact sciences, the submission rate today is above 10 000 articles/month.
- In 1994 the economist *Michael Jensen* (Harvard University) created the Open Platform *SSRN* to share preprints for social sciences, the largest repository in 2013 but *Elsevier* bought it in 2016.
- In 1998 the education scientist *John Willinsky* (Simon Fraser University) released the Open Software *OJS* to manage editing and peer-reviewing, used today by about 10 000 of research journals.



# *Dissemin*, a platform to foster Open Science

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In **2014** the computer scientist *Antonin Delpuch*, while he was student at ENS Paris, created the platform <http://dissem.in> to help researchers to deposit their articles in open access.



*Dissemin* is collectively developed in **Open Source** and anyone can download it for free from the platform *GitHub*.

# Dissemin lists the articles of any researcher

## Welcome to dissemin

Dissemin detects papers behind pay-walls and invites their authors to upload them in one click to an open repository.

Type here the first name and family name of a researcher from any discipline

Search

## Green open access

Many researchers do not use their right to make their papers freely available online, in addition to the paywalled version offered by traditional publishers.

This forces libraries to buy overpriced electronic subscriptions to journals, when they can afford them at all.



## Open repositories

Uploading your papers on your own webpage is not enough. Such copies are less stable and harder to find than documents uploaded to well-indexed repositories.

Dissemin searches for copies of your papers in a large collection of open repositories and tells you which ones cannot be accessed.

*Dissem.in* crawls the metadata of about 100 Millions research articles

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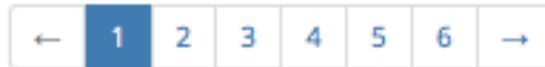
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[@disseminOA](#)  
[GitHub](#)

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Seung-Bu Park, Pierre Gentine, Kai Schneider, **Marie Farge**

2016

**Coherent Structures in the Boundary and Cloud Layers: Role of Updrafts, Subsiding Shells, and Environmental Subsidence**


 **Download**

American Meteorological Society, *Journal of the Atmospheric Sciences*, 2016.



Frank G. Jacobitz, Kai Schneider, Wouter J. T. Bos, **Marie Farge**

**Structure of sheared and rotating turbulence: Multiscale statistics of Lagrangian and Eulerian accelerations and passive scalar dynamics**

 **Download**


American Physical Society, *Physical Review E*, 1(93), 2016.



**Marie Farge**, Kai Schneider

2015

**Wavelet transforms and their applications to MHD and plasma turbulence: a review**

 **Download**

Cambridge University Press (CUP), *Journal of Plasma Physics*, 06(81), 2015.

Researcher

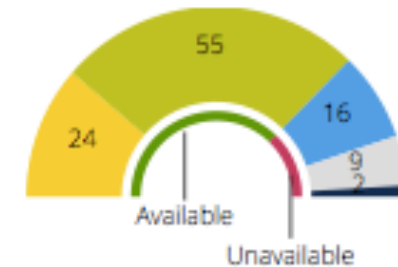
**Marie Farge**

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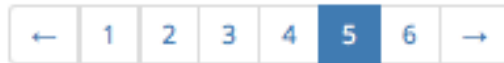
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Marie Farge, Kai Schneider, Giulio Pellegrino, Alan A. Wray, Robert S. Rogallo  
Coherent vortex extraction in three-dimensional homogeneous turbulence: Comparison between CVS-wavelet and POD-Fourier decompositions

2003

 Upload | American Institute of Physics, Physics of Fluids, 10(15), 2003.



Kai Schneider, Marie Farge  
Coherent Vortex Simulation (CVS) of 2D bluff body flows using an adaptive wavelet method with penalisation

 Upload | Springer Verlag, Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2003.




Bartosz Protas, Kai Schneider, Marie Farge  
Geometrical alignment properties in Fourier- and wavelet-filtered statistically stationary two-dimensional turbulence

2002

 Upload | Physical Review E, 4(66), 2002.



Kai Schneider, Marie Farge  
Adaptive Wavelet Simulation of a Flow around an Impulsively Started Cylinder Using Penalisation

 Download | Elsevier, Applied and Computational Harmonic Analysis, 3(12), 2002.

Researcher

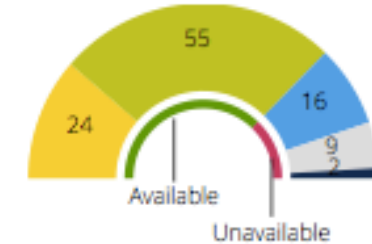
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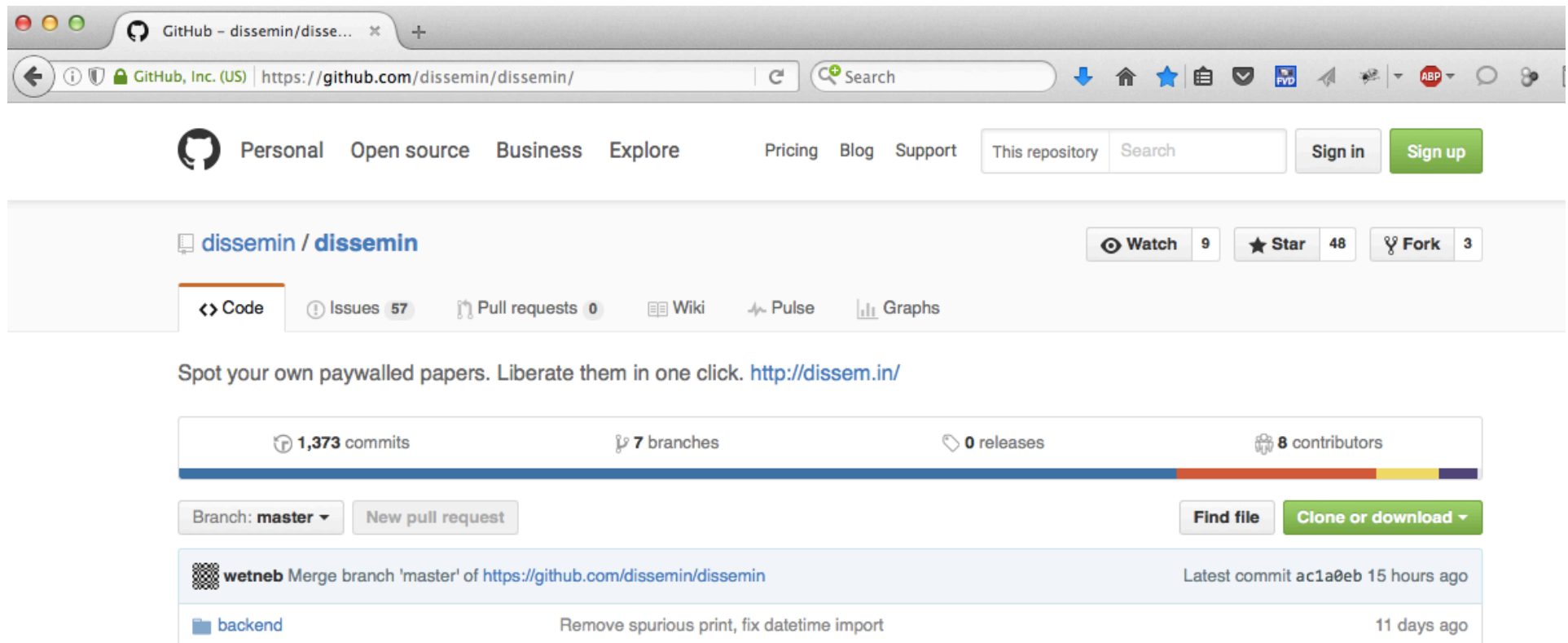
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*Zenodo* is the open repository of *CERN*. It accepts any research outputs from any fields. It is developed in *Open Source* with the *Invenio* framework under the licence *GNU GPL version 2*. It is financed by the *European Commission* as part of the European network *OpenAIRE*.

# The source of *Dissemin* is free on *GitHub*

*Dissemin* is written in *Python* and published under the viral license *AFFERO GPL 3*, which allows everyone is to use, modify and distribute its source code, under the condition that the source of a new version and the source of the platform to access it are under the same license.



The screenshot shows the GitHub repository page for `dissemin/dissemin`. The browser address bar shows the URL `https://github.com/dissemin/dissemin/`. The repository page includes navigation links for Personal, Open source, Business, and Explore, along with buttons for Sign in and Sign up. The repository statistics show 9 Watchers, 48 Stars, and 3 Forks. The repository is currently on the `master` branch. A recent commit by `wetneb` is shown, titled "Merge branch 'master' of https://github.com/dissemin/dissemin", with the latest commit hash `ac1a0eb` and a timestamp of 15 hours ago. A file named `backend` is listed with the commit message "Remove spurious print, fix datetime import" and a timestamp of 11 days ago.

# The team *CAPSH / Dissemin*

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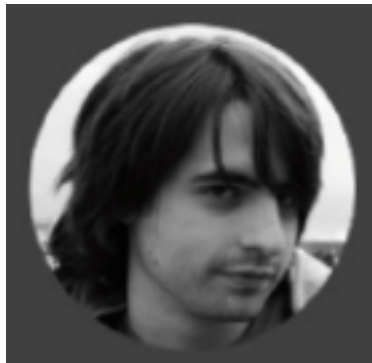
*Dissemin* runs on three rented servers that cost 100 €/month.

It is financed by the non-profit association *CAPSH (Committee for the Accessibility of Publications in Sciences and Humanities)* created in 2015 by three computer science students and a mathematician (ENS Paris):



*Antonin Delpauch*,  
the main developer of Dissemin.

In 2016 he was nominated  
**Europe's Open Access Champion** by  .



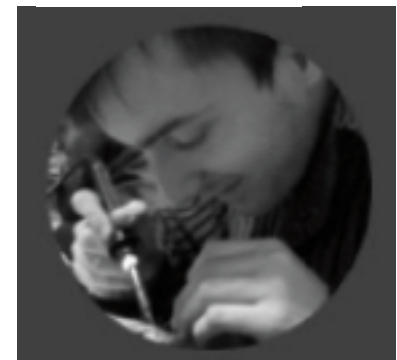
*Antoine Amarilli*



*Pablo Rauzy*



*Marie Farge*



*Thomas Bourgeat*

# Researchers want to recover their tools

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In 2012 the mathematician *Sir Tim Gowers* called to boycott *Elsevier* and created *COK* (*Cost of Knowledge*), a group of mathematicians that stopped the *Research Works Act*, a bill proposed to the US Congress due to the lobbying of *Elsevier*. *COK* proposed a new model for online publishing called '*Diamond Open Access*':

- Neither author nor reader should have to pay to publish online,
- Research journals should belong to their editorial boards, which are in charge of peer-reviewing, but no longer to publishers,
- Online peer-reviewing and publishing of research journals should be done using public infrastructures developed in open source.'

*Marie Farge, Note for the French Minister of Research, June 29<sup>th</sup> 2012*  
[http://openscience.ens.fr/MARIE\\_FARGE/](http://openscience.ens.fr/MARIE_FARGE/)

<https://www.centre-mersenne.org>



# 2018, création de la plateforme Mersenne

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Plateforme de publication en accès libre Diamant et d'évaluation par les pairs de revues académiques, créée en 2018 à Grenoble dans le cadre de la cellule *Mathdoc* (unité de service CNRS-INSMI et Université de Grenoble).

Principes directeurs:

- Qualité de l'évaluation par les pairs,
  - Service public non lucratif,
  - Archivage pérenne,
- Transparence sur les coûts et la sélection des revues.

La mise en page des articles est faite avec le logiciel libre *LaTeX*, tandis-que le processus éditorial et la publication sont faits avec le logiciel libre *OJS (Open Journal System)*.

<https://www.centre-mersenne.org/>



## ► A propos du centre Mersenne

<https://www.centre-mersenne.org/>

Le centre Mersenne est une infrastructure publique d'édition au service de la communauté scientifique.

Elle vise à promouvoir l'édition scientifique et la diffusion de publications (revues, livres, séminaires et colloques) de toutes disciplines scientifiques (mathématiques, physique, statistiques, informatique...), nationales et internationales, engagées dans le **libre accès** et **publiant en LaTeX**.



Cette initiative propose :

- une **plateforme numérique de diffusion de publications scientifiques en libre accès**, à l'usage des chercheurs;
- une **offre modulaire de services** à destination des équipes éditoriales.

## ► Missions

Le projet Mersenne a été lancé afin de répondre à une demande croissante de la part de la communauté scientifique pour des solutions alternatives de publication.

Le centre Mersenne se présente donc comme une alternative de publication :

- publique et à but non lucratif (pas de privatisation de la recherche),
- en libre accès (pour favoriser la libre circulation des résultats de recherche)
- en **libre accès diamant** (pas de frais de soumission ni de publication)
- pérenne et abordable
- créée par des chercheurs pour des chercheurs

Le centre Mersenne a un double objectif :

- promouvoir l'édition scientifique et favoriser la diffusion de publications en libre accès : revues existantes souhaitant s'engager dans le libre accès ou nouvelles revues en création,
- Soutenir les équipes éditoriales dans la gestion de leur publication en mettant à leur disposition et à des tarifs abordables des outils ainsi que des services professionnels.



## ► Selection criteria & publication standards

The Centre Mersenne supports publications meeting the two following criterias:

- open access scientific publications,
- formatted in LaTeX.

### Publication types

Publications can be:

- Journals, books or proceedings,
- Of national or international base
- Of any scientific discipline
- Existing or newly-created journals

<https://www.centre-mersenne.org/>

### Selection Criteria

These publications should adhere to the following publication standards:

- **Open Access:** The journal preferably publishes under Diamond Open Access model (preferred over Gold Open Access), no money is required to publish (no APC) nor to read.
- **Peer Review:** The journal must be peer-reviewed.
- **Independence:** The journal has a transparent ownership structure and articles are selected on behalf of a competent, scientifically independent editorial board,
- **Copyright:** Authors transfer copyright to the extent necessary for operating (no exclusive transfer required). Articles are published under an explicit Open Access licence. For instance, Creative Commons licences can be used (CC-BY, CC-BY-ND...) [To learn more about Creative Commons.](#)
- **Title ownership:** The journal's title is owned by a not-for-profit entity serving the relevant scientific community.
- **Best practice:** the journal website complies with COPE's "[Principles of Transparency and Best Practice in Scholarly Publishing](#)".
- A not-for-profit project



## ▶ Our services

### PUBLISHING

Upon validation of the accession request, the Publication will benefit from the services associated to Publication: online publishing, visibility and interoperability and long-term preservation.

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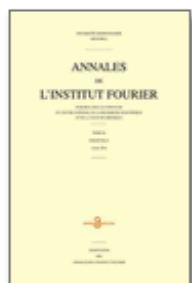
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Mathematics



Annales Henri Lebesgue  
Mathematics



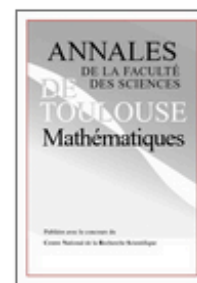
Journal de l'École  
polytechnique  
Mathematics



Annales de l'Institut  
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Besançon  
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SMAI Journal of  
Computational  
Mathematics  
Applied mathematics



# 2012, recommandation pour les CRAS

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## ***Les comptes-Rendus de l'Académie des Sciences de Paris (CRAS) devraient être publiés en 'Diamond Open Access'***

Ce serait une excellente publicité pour l'Académie des Sciences de Paris que ses Comptes-Rendus (CRAS) soient publiés en 'Diamond OA'. En effet, ce serait la première académie à le faire, et cela donnerait aux CRAS une nouvelle envergure. En effet, s'il n'y a pas de frais de publication à payer et si les articles sont mis en accès libre dès qu'ils ont été acceptés par le comité de lecture, nombre de chercheurs ayant perdu l'habitude de publier dans cette revue le feraient à nouveau. Les CRAS sont actuellement publiés par Elsevier mais nombre d'académiciens ne sont pas satisfaits de cette situation. Toutefois, comme l'Académie possède le titre de la revue, il devrait être assez facile de mettre fin à son contrat avec Elsevier et poursuivre la publication des CRAS selon un modèle 'Diamond OA' de publication en accès libre.

*Marie Farge, Note pour la ministre de la recherche, Juin 29<sup>th</sup> 2012*  
*[http://openscience.ens.fr/MARIE\\_FARGE/](http://openscience.ens.fr/MARIE_FARGE/)*



# 2020, les CRAS sont en accès libre Diamant

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Les *Comptes-Rendus de l'Académie des Sciences de Paris (CRAS)* étaient publiés depuis 1835 (à l'initiative du physicien François Arago, secrétaire perpétuel) par la maison d'édition *Gauthier-Villars*, qui fut rachetée en 2000 par la société *Elsevier*.

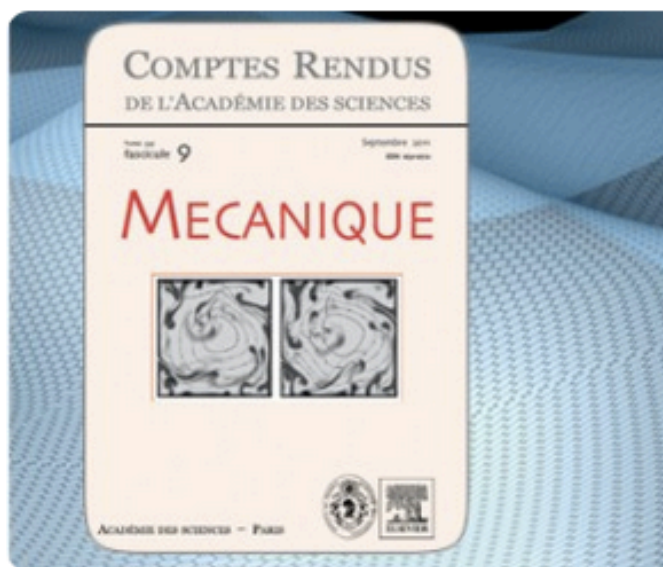
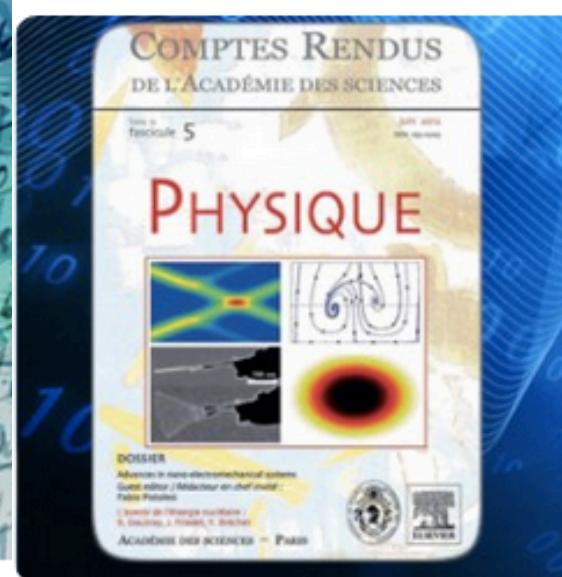
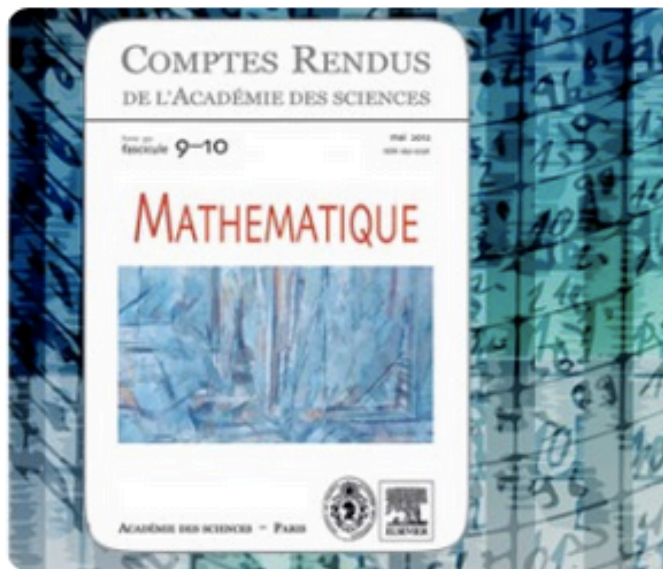
Le 23 Novembre 2019 l'*Académie des Sciences de Paris* a décidé de ne pas renouveler le contrat avec *Elsevier* et de publier six CRAS en accès libre Diamant avec l'aide du *Centre Mersenne*.

## Évolution des modalités de consultation des Comptes Rendus de l'Académie des sciences

À dater du 1er janvier 2020, les Comptes Rendus de l'Académie des sciences seront publiés par le centre Mersenne pour l'édition scientifique ouverte (<https://www.centre-mersenne.org>), pour les séries Mathématique, Physique, Mécanique, Chimie, Géoscience et Biologies, et par le Muséum national d'Histoire naturelle (<https://www.mnhn.fr>) pour la série Palevol.

Les sept revues seront accessibles en libre accès diamant (accès libre et gratuit pour tous aux articles) sur le site : <http://comptes-rendus.academie-sciences.fr> (<http://comptes-rendus.academie-sciences.fr>)





<https://www.academie-sciences.fr/fr/les-comptes-rendus.html>



*'Scholarly publishing and peer-reviewing in open access' by Marie Farge,  
in 'Europe's Future: Open Science, Open Innovation, and Open to the World',  
European Commission, DG Research, Science and Innovation, April 2017*

*[http://openscience.ens.fr/MARIE\\_FARGE](http://openscience.ens.fr/MARIE_FARGE)  
<marie.farge@ens.fr>*

