



Parlez-vous **science ouverte** ?

Micaela Crespo, OA Coordinator UNIL
Carmen Jambé, GDR Coord. UNIL

MT180
26 septembre 2018

AGENDA

- 09h00 Présentations:
Qu'est-ce que la science ouverte, d'après vous ?
- 09h10 Une très brève introduction à la science ouverte
Open Access
Données de recherche
- 09h20 Quiz Open Science!
- 10h20 Pause café
- 10h50 Formaliser les connaissances
- 11h25 Conclusions et repas



OPEN SCIENCE

Qu'est-ce que c'est, d'après vous?

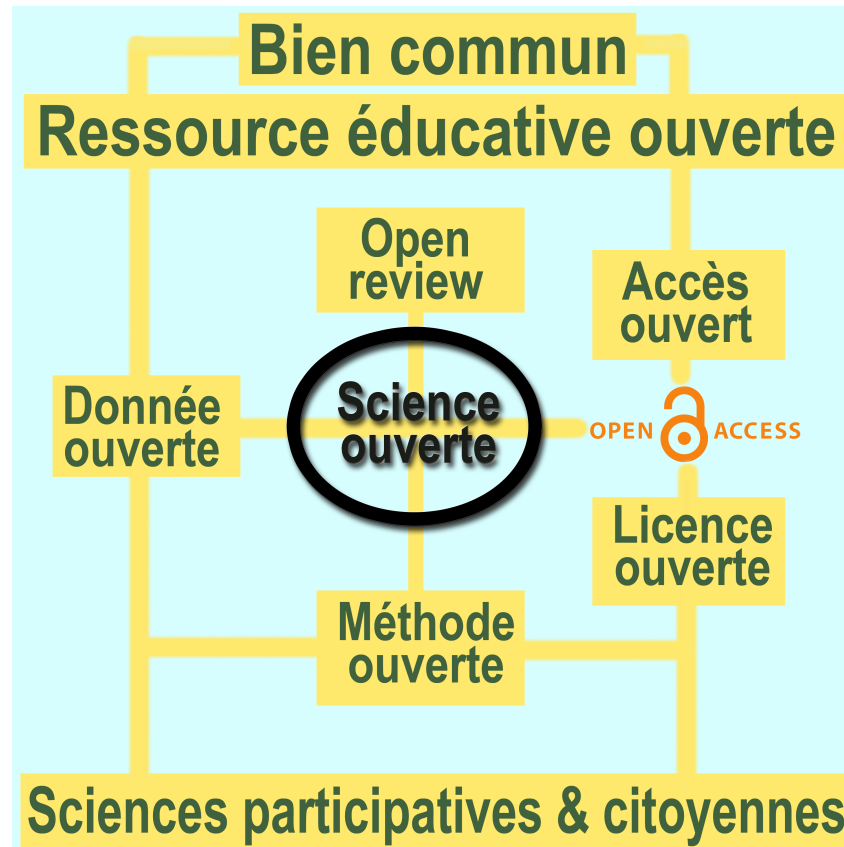


OPEN SCIENCE
(une très brève)
INTRODUCTION



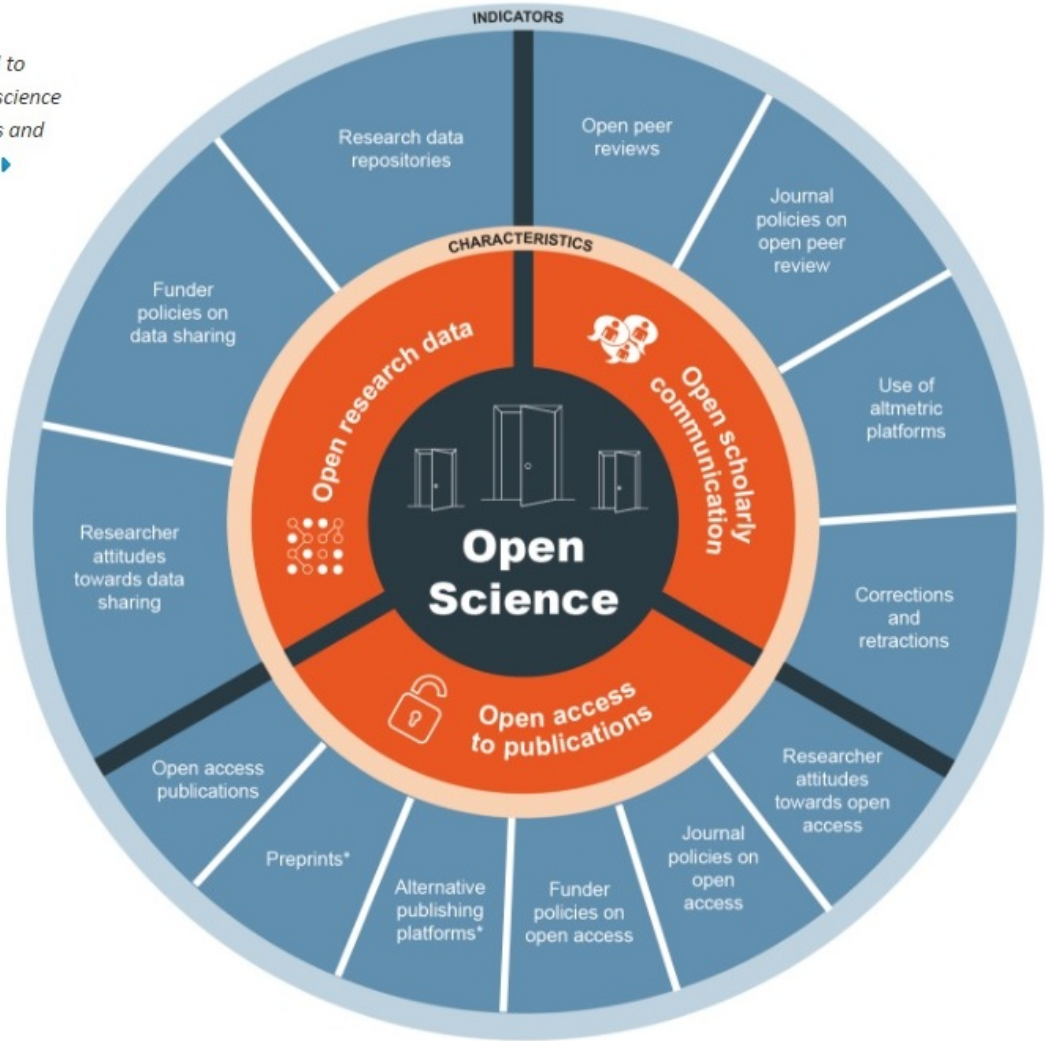
QU'EST-CE QUE LA **SCIENCE OUVERTE**?

La **science ouverte** est un mouvement visant à rendre la recherche scientifique, les données et leur diffusion accessibles.



OPEN SCIENCE MONITOR : ACCESS TO DATA AND TRENDS ON OPEN SCIENCE

Use the wheel to explore open science characteristics and indicators. ▶▶



* These indicators are for both open access to publications and open scholarly communication.

OPEN & COLLABORATIVE SCIENCE MANIFESTO



https://youtu.be/YIX0xtB_JcY



OPEN ACCESS



QU'EST-CE QUE L'**OPEN ACCESS**?

Accès libre

« La littérature Open Access est numérique, en ligne, gratuite et libre de la plupart de restrictions de licence et copyright. Ce qui la rend possible est l'internet et le consentement de l'auteur »

« Elle est entièrement compatible avec le peer-review, le copyright, le revenu, le prestige, la qualité, et d'avantage de services associés avec la littérature scientifique conventionnelle »

- Peter Suber, 2004

<https://legacy.earlham.edu/~peters/fos/brief.htm>

DONNÉES DE RECHERCHE



QU'EST-CE QUE L'**OPEN DATA**?

L'ouverture des données de recherche

« Les données de la recherche devraient être libres d'accès pour chacun, tant pour la communauté scientifique que pour le public.

Le [...] partage des données de recherche apporte une contribution essentielle à la recherche scientifique en termes d'impact, de transparence et de reproductibilité. En plus d'une préparation et d'un archivage soigneux, [...] les données de recherche doivent être partagées de manière aussi ouverte que possible.»

- (FNS, 2017)

http://www.snf.ch/fr/leFNS/points-de-vue-politique-de-recherche/open_research_data/Pages/default.aspx

Quiz

OPEN SCIENCE

Quiz OPEN SCIENCE

Les règles

- ⌚ Vous formez 4 équipes.
- ⌚ Chaque équipe choisit séquentiellement une question en fonction du sujet et des points en jeu.
- ⌚ L'équipe a 1 minute pour décider d'une réponse.
- ⌚ **Bonne réponse** : les points sont ajoutés.
- ⌚ **Mauvaise réponse** : les points sont soustraits.
- ⌚ Chaque équipe répond à 5 questions.
- ⌚ Dernier tour : Après avoir répondu à toutes les questions, les équipes parient le nombre de points qu'elles veulent pour la dernière question.
- ⌚ L'équipe avec le plus de points **gagne**.

OPEN ACCESS

Une
INTRODUCTION
formelle



LES COULEURS DE L'OPEN ACCESS (I)

Il y a deux moyens principaux de publier des travaux en OPEN ACCESS.

LA VOIE DORÉE (GOLD OA)

- ① En publiant dans une revue/livre à accès libre.
- ① L'accès libre est immédiat et le travail est protégé par une licence ouverte ([Creative Commons](#)).

Ceci est possible dans:

- ① Des revues purement OA ([DOAJ](#))/books, moyennant (ou pas) le paiement de frais de publication Article/Book Processing Charges (APC/BPC).
- ① Une revue à souscription permettant l'ouverture d'articles individuels moyennant des APC (Hybride).

LES COULEURS DE L'**OPEN ACCESS** (II)

Il y a deux moyens principaux de publier des travaux en **OPEN ACCESS**.

LA VOIE VERTE (GREEN OA)

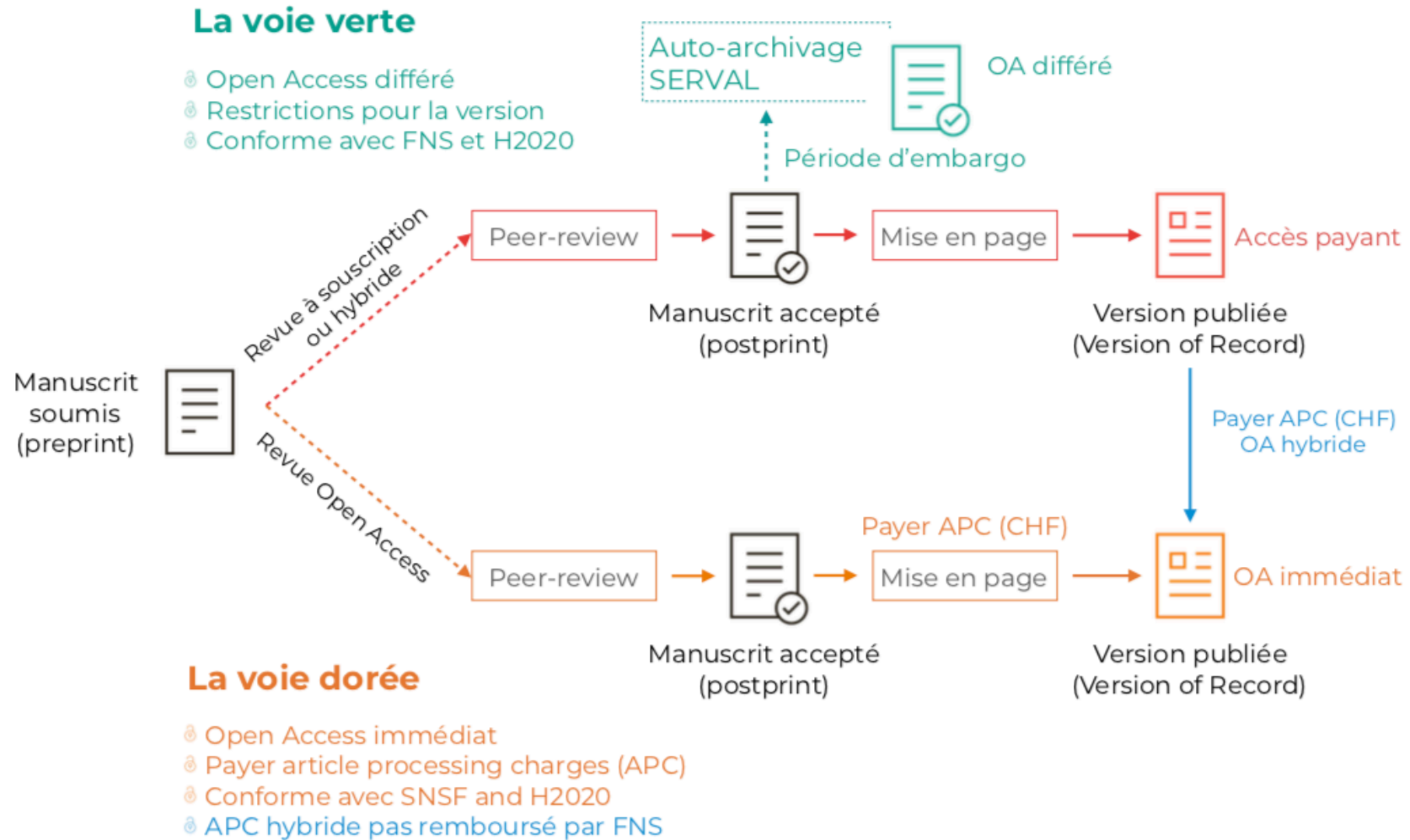
- 🔒 Auto-archivage d'une publication dans une archive ouverte.
- 🔒 L'ouverture est souvent différée (embargo) et permise seulement pour la version de manuscrit d'auteur selon les conditions de l'éditeur ([SHERPA/ROMEO](#)).

Les archives peuvent être:

- 🔒 Institutionnelles ([SERVAL](#)).
- 🔒 Disciplinaires.

LES COULEURS DE L'OPEN ACCESS (III)

Les voies vers l'Open Access



L'OPEN ACCESS DANS LA PRATIQUE

Post-print (ou AAM) vs. PDF éditeur

Abstract

Lead-halide perovskites have triggered the latest breakthrough in photovoltaic technology. Despite the great promise shown by these materials, their instability towards water even in the presence of low amounts of moisture makes them, a priori, unsuitable for their direct use as light harvesters in aqueous solution for the production of hydrogen through water splitting. Here, we present a simple method that enables its use in photohydrogen evolution while immersed in an aqueous solution. A record photocurrent density of 10.5 mA cm⁻² is achieved under 1 sun illumination. The perovskite is protected by a thin layer of Ir:BiSn alloy, which simultaneously allows the photogenerated electrons to reach the Pt cocatalyst and prevents the perovskite from being dissolved in water. The device shows remarkable stability for approximately one hour of continuous illumination.

Metal-encapsulated organolead halide perovskite photocathode for solar-driven hydrogen evolution in water

Micaela Crespo-Quesada¹, Luis M. Pazos-Outón², Julien Wörner¹, Moritz F. Kuehnel¹, Richard H. Friend¹ and Erwin Reisner^{1*}

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 *E-mail: reisner@ch.cam.ac.uk

CCDCP2015L.8/Rev.1

8 (2015)

Energy Supply Challenges and
 1, 52-66 (2007)

ds/kife based solar cells:
 ACS Adv. 4, 29012-29021

Isaka, T. Organometal Halide
 Photovoltaic Cells. J. Am.

Highly efficient perovskite

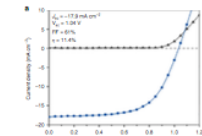
ing of perovskite materials for
 high-performance solar cells. Nature 517, 476-480 (2015).

8. Noh, J. H., Im, S. H., Heo, J. H., Mandil, T. N. & Seok, S. I. Chemical Management for Colorful, Efficient, and Stable Inorganic-Organic Hybrid Nanostructured Solar Cells. Nano Lett. 13, 1764-1769 (2013).

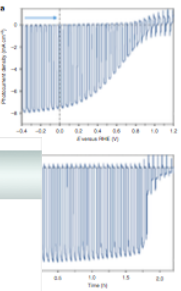
9. Zheng, L. et al. Hole Transporting Oligothiophene for Planar Perovskite Solar Cells with Improved Stability. Chem. Commun. 50, 11196-11199 (2014).

21

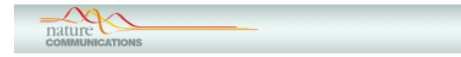
ARTICLE



NATURE COMMUNICATIONS | DOI: 10.1038/ncom07201



to photocathode performance during 1 h. **K1** Typical linear sweep voltammetry (LSV) of the perovskite photocathode in a 0.1 M NaOH solution. The onset potential of the photocathode is indicated as 0.8 V. **K2** Typical linear sweep voltammetry (LSV) of the perovskite photocathode in a 0.1 M NaOH solution. The onset potential of the photocathode is indicated as 0.8 V. **K3** Typical linear sweep voltammetry (LSV) of the perovskite photocathode in a 0.1 M NaOH solution. The onset potential of the photocathode is indicated as 0.8 V. **K4** Typical linear sweep voltammetry (LSV) of the perovskite photocathode in a 0.1 M NaOH solution. The onset potential of the photocathode is indicated as 0.8 V.



ARTICLE

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Metal-encapsulated organolead halide perovskite photocathode for solar-driven hydrogen evolution in water

Micaela Crespo-Quesada¹, Luis M. Pazos-Outón², Julien Wörner¹, Moritz F. Kuehnel¹, Richard H. Friend¹ & Erwin Reisner^{1*}

ARTICLE

Society is facing a number of pressing issues, such as the rapidly increasing energy demand, as demonstrated by the fact that the world's energy demand is expected to grow by 50% by 2035. On the other hand, artificial photosynthesis offers a promising method for producing the fuel energy conversion ratio is not reversible. It is a direct bandgap material that is suitable for use in the near-infrared region of the spectrum, and its band structure is suitable for use in the near-infrared region of the spectrum.

Recent organic-inorganic perovskites are of great interest as a replacement for silicon in solar cells. These materials have a band structure that is suitable for use in the near-infrared region of the spectrum, and their band structure is suitable for use in the near-infrared region of the spectrum.

Despite the great promise of perovskites, the major challenge they are inherently unstable in water. This is due to the fact that the lattice structure of CH₃NH₃PbBr₃ is unstable in the presence of moisture, which leads to the decomposition of the material into PbBr₂ and CH₃NH₃Br.

However, these techniques are either complex and difficult to scale-up, or they are costly and difficult to scale-up. As a result, the use of perovskites in solar cells is still limited to laboratory-scale devices.

In this work, we report the successful integration of a hydrogen evolution catalyst (HEC) with a perovskite-based photocathode in a single device capable of stable photoelectrochemical (PEC) operation in water. We prepare photocathodes using CH₃NH₃PbBr₃ as light harvesters following the standard procedure for the synthesis of perovskites. In order to protect the perovskite, we develop a novel and simple metal-encapsulation technique using a thin layer of Ir:BiSn alloy (HEC) that protects the light absorber from water while simultaneously allowing the efficient transfer of photogenerated electrons to a Pt HEC deposited on its surface.

Results
Perovskite solar cell. With the ultimate goal of protecting a perovskite-based photocathode and integrating a HEC, we firstly prepared perovskite solar cells (see Fig. 1a for a schematic representation and Fig. 1b for its energy diagram). We followed a typical inverted *p-i-n* configuration, where the *p*-type hole collection layer is prepared first on the transparent conducting glass. We spin-coated a 40 nm thick poly(3,4-ethylenedioxythiophene) polyelectrolyte sulfonate (PEDOT:PSS) layer as hole transporting material on fluorene-coated tin oxide

Lead-halide perovskites have triggered the latest breakthrough in photovoltaic technology. Despite the great promise shown by these materials, their instability towards water even in the presence of low amounts of moisture makes them, a priori, unsuitable for their direct use as light harvesters in aqueous solution for the production of hydrogen through water splitting. Here, we present a simple method that enables their use in photoelectrochemical hydrogen evolution while immersed in an aqueous solution. First, a thin Ir:BiSn alloy is used to efficiently protect the perovskite from water while simultaneously allowing the photogenerated electrons to reach a Pt hydrogen evolution catalyst. A record photocurrent density of ~10.5 mA cm⁻² at 0 V versus RHE with an onset potential as positive as 0.8 V vs. RHE is obtained. The photoelectrodes show remarkable stability, retaining more than 80% of their initial photocurrent for ~1 h under continuous illumination.

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PEC cell: 10.5 mA cm⁻² at 0 V, 1.0 e⁻/100 h, 540 ± 2.0% and 27.7 ± 1.3%, respectively. The current-voltage (J-V) curve of our photocathode device, the external quantum efficiency (EQE) and integrated $\int_{\lambda} J_{\text{ph}} d\lambda$ for the same cell are shown in Fig. 2. These results are comparable with previous devices with the same configuration and precursor.¹² The statistical analysis performed on the full set of measurements (Supplementary Fig. 4) can be found in the Supplementary Discussion. We found only a marginal hysteresis effect on the cells (Supplementary Fig. 7). The IV characteristics of the cells did not vary with the scan rate (Supplementary Fig. 8) and the effect of the scan size on the cell performance was small (Supplementary Fig. 9). The standard factor of around 10% between the solar simulator and AM1.5G solar spectra can also be seen in Supplementary Fig. 10.

Protecting perovskite in water. The main drawback of perovskite materials is their inherent instability in water. CH₃NH₃PbBr₃ readily decomposes into PbI₂ with concomitant 4-iodobromobenzonitrile polyelectrolyte sulfonate (PIEDOT:PSS) in this problem is the use of an indirect and two-component

BiVO₄ (ref. 41), which dissolves under extreme conditions at low pH levels and is unstable due to the constant needs in the DM, whereas basic conditions also display good activity and still applicability of the PM protection approach (Fig. 1d).

Stable perovskite photocathode. We have studied a *p-i-n* structure consisting of a perovskite working and an Ag/AgCl reference cell from the Pt track counter electrode by a Pt. Figure 3 shows a typical linear sweep voltammetry (LSV) in aqueous electrolyte solution (0.1 M NaOH) showing typical solar light irradiation in 100 mW cm⁻² (2.400 W m⁻²) revealed an average photocurrent density obtained at 0 V vs. RHE of 10.5 mA cm⁻², with a record device at 0.8 V vs. RHE (see Supplementary Movie 1). The current obtained was 0.95 ± 0.03 V versus RHE.

10.1038/ncom07201 www.nature.com/naturecommunications

L'OPEN ACCESS DANS LA PRATIQUE – GOLD

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– Journals vs Articles

Journals ✕

– Subject

10 count ↓ OR

Language and Literature ✕

Philology. Linguistics (13)

French literature - Italian literature - Spanish literature - Portuguese literature (8)

Romanic languages (4)

Literature (General) (4)

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Social sciences (General) (2)

Language. Linguistic theory. Comparative grammar (2)

History of scholarship and learning. The humanities (2)




Anthropology (2)

Subject: Language and Literature ✕ Journals vs Articles: Journals ✕ Full Text language: French ✕

1 – 10 of 87 →

 **Ibérica**  
ISSN: 1139-7241 (Print); 2340-2784 (Online)
<http://www.aelfe.org>
Blind peer review
Subject: Language and Literature: Philology. Linguistics
Date added to DOAJ: 11 Sept 2006

 **Synergies Monde Arabe**  
ISSN: 1766-2796 (Print); 2261-1045 (Online)
<http://gerflint.fr/synergies-monde-arabe>
Double blind peer review
Subject: Language and Literature
Date added to DOAJ: 31 Oct 2011

 **ReS Futuræ : Revue d'Études sur la Science-fiction**  
ISSN: 2264-6949 (Online)
<http://resf.revues.org/>
Double blind peer review
Subject: Language and Literature
Date added to DOAJ: 28 May 2013

L'OPEN ACCESS DANS LA PRATIQUE – GREEN



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One journal found when searched for: **european comic art**

Journal:	European Comic Art [1] (ISSN: 1754-3797, ESSN: 1754-3800)
RoMEO:	This is a RoMEO white journal
Paid OA:	A paid open access option is available for this journal.
Author's Pre-print:	author cannot archive pre-print (ie pre-refereeing)
Author's Post-print:	subject to Restrictions below , author can archive post-print (ie final draft post-refereeing)
Restrictions:	<ul style="list-style-type: none">• 2 years embargo
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Mandated OA:	<i>(Awaiting information)</i>
Paid Open Access:	Gold Open Access
Notes:	<ul style="list-style-type: none">• Publisher last reviewed on 08/11/2016
Copyright:	Policy
Updated:	08-Nov-2016 - Suggest an update for this record
Link to this page:	http://www.sherpa.ac.uk/romeo/issn/1754-3797/
Published by:	Liverpool University Press [University Publisher] - White Policies in RoMEO
Other parties:	<ol style="list-style-type: none">1. Berghahn Journals: 24 months [Commercial Publisher] - Yellow Policies in RoMEO2. American Bande Dessinée Society [Associate Organisation]3. International Bande Dessinée Society [Associate Organisation]

<http://www.sherpa.ac.uk/romeo/issn/1754-3797/>

L'OPEN ACCESS DANS LA PRATIQUE – MONOGRAPHIES

OUTILS DISCOVERY POUR LES LIVRES EN OPEN ACCESS

Connaître les éditeurs qui travaillent en OA



3568 saisies en Français.



85 saisies en Français, 2222 en Anglais.
Archive avec les full text pour accès
gratit et libre.



Directoire: métadonnées seulement.
9132 titres avec accès libre, 230
éditeurs.
Service de découverte.

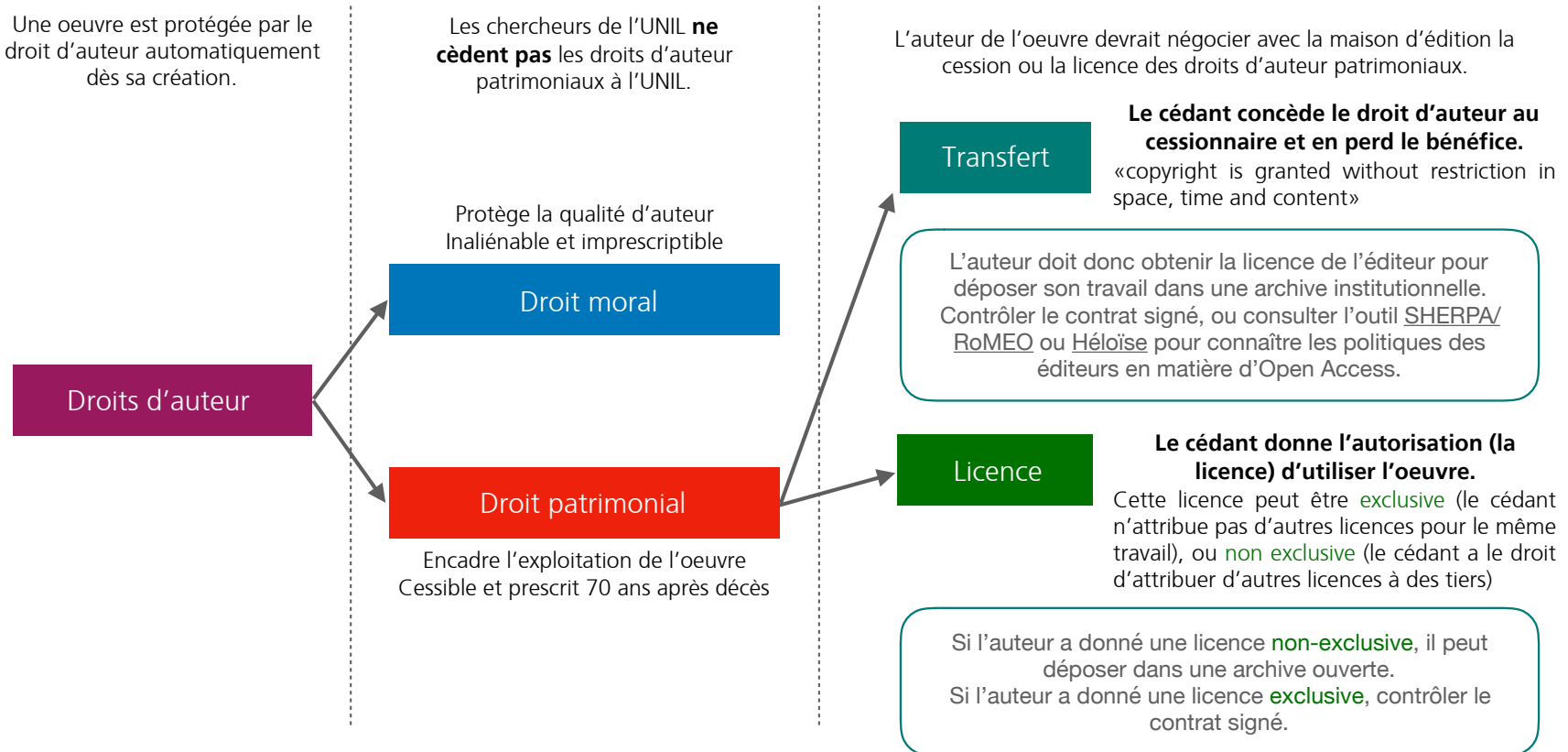
L'OPEN ACCESS ET LE DROIT D'AUTEUR

Le droit d'auteur et l'Open Access

Une oeuvre est protégée par le droit d'auteur automatiquement dès sa création.

Les chercheurs de l'UNIL **ne cèdent pas** les droits d'auteur patrimoniaux à l'UNIL.

L'auteur de l'oeuvre devrait négocier avec la maison d'édition la cession ou la licence des droits d'auteur patrimoniaux.



Dr. Micaela Crespo - Responsable OA UNIL - micaela.crespo@unil.ch

Ce document ne représente pas un avis légal. Il a pour objectif de décrire, à larges traits, les principes du droit d'auteur en relation à l'Open Access


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POURQUOI L'OPEN ACCESS?



Visibilité

Le libre accès augmente la visibilité de votre travail. Plusieurs études démontrent la visibilité et la portée internationale des articles et des monographies sur le libre accès. aux [articles](#) et [monographies](#).



Impact

On peut dire la même chose de l'impact des publications en libre accès. SPARC Europe dispose d'une [liste](#) d'études qui montrent l'avantage de citation des articles en libre accès dans toutes les disciplines.



Transparence et recherche responsable

L'ouverture de l'ensemble du cycle de recherche favorise des pratiques de recherche responsables, ce qui permet d'obtenir des résultats plus reproductibles.



Démocratisation du savoir

Le fossé géographique et institutionnel en matière d'accès est comblé, ce qui permet de fournir les connaissances là où elles sont le plus utiles. Les publications en libre accès n'entraînent aucun coût d'accès, et certaines formes d'accès libre n'entraînent aucun coût de publication pour les auteurs.

OPEN ACCESS À L'UNIL

Portail web: <https://www.unil.ch/openscience/>

The screenshot shows the UNIL Open Access portal. At the top left is the UNIL logo and the text "UNIL | Université de Lausanne". To the right are navigation links: "UNIL", "L'Actu", "L'Agenda", "Campus pratique", "MyUNIL", "Facultés", and language options "EN" and "FR". A search icon and "Recherche" are also present. Below the header is the main title "L'Open Science à l'UNIL" and a blue navigation bar with "Open Access", "Données de recherche", "Événements", and "Contact". A breadcrumb trail reads "Vous êtes ici: UNIL > L'Open Science à l'UNIL > Open Access". On the left is a sidebar menu with links: "Qu'est-ce que l'Open Access ?", "Comment publier en Open Access", "Mandats Open Access", "Open Access à l'UNIL", "SERVAL", and "FAQ". The main content area features a large image of a library with an "Open Access" lock icon overlaid. To the right of the image are social media icons and the text "Suivez nous:". Below the image is a definition: "L'Open Access, ou accès libre, est la littérature scientifique librement et immédiatement disponible sur internet avec des droits de réutilisation complets." Underneath is a "Consultez..." section with six colored tiles: "Qu'est-ce que l'Open Access?", "Comment publier en Open Access?", "SERVAL", "Mandats Open Access", "Open Access à l'UNIL", and "FAQ".

DONNÉES DE RECHERCHE

Une INTRODUCTION formelle



ESSAIS DE DÉFINITIONS

« [...] Enregistrements factuels (chiffres, textes, images et sons), qui sont utilisés comme sources principales pour la recherche scientifique et sont généralement reconnus par la communauté scientifique comme nécessaires pour valider des résultats de recherche. »

- (OCDE, 2007)

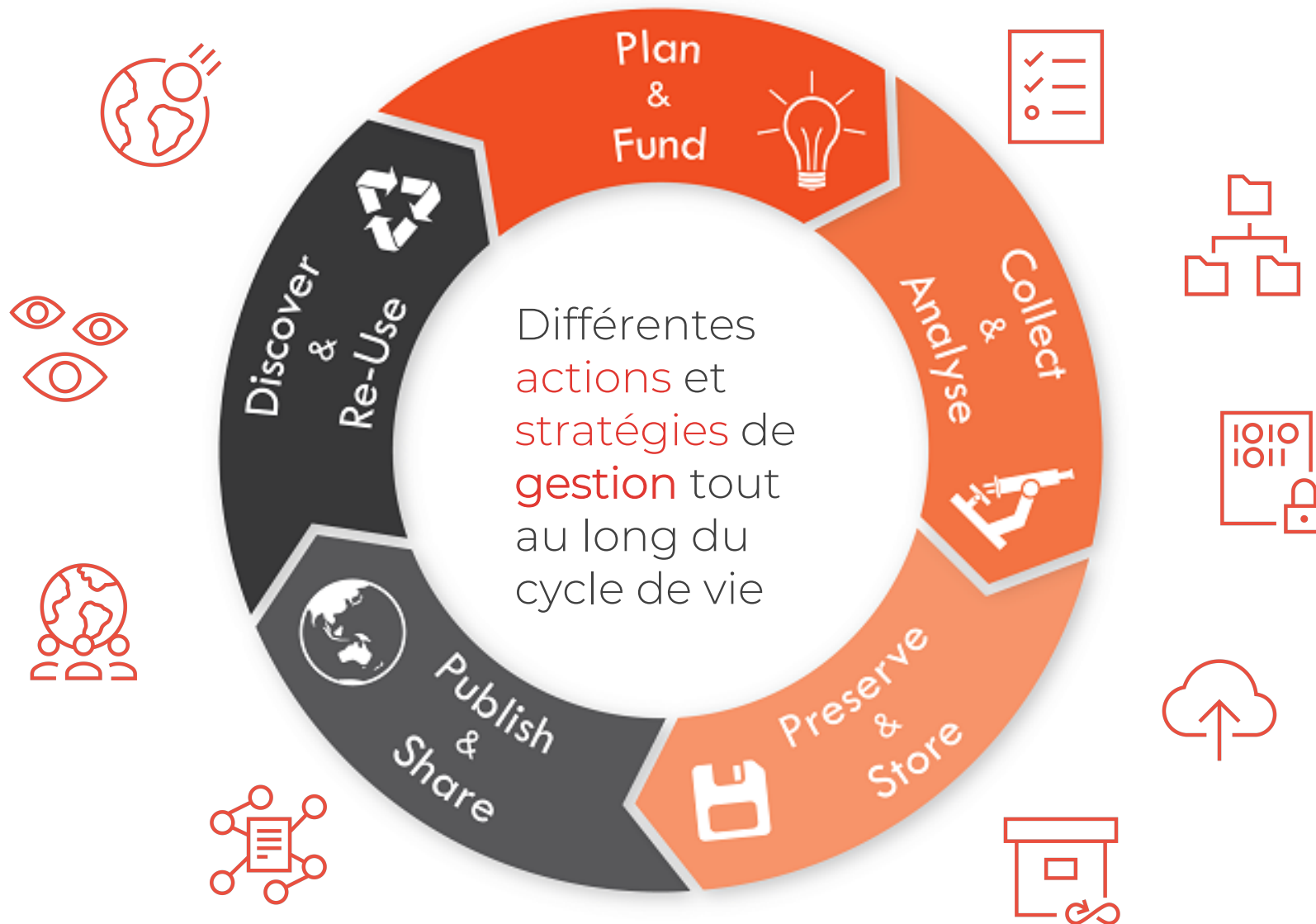
[Principes et lignes directrices de l'OCDE pour l'accès aux données de la recherche financée sur fonds publics](#)



Les données de recherche sont...

- Collectées (données existantes) et produites (nouvelles données) durant le projet de recherche
- Hétérogènes (nature, type, format, volume, etc.)
- Dépendent fortement du projet / discipline
- ± Associées aux résultats de recherche

LE CYCLE DE VIE DES DONNÉES DE RECHERCHE



POURQUOI GÉRER SES DONNÉES DE RECHERCHE ? (I)



Cadre légal & réglementaire



Exigences des bailleurs de fonds



Data Policies des éditeurs scientifiques

Contact

Emplois & mandats

Events

Organisation

Partenaires

Points de vue

- Coopération internationale
- Déclaration DORA
- Égalité
- Encouragement de la relève
- Expérimentation animale
- Intégrité scientifique

Open Research Data



OpenAIRE Horizon2020 FactSheets

Open Research Data Pilot in Horizon 2020 How can OpenAIRE help?

What is the Open Research Data Pilot?

Open data is data that is free to use, reuse, and redistribute. The Open Research Data Pilot aims to make the research data generated by Horizon 2020 projects open. Starting from 2017 participating in the pilot will be the default option, requirements are:

- Develop (and keep up-to-date) a Data Management Plan (DMP).
- Deposit your data in a research data repository.
- Make sure third parties can freely access, mine, exploit, reproduce and disseminate it.
- Make clear what tools will be needed to use the raw data to validate research results (or provide the tools themselves).

The pilot applies to:

- ▶ the data (and metadata) needed to validate results in scientific publications.
- ▶ other curated and/or raw data (and metadata) that you specify in the DMP.

Concordat on Open Research Data

The Concordat on Open Research Data has been developed by a UK multi-stakeholder group. This concordat will help to ensure that the research data gathered and generated by members of the UK research community is made openly available for use by others wherever possible in a manner consistent with relevant legal, ethical, disciplinary and regulatory frameworks and norms, and with due regard to the costs involved.



PLOS Data Policy Prior to March 3, 2014

Manuscripts submitted to all PLOS journals prior to March 3, 2014 must adhere to the previous PLOS data policy provided below. These manuscripts were not required to include a Data Availability Statement with data availability information.

All manuscripts submitted after March 3, 2014 must include a Data Availability Statement with data availability information in adherence to the current PLOS Data Policy (journals.plos.org/plosone/s/data-availability).

Sharing of Materials, Methods, and Data

Publication is conditional upon the agreement of the authors to make freely available any materials and information described in their publication that may be reasonably requested by others for the purpose of academic, non-commercial research.

POURQUOI GÉRER SES DONNÉES DE RECHERCHE ? (II)

Cf. diapo #23 ;-)



Visibilité



Impact et nouvelles découvertes



Recherche intègre, responsable, reproductible,
transparente, valide et de qualité



Démocratisation du savoir et Science citoyenne



PLANIFIER LA GESTION : LE DATA MANAGEMENT PLAN (DMP) OU PLAN DE GESTION DES DONNÉES

En guise d'introduction, visionnons cette courte vidéo !

[La minute plan de gestion de données \(Data Management Plan\)](#). Doranum, 2017

En bref, le DMP vise à :

- Amorcer la réflexion sur ses pratiques de recherche
- Planifier la gestion de ses données de recherche
- Anticiper certaines problématiques spécifiques
- Évaluer les coûts et ressources nécessaires
- Préparer son projet en conséquence

LE MODÈLE DE DMP DU FNS

1. Collecte des données et documentation

- ❏ ! 1.1 Quelles données allez-vous collecter, étudier, générer ou réutiliser ?
- ❏ ! 1.2 Comment les données seront-elles recueillies, étudiées ou générées ?
- ❏ ! 1.3 Quelle documentation et quelles métadonnées allez-vous fournir avec les données ?

2. Questions éthiques, légales et de sécurité

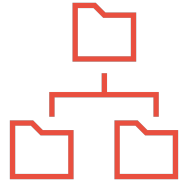
- ❏ ! 2.1 Comment les questions éthiques seront-elles abordées et traitées ?
- ❏ ! 2.2 Comment seront gérés l'accès aux données et la sécurité ?
- ❏ ! 2.3 Comment allez-vous gérer les questions de droits d'auteur et de propriété intellectuelle ?

3. Stockage et préservation des données

- ❏ ! 3.1 De quelle manière vos données seront-elles stockées et sauvegardées au cours de la recherche ?
- ❏ ! 3.2 Quel est votre plan en matière de conservation des données ?

4. Partage et réutilisation des données

- ❏ ! 4.1 De quelle manière et où seront partagées les données ?
- ❏ ! 4.2 Y a-t-il des restrictions nécessaires pour protéger les données sensibles ?
- ❏ ! 4.3 Je confirme que je choisirai exclusivement des bases de données (repositories) numériques conformes aux FAIR Data Principles
- ❏ ! 4.4 Les bases de données (repositories) choisies pour le dépôt des données sont gérées par une organisation à but non lucratif.



BONNES PRATIQUES (I) : ORGANISATION & DOCUMENTATION

À quoi faut-il faire attention ?

- Arborescence classificatoire des dossiers et fichiers
- Règles de nommage des fichiers
- Gestion des versions

FG1_CONS_2010-02-12.rtf

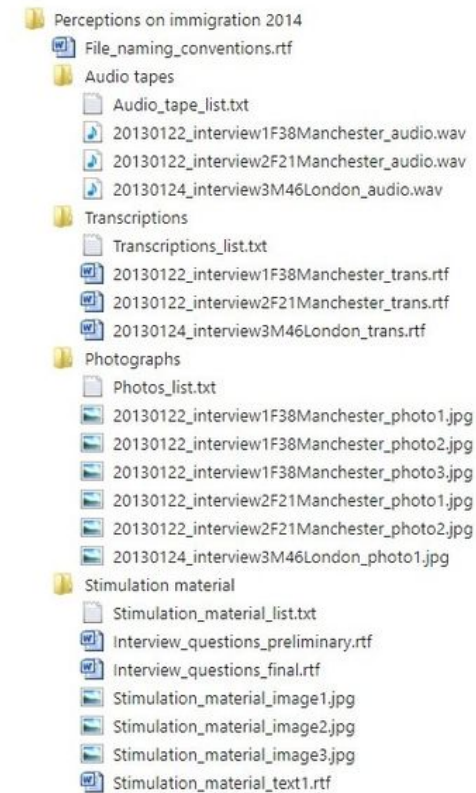
Int024_AP_2008-06-05.doc

BDHSurveyProcedures_00_04.pdf

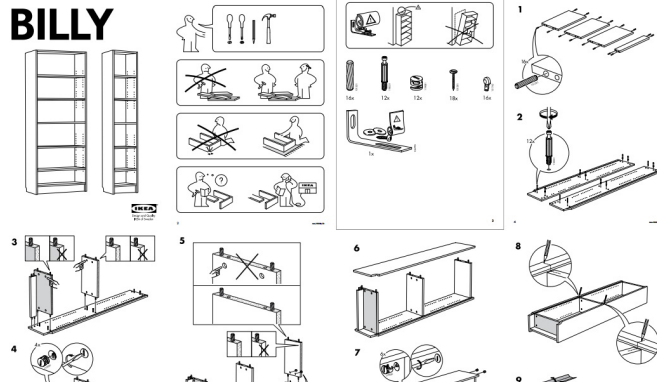
ESS_wave8_survey_e01v02

Medics_survey_2015_e02_v02_Sociology_UNIL

- Documenter ses données
- Utiliser des métadonnées standardisées



BILLY

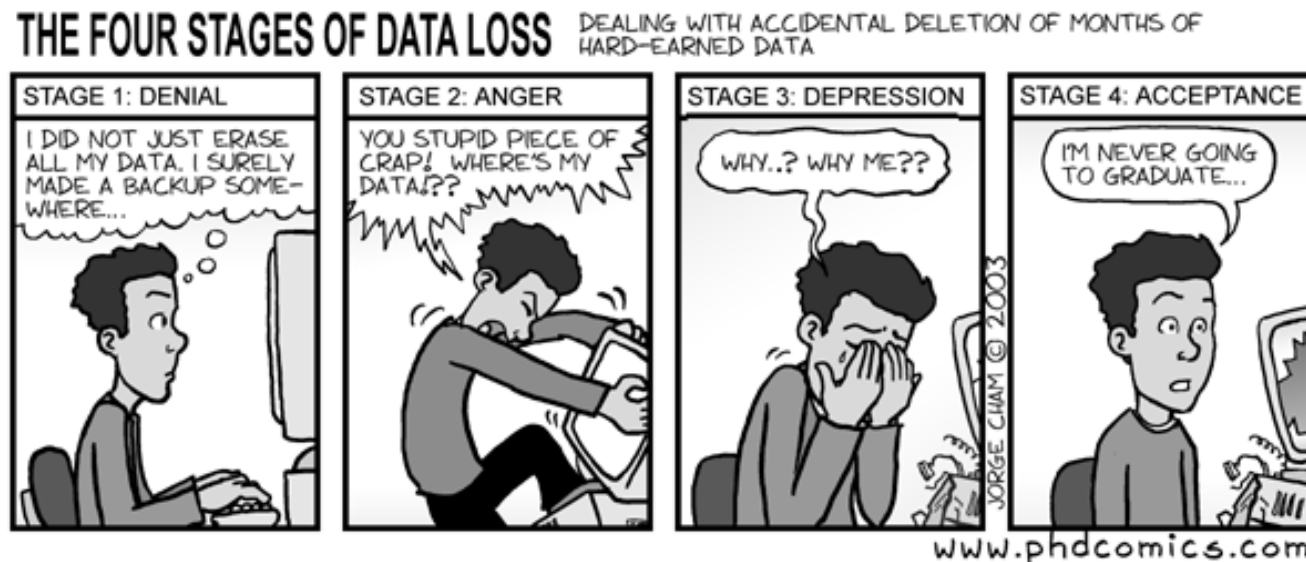




BONNES PRATIQUES (II) : STOCKAGE & SÉCURITÉ

Quelques recommandations :

- Privilégier les infrastructures institutionnelles et éviter les solutions commerciales Cloud (Amazon, Dropbox, Google, etc.)
- Sauvegardes régulières et multi-supports (règle 3-2-1)
- Identifier les données personnelles ou sensibles nécessitant des mesures techniques spécifiques (ex. cryptage, effacement des données)





BONNES PRATIQUES (III) : PARTAGE, DÉPÔT ET ARCHIVAGE

Partager ses données c'est les déposer !

- Sélection des données à archiver
- Vérifier ses données, les « nettoyer » si nécessaire, les documenter
- Choix de la licence et du dépôt (critères de sélection : exigences des bailleurs de fonds, coût, pérennité, facilité d'utilisation, visibilité, citations, labels qualité, modalités d'accès, formats acceptés, etc.)

Comment trouver un dépôt adapté ?

re3data.org
REGISTRY OF RESEARCH DATA REPOSITORIES

Zenodo

General

Institutions

Terms

Standards

Name of repository	Zenodo
Additional name(s)	Research. Shared
Repository URL	https://zenodo.org/
Subject(s)	Humanities and Social Sciences Life Sciences Natural Sciences Engineering Sciences
Description	<p>ZENODO builds and operates a simple and innovative service that enables researchers, scientists, EU projects and institutions to share and showcase multidisciplinary research results (data and publications) that are not part of the existing institutional or subject-based repositories of the research communities. ZENODO enables researchers, scientists, EU projects and institutions to: easily share the long tail of small research results in a wide variety of formats including text, spreadsheets, audio, video, and images across all fields of science. display their research results and get credited by making the research results citable and integrate them into existing reporting lines to funding agencies like the European Commission. easily access and reuse shared research results.</p>
Contact	<p>info@zenodo.org https://zenodo.org/contact</p>
Content type(s)	Standard office documents Networkbased data Images Structured graphics Audiovisual data Scientific and statistical data formats Raw data Plain text Structured text Archived data other Source code
Keyword(s)	multidisciplinary FAIR
Persistent identifier(s) of the repository	<p>RRID:SCR_004129 RRID:nlx_158614</p>

Binary black-hole surrogate waveform catalog

Scott E. Field; Chad R. Galley; Jan S. Hesthaven; Jason Kaye; Manuel Tiglio; Jonathan Blackman; Béla Szilágyi; Mark A. Scheel; Daniel A. Hemberger; Patricia Schmidt; Rory Smith; Christian D. Ott; Michael Boyle; Lawrence E. Kidder; Harald P. Pfeiffer; Vijay Varma

This repository contains all publicly available numerical relativity surrogate data for waveforms produced by the [Spectral Einstein Code](#). The base method for building surrogate models can be found in [Field et al., PRX 4, 031006 \(2014\)](#).

Several numerical relativity surrogate models are currently available in this catalog:

1. SpEC_q1_10_NoSpin_nu5thDegPoly_exclude_2_0.h5 — A surrogate model for binary black hole mergers with non-spinning black holes. This is described in [Blackman et al., PRL 115, 121102 \(2015\)](#). It is evaluated with the gwsurrogate python package, which can be found on [PyPI](#). Instructions for evaluating this surrogate can be found in tutorials included with the gwsurrogate package and in this [example IPython code](#).
2. NRSur4d2s_FDROM_grid12.h5 and NRSur4d2s_TDROM_grid12.h5 — These are fast frequency-domain and time-domain (respectively) surrogate models for binary black hole mergers where the black holes may be spinning, but the spins are restricted to a parameter subspace which includes some but not all precessing configurations. NRSur4d2s_FDROM_grid12.h5 is the NRSur4d2s_FDROM model described in [Blackman et al., PRD 95, 104023, \(2017\)](#), and NRSur4d2s_TDROM_grid12.h5 is built from the underlying (slower) NRSur4d2s time-domain model in the same way but without the FFTs. These surrogates are also evaluated using gwsurrogate, and a tutorial can be found in this [example IPython code](#).
3. NRSur7dq2.h5 — This is a surrogate model for binary black hole mergers with generic spins. A paper describing it can be found at [Blackman et al., PRD 96, 024058 \(2017\)](#). This surrogate is evaluated through a standalone python package contained in NRSur7dq2.tar.gz, which has simple installation instructions in its README file. A tutorial can be found for evaluating this surrogate in this [example IPython code](#).

If you find these surrogate models useful in your own research please cite the Field et al., PRX (2014) paper as well as the relevant paper describing the specific numerical relativity surrogate model, if available (e.g., the Blackman et al. 2015 paper for non-spinning binary black hole coalescences).

Caveats:

559

views

355

downloads

[See more details...](#)

Indexed in


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September 24, 2018

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<https://zenodo.org/record/1435751>

Caveats:

1. Evaluating surrogate models outside of the ranges they were trained upon may give inaccurate results. Please use with caution when extrapolating.
2. The surrogate data available here for non-spinning binary black holes produced in Blackman et al. 2015 contains the (2,0) mode. However, this mode was not used in the paper. While this surrogate can predict a (2,0) mode, current numerical relativity simulations may not yet be able to accumulate (non-oscillatory) Christodoulou memory sufficiently. The surrogate (2,0) mode is founded upon basis SpEC waveforms that have been hybridized with leading order post-Newtonian waveforms. Therefore, the (2,0) mode can be included in the mode's output but should be used with caution. Currently, the default option to evaluate this surrogate (using GWSurrogate) is to exclude all $m=0$ modes.

Files (19.6 GB) ▼		
Name	Size	
GWSurrogate_example.html	297.1 kB	Download
md5:ab3c4cbfc5813e451d24faea232b8985 ?		
NRSur4d2s_FDRom_grid12.h5	9.9 GB	Download
md5:ec8bf594c36ba76e1198dfc01ee1861f ?		
NRSur4d2s_TDRom_grid12.h5	9.4 GB	Download
md5:44fba833b6b3a0f269fc788df181dfd4 ?		
NRSur4d2s_tutorial.html	388.0 kB	Download
md5:13d56aac42fece1c5f1598c4f64888ef ?		
NRSur7dq2.h5	11.3 MB	Download
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CONCLUSIONS

