

# Beyond Open Access: SciPost

*Trieste, 22 October 2019*

**Jean-Sébastien Caux**

*Institute of Physics  
University of Amsterdam*



# Plan of the talk

Live slides at [jscaux.org/talks/](https://jscaux.org/talks/) -> Trieste -> html

- SciPost
- Our infrastructure
- Publishing
- Plan S
- Metrics
- Conclusion

## What is it?

A complete publishing portal  
*(from preprint to metadata curation)*

## Who runs it?

Professional scientists  
*(is and will remain grassroots)*

## What does it offer?

- Journals
- Commenting
- Metadata services

## Summary?

- Openness
- Quality

## What does it aim to achieve?

*A complete reform of publishing at all levels*

- Implement Genuine Open Access
  - two-way: free for readers, free for authors*
- Implement a healthier business model
  - *strict editorial/financial decoupling*
  - *no profit-making on the back of scientists*
  - *consortial model; not based on APCs*
- Modernize the refereeing procedure
  - *open; more credit to referees*
  - *streamline post-publication feedback*
- Reform impact assessment

# Genuine Open Access Principles

## Genuine Open Access Principles

[CO]	<b>Community Ownership</b>	The Journal has a transparent community-anchored ownership structure, and is controlled by and responsive to the scholarly community.
[OI]	<b>Open Infrastructure</b>	The infrastructure for operating the Journal belongs to, and is open sourced to the community. The entire technological stack and all operating protocols are documented and made easily transferable between community owners.
[CA]	<b>Copyright to authors</b>	Authors of articles in the Journal retain copyright. The Journal assists authors in protecting their rights in case of infringement.
[OA]	<b>Open Access</b>	All articles are published open access and an explicit open access licence is used which is preferably <a href="#">Approved for Free Cultural Works</a> .
[OC]	<b>Open Citations</b>	The Journal makes its citation metadata openly accessible by actively participating in the <a href="#">Initiative for Open Citations</a> .
[FF]	<b>Fee Free</b>	Submission, peer evaluation and publication are not conditional in any way on the payment of a fee from authors or their employing institution, or on membership of an institution or society.
[NP]	<b>Non Profit</b>	The Journal publisher's operations are entirely non profit.
[OF]	<b>Open Finances</b>	The Journal's finances are openly published and available for public scrutiny.
[AE]	<b>Academic Editing</b>	The editorial processes of the Journal are run by the community, and all editorial decisions are taken by active professional scientists, using exclusively academic scholarship-based criteria.

## Latest Publications

Condensed Matter Physics - Theory

### Foliated fracton order from gauging subsystem symmetries

Wilbur Shirley, Kevin Slagle, Xie Chen

SciPost Phys. 6, 041 (2019) · published 2 April 2019

Condensed Matter Physics - Theory

### Comparing many-body approaches against the helium atom exact solution

Jing Li, N. D. Drummond, Peter Schuck, Valerio Olevano

SciPost Phys. 6, 040 (2019) · published 1 April 2019

High-Energy Physics - Theory

### Comments on one-form global symmetries and their gauging in 3d and 4d

Po-Shen Hsin, Ho Tat Lam, Nathan Seiberg

SciPost Phys. 6, 039 (2019) · published 29 March 2019

[View all Publications](#)

## Latest Submissions

Quantum Physics

### Reproducing topological properties with quasi-Majorana states

by A. Vuik, B. Nijholt, A. R. Akhmerov, M. Wimmer

Submitted 2019-03-31 to SciPost Physics

Mathematical Physics

### Thermodynamic limit of the two-spinon form factors for the zero field XXX chain

by Nikolai Kitanine, Giridhar Kulkarni

Submitted 2019-03-28 to SciPost Physics

Atomic, Molecular and Optical Physics - Experiment

### Sub-Doppler laser cooling of $^{39}\text{K}$ via the $4S \rightarrow 5P$ transition

by Govind Unnikrishnan, Michael Gröbner, Hanns-Christoph Nägerl

Submitted 2019-03-26 to SciPost Physics

[View all Submissions](#)

## Our future: Plan SciPost

It is time for us to be bold and unleash the next steps in our implementation plans.

[Read more here](#)

## Register

Professional scientists (PhD students and above) can become Contributors to SciPost by filling the [registration form](#).

## News

### SciPost top of the class at Crossref metadata

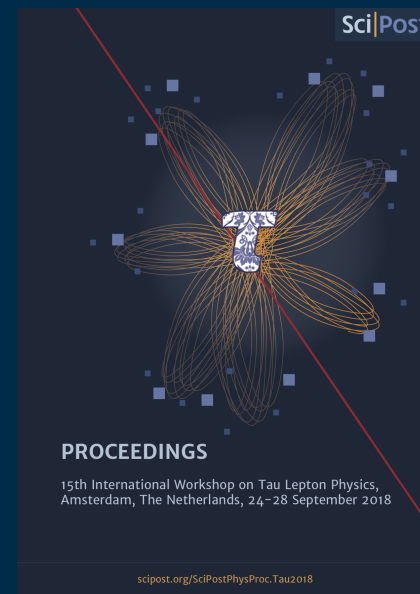
27 March 2019

An independent study of scientific metadata collections has recently highlighted the quality of our publishing services. According to Dr Habermann (Boulder, Colorado), SciPost has the most complete metadata of all 8670 CrossRef members with current collections of journal articles.

## Journals

- SciPost Physics
- SciPost Physics Core
- SP Lecture Notes
- SP Proceedings

~400 publications  
as of now



# SciPost Physics

## Recent Issues

All Issues

SciPost Physics Vol. 6 issue 5  
May 2019

SciPost Physics Vol. 6 issue 4  
April 2019

SciPost Physics Vol. 6 issue 3  
March 2019

SciPost Physics Vol. 6 issue 2  
February 2019

SciPost Physics Vol. 6 issue 1  
January 2019

## Subject area

Show all

Atomic, Molecular and Optical Physics –  
Experiment

Atomic, Molecular and Optical Physics –  
Theory

Biophysics

Condensed Matter Physics – Experiment

Condensed Matter Physics – Theory

Condensed Matter Physics –  
Computational

Fluid Dynamics

## Publications

Order by: [publication date](#) [number of citations](#)

### Emergent Gravity and the Dark Universe

Erik P. Verlinde

72 citations

SciPost Phys. 2, 016 (2017) · published 16 May 2017 | [Toggle abstract](#) · [pdf](#)

### Conformal field theory for inhomogeneous one-dimensional quantum systems: the example of non-interacting Fermi gases

Jérôme Dubail, Jean-Marie Stéphan, Jacopo Viti, Pasquale Calabrese

56 citations

SciPost Phys. 2, 002 (2017) · published 13 February 2017 | [Toggle abstract](#) · [pdf](#)

### A note on generalized hydrodynamics: inhomogeneous fields and other concepts

Benjamin Doyon, Takato Yoshimura

45 citations

SciPost Phys. 2, 014 (2017) · published 22 April 2017 | [Toggle abstract](#) · [pdf](#)

### Energy diffusion and the butterfly effect in inhomogeneous Sachdev-Ye-Kitaev chains

Yingfei Gu, Andrew Lucas, Xiao-Liang Qi

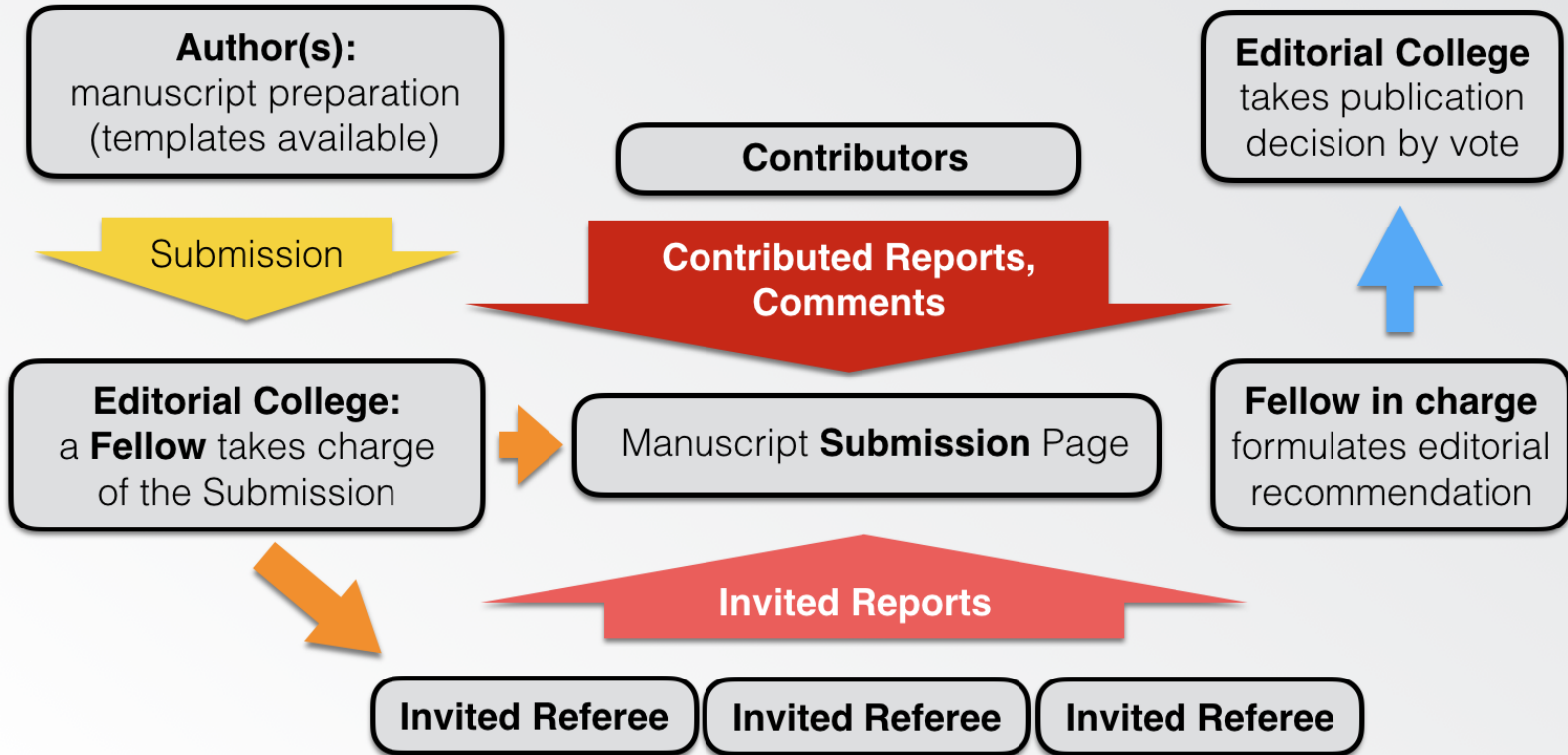
35 citations

SciPost Phys. 2, 018 (2017) · published 28 May 2017 | [Toggle abstract](#) · [pdf](#)

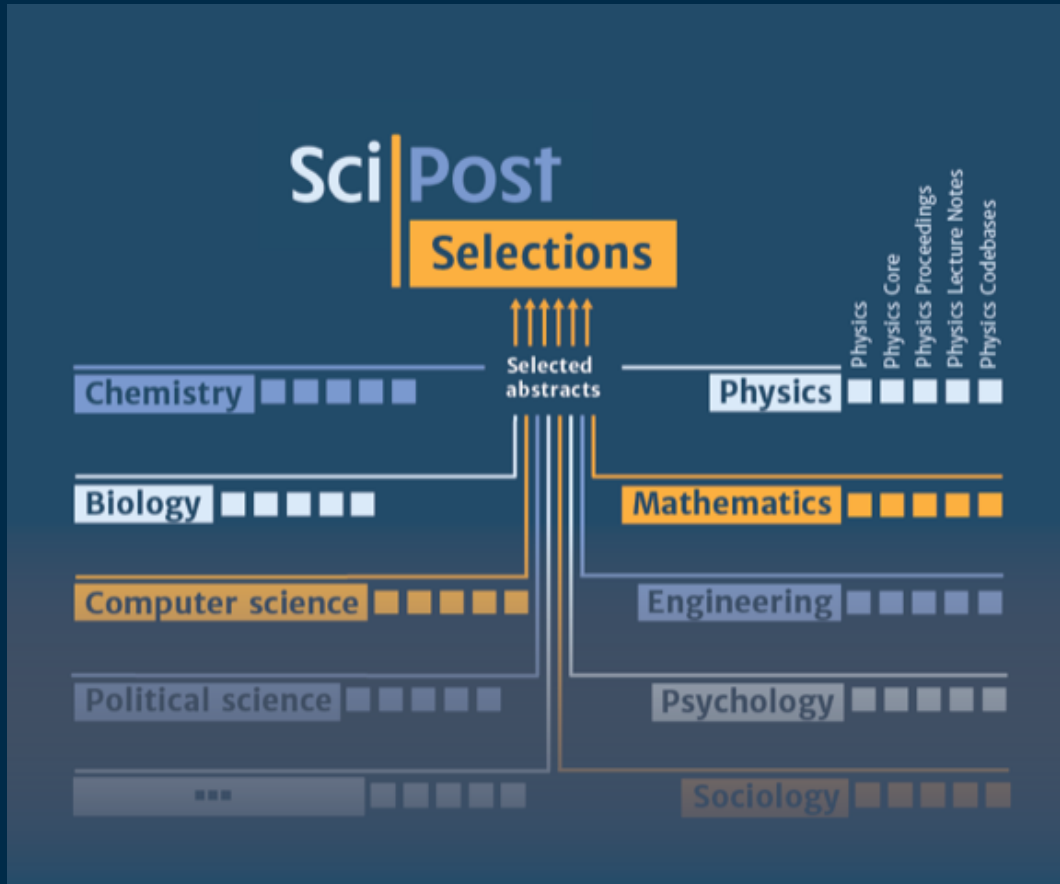


## Editorial flowchart: *peer-witnessed refereeing*

Inspirations: *F1000; ACP, PLOS...*



## Roadmap: immediate future



- Physics upscaling
- Astronomy
- Biology
- Chemistry
- Maths
- Selections
- Codebases
- Metrics
- Meta services

# Roadmap: longer term

Branch of Science	Fields <i>(click to see field-specific detailed list)</i>
Multidisciplinary	<a href="#">Multidisciplinary</a>
Formal Sciences	<a href="#">Mathematics</a> <a href="#">Computer Science</a>
Natural Sciences	<a href="#">Physics</a> <a href="#">Astronomy</a> <a href="#">Biology</a> <a href="#">Chemistry</a> <a href="#">Earth and Environmental Sciences</a>
Engineering	<a href="#">Civil Engineering</a> <a href="#">Electrical Engineering</a> <a href="#">Mechanical Engineering</a> <a href="#">Chemical Engineering</a> <a href="#">Materials Engineering</a> <a href="#">Medical Engineering</a> <a href="#">Environmental Engineering</a> <a href="#">Industrial Engineering</a>
Medical Sciences	<a href="#">Basic Medicine</a> <a href="#">Clinical Medicine</a> <a href="#">Health Sciences</a>
Agricultural Sciences	<a href="#">Agriculture, Forestry and Fisheries</a> <a href="#">Veterinary Science</a>
Social Sciences	<a href="#">Economics</a> <a href="#">Geography</a> <a href="#">Law</a> <a href="#">Media and Communications</a> <a href="#">Pedagogy and Educational Sciences</a> <a href="#">Political Science</a> <a href="#">Psychology</a> <a href="#">Sociology</a>
Humanities	<a href="#">Art (arts, history or arts, performing arts, music)</a> <a href="#">History and Archeology</a> <a href="#">Language and Literature</a> <a href="#">Philosophy, Ethics and Religion</a>

# SciPost's infrastructure

Based exclusively on Free Software

## Tech stack:

SciPost's main software systems are all built from scratch, in-house

- Django *[Python web framework]*
- PostgreSQL *[database engine]*
- Node.js *[server-side javascript]*
- Bootstrap *[frontend]*
- MathJax *[LaTeX javascript engine]*
- Gitea *[git repo hub]*
- Haystack, Celery, RabbitMQ, Flower...



# Welcome to SciPost's code repositories

This site is the anchor for all the code repositories relevant to the operations of the [SciPost.org](https://scipost.org) scientific publication portal.

## Interested in contributing?

Are you knowledgeable in modern web technology based on a Django + Postgresql stack?

Do you have working familiarity with academia in general, and scientific publishing in particular?

If you would like to join our core team of developers, please send an email to the project leader [Prof. J.-S. Caux](mailto:jscaux@scipost.org) with your CV, personal details and motivations.

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Code

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SciPost's codebase.

Manage Topics

4570 Commits

9 Branches

Branch: master

New Pull Request

New File

Upload File

HTTPS

SSH

https://code.scipost.org/scip



J.-S. Caux

cf3736c5d0

Merge branch 'dev\_JSC\_20190513\_simplifiedReport'

1 day ago



SciPost\_v1

Remove unused django-simple-captcha app

3 days ago



colleges

Beautify Colleges page

1 day ago



commentaries

Replace lots more django.core.urlresolvers by django.urls

4 days ago



comments

Replace lots more django.core.urlresolvers by django.urls

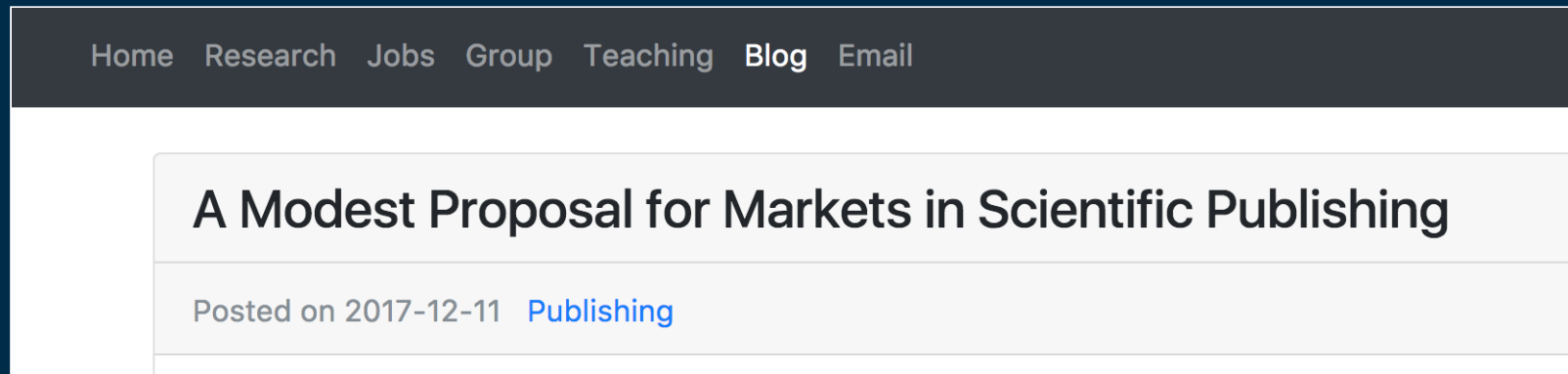
4 days ago

**Let's now talk**  
*business...*

# I love markets!

*(heck, I'm from Canada, I even trained as a stock broker)*

**Markets work well... *except when they don't***



**Publishing: prime example of capitalism  
propped up by socialism**



# Classifying publishing business models

Home Research Jobs Group Teaching Blog Email

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**Noble metals for a noble cause**

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Posted on 2017-09-20 [Publishing](#)

**Gold [Au]**

APC-based financing

**Platinum [Pt]**

publisher does not apply any charges to authors (APCs, submission charges or any other), and is funded through a consortial scheme or equivalent

**Palladium [Pd]**

publisher runs a purely not-for-profit public enterprise: none of its activities generate any profit, and all financial statements are publicly disclosed

**Iron [Fe]**

subscription-based financing, or pay-to-read

**Lead [Pb]**

editorial and financial aspects are not hermetically decoupled

Grade	Principle	Characteristics
<b>10-karat</b>	<i>generosity to readers: open access</i>	<ul style="list-style-type: none"> <li>• make full text of publications freely available to readers (<a href="#">Creative Commons</a> license)</li> </ul>
<b>14-karat</b>	<i>generosity to authors: copyright, embargo</i>	<ul style="list-style-type: none"> <li>• copyright is given to the authors without restrictions</li> <li>• publishing occurs without any embargo period</li> </ul>
<b>18-karat</b>	<i>generosity to users: reuse, remix, crawl, citations</i>	<ul style="list-style-type: none"> <li>• publication license allows reuse and remixing of content (CC BY, BY-SA or BY-NC licenses)</li> <li>• publisher allows text mining (software/spiders can automatically crawl journal content)</li> <li>• publisher makes its citation data publicly available (ideally via participation in <a href="#">I4OC</a>)</li> </ul>
<b>22-karat</b>	<i>generosity to reviewers: open reports</i>	<ul style="list-style-type: none"> <li>• refereeing reports are openly visible and citable</li> </ul>
<b>24-karat</b>	<i>generosity to community: academic control</i>	<ul style="list-style-type: none"> <li>• the entire responsibility for publication decisions is in the hands of active professional scientists</li> </ul>

## A useful exercise

Educate yourself on the business model of publishers you:


- publish with
- referee for
- perform editorial work for

*Watch out for wolves in sheep's clothing*

## SciPost's business model

- no APCs, no subscriptions [*Platinum*]
- fully not-for-profit operations [*Palladium*]
- costs: about €400 per publication  
*A fraction of the current norm!*
- consortial model: donations  
(inspirations: arXiv, OLH, ...)

# Organizations benefitting from our activities

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## Organizations

This page lists Organizations which have benefitted from SciPost's publishing activities.


Organizations are linked through appearing in a publication's author affiliations, grant-giving agencies or explicit support acknowledgements.

For each Organization, the NAP (number of associated publications) is given (you can order in decreasing/increasing NAP using the header arrows).




Click on a row to see more details about the Organization, including per-year breakdowns of:

- associated publications
- associated authors
- partnership history

Click on flag to view by Country



[View all](#)

Country	Name [acronym]	NAP  ^ v	SciPost sponsor?
 [BE] Belgium	European Commission [EC] Parent of: European Regional Development Fund, European Research Council	77	Not yet
 [BE] Belgium	European Research Council [ERC] Parent: European Commission	60	Not yet



## Fonds zur Förderung der wissenschaftlichen Forschung / FWF Austrian Science Fund [FWF]

Parent: [Austrian Academic Library Consortium](#)

[Details](#)[Publications](#)[Associated Authors](#)[Support history](#)

### Publications associated to this Organization:

2019

- [Sub-Doppler laser cooling of  \$^{39}\text{K}\$  via the  \$4S \rightarrow 5P\$  transition](#)  
by Govind Unnikrishnan, Michael Gröbner, Hanns-Christoph Nägerl,  
SciPost Phys. 6, 047 (2019)
- [Quantum null energy condition and its \(non\)saturation in 2d CFTs](#)  
by Christian Ecker, Daniel Grumiller, Wilke van der Schee, Shahin Sheikh-Jabbari, Philipp Stanzer,  
SciPost Phys. 6, 036 (2019)
- [Search for lepton-flavour-violating decays of the  \$Z\$  boson into a  \$\tau\$ -lepton and a light lepton with the ATLAS detector](#)  
by Wing Sheung Chan on behalf of the ATLAS collaboration,  
SciPost Phys. Proc. 1, 048 (2019)
- [Multiloop functional renormalization group for the two-dimensional Hubbard model: Loop convergence of the response functions](#)  
by Agnese Tagliavini, Cornelia Hille, Fabian B. Kugler, Sabine Andergassen, Alessandro Toschi, Carsten Honerkamp,  
SciPost Phys. 6, 009 (2019)
- [Tangent-space methods for uniform matrix product states](#)  
by Laurens Vanderstraeten, Jutho Haegeman, Frank Verstraete,  
SciPost Phys. Lect. Notes 7 (2019)

## The PubFractions System

- Upon publication, authors are asked to apportion a unit of "support credit" between organizations
- These fractions are then linked to the relevant Organizations
- Every year, SciPost computes an average full infrastructure cost per publication
- Organizations can use this to determine their level of support



# The PubFractions System

## Which Organizations supported the research in this publication?

Please indicate **which Organizations should be credited with supporting the research published in this publication.**

Data provided here is indicative and does not need to be extremely accurate.

Note however that this data **is used** to set the suggested level of support from external Organizations which SciPost needs to remain sustainable.

The Organizations listed here appear as either host institutions for the authors, or as acknowledged funders.

Is the list of Organizations incomplete? [Please email EdAdmin with details.](#)

Organization	Fraction
Erwin Schrödinger International Institute for Mathematics and Physics	0.100
Ghent University	0.200
Government of Canada	0.200
Ministry of Research, Innovation and Science - Ontario	0.200
Agence Nationale de la Recherche	0.100
Laboratoire de Physique Théorique	0.100
King's College London	0.100

These fractions **have been confirmed** by the authors.

# PubFractions: visible by sponsors

 [FR] France

Centre National de la Recherche Scientifique / French National Centre for Scientific Research [CNRS]

Parent of: Aix-Marseille University, Laboratoire de Physique Théorique de la Matière Condensée, Université Pierre et Marie Curie, École Polytechnique

Details

Publications & PubFractions

Associated Authors

Support history

Contacts

Events

Publications associated to this Organization (with total PubFractions 

2019 (total pubfractions: 1.900)

- [Conformal field theory on top of a breathing one-dimensional gas of hard core bosons](#)  
by Paola Ruggiero, Yannis Brun, Jérôme Dubail,  
SciPost Phys. 6, 051 (2019)  
Pubfraction: 0.500
- [Equilibrium fluctuations in maximally noisy extended quantum systems](#)  
by Michel Bauer, Denis Bernard, Tony Jin,  
SciPost Phys. 6, 045 (2019)  
Pubfraction: 0.300
- [Search for lepton-flavour-violating decays of the  \$Z\$  boson into a  \$\tau\$ -lepton and a light lepton with the ATLAS detector](#)  
by Wing Sheung Chan on behalf of the ATLAS collaboration,  
SciPost Phys. Proc. 1, 048 (2019)  
Pubfraction: 0.000
- [Status of DUNE](#)  
by Alessandra Tonazzo on behalf of the DUNE Collaboration,  
SciPost Phys. Proc. 1, 043 (2019)  
Pubfraction: 0.700
- [Latest results of the OPERA experiment on  \$\nu\$ -tau appearance in the CNGS neutrino beam](#)  
by N. Agafonova, A. Alexandrov, A. Anokhina, S. Aoki, A. Ariga, T. Ariga, A. Bertolin, C. Bozza, R. Brugnera, A. Buonauro, S. Buontempo, M. Chernyavskiy, A. Chukanov, L. Consiglio, N. D'Ambrosio, G. De Lellis, M. De Serio, P. del Amo Sanchez, A. Di Crescenzo, D. Di Ferdinando, N. Di Marco, S. Dmitrievsky, M. Dracos, D. Duchesneau, S. Dusini, T. Dzhatdoev, J. Ebert, A. Ereditato, J. Favier, R. A. Fini, F. Fornari, T. Fukuda, G. Galati, A. Garfagnini, V. Gentile, J. Goldberg, S. Gorbunov, Y. Gornushkin, G. Grella, A. M. Guler, C. Gustavino, C. Hagner, T. Hara, T. Hayakawa, A. Hollnagel, K. Ishiguro, A. Iuliano, K. Jakovcic, C. Jollet, C. Kamiscioglu, M. Kamiscioglu, S. H. Kim, N. Kitagawa, B. Klicek, K. Kodama, M. Komatsu, U. Kose, I. Kreslo, F. Laudisio, A. Lauria, A. Longhin, P. Loverre, M. Malenica, A. Malgin, G. Mandrioli, T. Matsuo, V. Matveev, N. Mauri, E. Medinaceli, A. Mereaglia, S. Mikado, M. Miyanishi, F. Mizutani, P. Monacelli, M. C. Montesi, K. Morishima, M. T. Muciaccia, N. Naganawa, T.

**Organizations which support us  
are on our  
*Sponsors board***

- (Inter)national funding agencies
- Universities & libraries
- Governments
- Foundations
- Benefactors

# Sponsors

Best is to go to the current list of sponsors at  
[scipost.org/sponsors/](https://scipost.org/sponsors/)

# Austrian Consortium

FWF

Der Wissenschaftsfonds.



# Plan S

## What about Plan S?

Personally, I am *very much* in favour

## How does SciPost relate to Plan S?

SciPost is (over)compliant

... but has not yet received official support from cOAlitionS (*from some members: yes it did*)

C.f. Point 3 of Plan S; *we are hopeful!*

**Robert-Jan Smits @ KNAW**  
**Dec. 2018**



## What about reactions to Plan S?

Personally, here, I am *partly concerned*

Genuine concerns exist, but...

lots of incorrect info is being propagated

I'd prefer to think scientists as being immune to fake news and hidden agendas, but...

My hope remains that scientists will embrace the needed reform rather than undermine it

# Evaluation metrics

Many problems with current system:

- Data is behind closed doors
- Protocols unknown; irreproducible
- If proprietary: expensive
- If "free": jungle; bad frontend
- Filters/metrics are not customizable

**Current metrics are too insultingly simple to be significant, but too insultingly significant to simply ignore.**

# An excellent initiative

*the Initiative for Open Citations* [I4OC.org](http://I4OC.org)

## Basic idea:

- Citation data can be included in a published article's metadata by the Publisher
- The metadata is deposited at Crossref
- The publisher agrees to give the citation metadata a CCo license
- Anybody can query Crossref to get the citation metadata

# Problems

- Not all publishers include citations in their metadata
- Not all publishers participate in I4OC
- The metadata that is present, isn't always perfect

**Nonetheless, at SciPost, we are currently developing a metrics engine based on the Crossref data.**

# End message:

Scientists: you hold the keys to the future.

With you, full OA with research will inevitably happen.

Without you, it won't.

So take your responsibilities and just do it.

# Thanks!