Open Up to Opportunity
How to publish a world class paper

Marie Soulière, PhD
Senior Manager
Peer Review Operations, Quality and Ethics
Outline

- **Publishing landscape** (traditional publishing and Green/Gold open-access)

- **Practical advice for the publishing process** (checklist before submission, author guidelines)

- **Research integrity and quality manuscripts** (plagiarism, conflicts of interest, data availability)

- **Research dissemination** (sharing research, keeping track of impact (citations, views, downloads))
Publishing Landscape

Why publish Open Access?
What is traditional academic publishing?

- **Readers-pay model**
  - Journal subscriptions via institution/library or pay-per-view

- **Expensive**
  - Hidden cost for researchers
  - US$ 14B journals revenue in 2014
    - = US$ 7,000 *per article*
Harvard University says it can't afford journal publishers' prices

University wants scientists to make their research open access and resign from publications that keep articles behind paywalls
What is traditional academic publishing?

• Selective and slow
  ➢ Limited space per issue, leading to impact selection
  ➢ Journal rejection cascade can take 6-12 months, each time

• Limiting access to research
  ➢ Estimates say >80% of research papers are behind subscription paywalls
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  - Estimates say >80% of research papers are behind subscription paywalls
2.4 million science papers per year

86% behind $$$ subscription paywalls

90% of health papers are behind paywalls

Data: 888,434 citable documents categorized as health research in 2016, of which 91,867 are open access, based on Web of Science, Clarivate Analytics
94% of sustainable development papers are behind paywalls

Data: 829,321 citable documents categorized as sustainability research in 2016, of which 50,240 are open access, based on Web of Science, Clarivate Analytics
What is traditional academic publishing?

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# Open Access: Green, Gold, Hybrid

<table>
<thead>
<tr>
<th>Green</th>
<th>vs</th>
<th>Gold</th>
<th>vs</th>
<th>Hybrid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authors publish in a journal and self-archive their articles in an open access repository</td>
<td></td>
<td>Authors publish in OA journals, access to all on publisher website and indexed widely, authors keep copyright</td>
<td></td>
<td>Subscription journals that provide gold open access only for individual articles for which their authors pay an extra fee</td>
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</tbody>
</table>

*Limiting factors:*
- Publishers retain copyright;
- 6-12 months embargo after publication;
- Limited access and discoverability

*Limiting factor:*
- Authors or their institutions have to directly pay a processing fee to publish

*Issue: Double-paying!*
- Authors or their institutions have to directly pay a processing fee to publish + institutions already pay for subscription
So how does Open Access publishing compare?

• **Inverted funding**
  - Institution/grant funder can support authors directly, not pay huge subscription fees for packages dictated by publishers

• **Cheaper**
  - Green OA is usually free
  - Gold OA average fee per article is c.$1000-$3000, less than half traditional cost

• **Complies with funding mandates**

• **Unlimited access to research**
  - Anyone with an internet browser can read your work – gets higher citations
Open Access will overtake subscription publishing 2018-2020

Source all articles: Scopus, 2014-2020: estimate based on 5% compound growth rate
Source Open Access articles, Lacso and Bjork (2011): 2014-2020: estimate based on 20% compound growth rate

# research articles

<table>
<thead>
<tr>
<th>Year</th>
<th>Total research articles</th>
<th>Open access articles</th>
<th>Subscription articles</th>
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<td>0.7 M</td>
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<tr>
<td>2018</td>
<td>2.1 M</td>
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Source: Scopus, 2014-2020: estimate based on 5% compound growth rate
Open Access leader Peter Suber’s advice:

“Start by checking whether [Journal] is listed in the DOAJ, which tries to include all honest, peer-reviewed OA journals and exclude the dishonest ones.”

Full online guide: https://cyber.harvard.edu/hoap/How_to_make_your_own_work_open_access
Open Access: peer review and good Editors

Principles of Transparency and Best Practice in Scholarly Publishing:

1. Peer review
- Journal content must be clearly marked as whether peer reviewed or not.
- Peer review policies and procedures clearly described on journal website.

2. Editorial boards
- Journals shall have editorial boards whose members are recognized experts in the subject areas included within the journal’s scope.
- The full names and affiliations of the journal’s editors are provided on journal website.
Some benefits of Open Science innovation

- **2003** BioMed Central
- **2006** PLOS ONE
- **2007** Frontiers
- **2008** NPG, BMC, Copernicus, Wiley Blackwell, SageOpen
- **2008** ResearchGate
- **2008** Academia.edu
- **2008** RESEARCHERID
- **2010** Frontiers Loop
- **2012** ORCID Google Scholar
- **2015** Mendeley Elsevier

**Peer-review**
new models, impact-neutral mandate, publish what is scientifically correct

**Impact metrics**
At the article-level, objective

**Author discoverability & reputation**
Make authors & editor profiles to raise impact for them and readership for their articles
Frontiers – Collaborative Peer Review

- Impact-neutral review: all sound science is published.
- Authors, reviewers and handling Associate Editor interact directly with each other in the online forum.
- Names of editors and reviewers published on final version of paper.
- 90 days from submission to acceptance
What can you do to ensure your paper is seriously considered by a publisher?
Practical advice: How to ensure your paper will be considered

Checklist before submission:

- Scope of the journal
- Article type
- Plagiarism
- Ethical standards (committee approval, written informed consent statement, consent forms, figure reuse rights)
- Language
- Quality of the figures (be mindful of image cropping, manipulation)
Practical advice: How to ensure your paper will be considered

What other things can delay your paper / potentially get it rejected?

• Authorship disputes
• Data availability issues
• Citations (self, cartels, etc)
• Undeclared conflicts of interests
Resources for authors

- COPE guidelines ([https://publicationethics.org/](https://publicationethics.org/))
- Plagiarism detection softwares ([http://www.ithenticate.com/](http://www.ithenticate.com/))
- Publisher websites
Author Guidelines

https://www.frontiersin.org/about/author-guidelines#EditorialPoliciesandPublicationEthics

Author Guidelines

1. Summary Table
2. Manuscript Guidelines
   3. Editorial Policies and Publication Ethics
      3.1. Authorship and Author Responsibilities
      3.2. Research Integrity
      3.3. Translations
      3.4. Plagiarism and Duplication
      3.5. Image Manipulation
      3.6. Conflicts of Interest
      3.7. Bioethics
         3.7.1. Studies involving animal subjects
         3.7.2. Studies involving human subjects
         3.7.3. Inclusion of identifiable human data
         3.7.4. Clinical Trials
      3.8. Corrections
      3.9. Retractions
      3.10. Support and Ethical concerns
Author Guidelines

https://www.frontiersin.org/about/author-guidelines#MaterialsData

1. Summary Table
2. Manuscript Guidelines
   2.1. Open access and copyright
   2.2. Registration with Frontiers
   2.3. Manuscript Requirements and Style Guide
   2.4. Figure and Table Guidelines
   2.5. Funding disclosure
   2.6. Materials and Data Policies
      2.6.1. Availability of Materials
      2.6.2. Availability of Data
      2.6.3. Data Citation Guidelines
      2.6.4. Data Availability Statements
      2.6.5. Recommended and Required Repositories
      2.6.6. Inclusion of Zoological Nomenclature
      2.6.7. Inclusion of RNAseq Data
   2.7. Statistics

datapolicy@frontiersin.org
Frontiers – Quality checks

- Plagiarism
- Duplicate submission
- Watchlist (unethical behavior)
- Ethics statements
- Quality (language, files)
- Image manipulation
- Article type & journal scope

- Editor, reviewers conflicts of interest
- Length/quality of review reports
- Plagiarism of ideas
- Authorship changes

- Final comments addressed
- Resubmission
- Reviewer comments

- Plagiarism
- Pending ethical concerns
- Language
- Data availability
- Image manipulation

Post-publication comments and complaints protocol

Submission
Independent Review
Interactive Review
Decision
Final Validation
Published
Research Dissemination

Ensuring your research is viewed across the world
How to get more views, and citations?

1. Make your manuscript easily accessible. If your paper is not published in an open-access journal, post your pre- or post-publication prints to a repository.

2. Optimizing your article for search engines (SEO), choosing keywords, title and first sentences in abstract carefully. 
   https://www.frontiersin.org/about/author-guidelines#SEO

3. Share your data.

4. Present your work at conferences (make use of Altmetrics data).

5. Use social media. Provide links to your papers on social media (e.g. Twitter, Academia.edu, ResearchGate, Loop) and your university profile page.
Knowing more: who’s reading your work?

- Altmetrics built into every paper, showing views, downloads and reader demographics
- Post-publication analytics that doesn’t rely on Impact Factor.
- Community-led impact – your peers decide your paper’s relevance
Article-level metrics – Views, Citations, Social buzz

Recombinant protein expression in Escherichia coli: advances and challenges

Social Buzz

Expression vector

A expression vector, otherwise known as an expression construct, is usually a plasmid or virus designed for gene expression in cells.

2017-03-10

Recombinant DNA

DNA(),
Article-level metrics – Demographics!
How discoverable are you?

- Bespoke-built networking profile for every author and user: Loop
- List of publications, expertise, Frontiers editorial contributions
- Increased views of articles via profiles
What’s your real impact?

Brief Bio
I began my research career in 1976 at the Cajal Institute, under the supervision of Dr. J. Rodríguez, experimentally and morphologically studying the sympathetic and parasympathetic innervation of the mammalian oesophagus. Having presented my doctoral thesis in 1980, I joined the laboratory of Drs. F. Valverde and A. Fairén at the same institute. It was in this period...

84 Co-Authors

170 Publications
Multi-dimensional classification of GABAergic interneurons with Bayesian network-modeled label uncertainty
Bojan Mihaljčič, Corina Biblia, Ruth Benavides-Piccione, Javier DeFelipe, Pedro Larrañaga

182 views
How will your peers find your work?

New articles in the field of

NEUROSCIENCE

NEW IN NEUROSCIENCE

1. Differences in F-Wave Characteristics between Spinobulbar Muscular Atrophy and Amyotrophic Lateral Sclerosis
   Jia Fang, Liying Cui, Xiongzhong Liu, Yuchao Guan, Xiaoguang Li, Dawei Li, Bo Cui, Dongchao Shen, and Qingsun Ding

2. Effect of Presenilin Mutations on APP Cleavage: Insights into the Pathogenesis of FAD
   Xuemin Li, Kefu Liu, Yanjie Qu, Zehui Ren, Rongji Bai, Yulin Deng, and Hong Qing

FRONTIERS IN BEHAVIORAL NEUROSCIENCE

Editorial: How Fear and Stress Shape the Mind
   Luke R. Johnson

Amphibians: Model Organisms for the Study of Arthropod Navigation Mechanisms in Complex Environments?
   Daniel D. Wieland, Elizabeth A. Hobbs, Wolfrum Groenewegen, Jacob M. Gravina

FRONTIERS IN NEUROANATOMY

The Art of Grid Fields: Geometry of Neuronal Time
   Andrey L. Shnitkov and Andrew Porter Mauer

Article alert: 1 million+ people

Frontiers editors leading journals from launch to maturity

150’000 views in 6 months
Open Access: global impact for your work

Frontiers articles have **300 million article views** and downloads
Largest editorial board in the world
70k editors from 140 countries

Engage research communities: top Editors

Top Institutional Affiliations

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Frontiers Collaborations
The goal of researchers: citations via top publisher

Frontiers journals are highest cited journals (subscription & OA)

### Neurosciences (259 journals)

<table>
<thead>
<tr>
<th>Journals</th>
<th>Citations</th>
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<td>Frontiers in Neurovascular Journal</td>
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<td>Neurology</td>
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<tr>
<td>Behavioral Psychiatry</td>
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<td>Causal Cues</td>
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### Plant Sciences (211 journals)

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<tr>
<td>Frontiers in Plant Biology</td>
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<td>Journal of Experimental Botany</td>
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<tr>
<td>Plant Biology</td>
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<td>Plant Cell</td>
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<td>Journal of Ecosystem Science</td>
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<tr>
<td>Trees</td>
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<td>Journal of Natural Products</td>
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<td>Frontiers in Plant Science</td>
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### Immunology (150 journals)

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<td>Journal of Immunology</td>
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<td>Journal of Virology</td>
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### Psychology (77 journals)

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<tr>
<td>Frontiers in Human Neuroscience</td>
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<td>Social Cognitive and Affective Neuroscience</td>
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<tr>
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### Multidisc. Psychology (128 journals)

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### Physiology (84 journals)

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<td>Exercise Physiology</td>
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<td>Frontiers in Cell Biology</td>
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<td>American Journal of Physiology: Lung Cell Comp</td>
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<td>American Journal of Physiology: Endocrinology and Metabolism</td>
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### Microbiology (124 journals)

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<td>Molecular Microbiology</td>
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<td>Journal of Viral Diseases</td>
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Data based on the 2016 Journal Citation Reports (Thomson Reuters, 2017).
Open access and open data mandates by funders and universities

2005

Source: ROARMAP (Registry of Open Access Repositories Mandatory Archiving Policies) http://roarmap.eprints.org/ - Nov 2014
Open access and open data mandates by funders and universities

2008

65 Total Mandates
29 Funders
32 Universities
4 Open Data

Source: ROARMAP (Registry of Open Access Repositories Mandatory Archiving Policies) http://roarmap.eprints.org/ - Nov 2014
Open access and open data mandates by funders and universities

2011

Source: ROARMAP (Registry of Open Access Repositories Mandatory Archiving Policies) http://roarmap.eprints.org/ - Nov 2014
Open access and open data mandates by funders and universities

2014

Total Mandates 434
Funders 90
Universities 298
Open Data 46

Source: ROARMAP (Registry of Open Access Repositories Mandatory Archiving Policies) http://roarmap.eprints.org/ - Nov 2014
Science Outreach – reach other communities

Frontiers for Young Minds is a non-profit scientific journal written by scientists and reviewed by a board of kids.
NEW DISCOVERY

Seeing the Shadow of Rings around a “Super Saturn”

Astronomers believe that they have seen the shadows of a giant ring system around an unseen planet move in front of their parent star. The fluctuations in the light coming from the star was found in data from May 2007, but not analysed until 2012. Unlike transiting planets that cause the star to dim by a few percent over a few hours, this star dimmed by an incredible 95% over the course of two months. The best explanation is that there is a planet with rings about 200 times larger than the rings around Saturn, that moved in front of its star, causing the flickering that we saw. This unexpected discovery is leading us to look for more giant ring systems in older data, both online in astronomy digital archives and in older photographic plates.

AUTHORS
Matthew Kenworthy

READ MORE

CORE CONCEPT

How Do We Understand Other People?

Imagine this, you walk into class, and see your friend sitting alone at a table. You notice your friend is looking downward, with a frown on her face. You would probably think from these clues that your friend is sad. But how did you know that? One way that your brain could accomplish this is by simulating, or copying in your mind what you see the other person doing. This may help you understand that when you are doing these things you are usually sad, so it is probably the case that your friend is sad too. While there are other hypotheses for how our brain understands others, we are going to focus on simulation, and how special cells in the brain—called mirror neurons—may help to make simulation possible. We will first examine neuroimaging experiments, in monkeys and in humans, which help us understand this system better. Lastly, we discuss disorders such as autism, in which it may be more difficult to understand others’ actions, intentions and emotions.

AUTHORS
Jennifer Stiso / Anat Perry

READ MORE

CORE CONCEPT

"Boiling Water Is Not Too Hot for Us!"—Preferred Living Spaces of Heat-Loving Microbes

Do you like to stay at the beach on a hot summer day? Sun bathing, chilling and playing beach games? If it is getting too hot, one can quickly refresh in the lukewarm ocean. Can you believe that there are living organisms on our planet that would still freeze on the hottest day of the year? These tiny creatures are heat-loving microbes, which do not grow at temperatures around 50 degrees Celsius, but feel most comfortable in boiling water near volcanoes at the bottom of the ocean or in terrestrial hot springs. Because of their strength and endurance, they are of certain relevance for industrial and scientific applications. And can you imagine that most of these hot places are not located in deserts, but on volcanic islands in the Atlantic Ocean and near the North Pole?

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NEW DISCOVERY

How Does a Fruit Fly Say “Ouch”?

Fruit Fly is an ideal model animal for biological research. Just like the human skin, the fruit fly has an outer layer to itself protect from injury or damage. If the human and the fruit fly respond to injury in similar ways, then we can use Fruit Fly to discover new steps to improve human health. Fruit Flies can grow quickly and in the lab we can study many fruit flies at the same time. Using small needles to wound the fruit flies, we are able at side the fruit flies repair. In a basic experimental method we test how our Action can cause a reaction. Fruit Flies are small and we use microscopes to see a wound reaction—Ouch! The goal of this research is to test changes in the fruit fly DNA and understand the chain of events in wound repair.

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