



HIGHLIGHTS REPORT 2021



“Our direction is set – the future of scholarly publishing is open, and it is our priority to make universal access to research a reality.”

Antonia Seymour, Chief Executive, IOP Publishing

[Read full message from Antonia Seymour, chief executive](#)

Highlights 2021



31,753

total number of peer reviewed articles published



78,181,043

total number of article downloads, up by 24%



11%

growth of articles published OA



111

new ebook titles added in 2021



10%

growth of IOP Conference Series articles



7

new OA journals launched



26%

of all articles were published OA on our platform

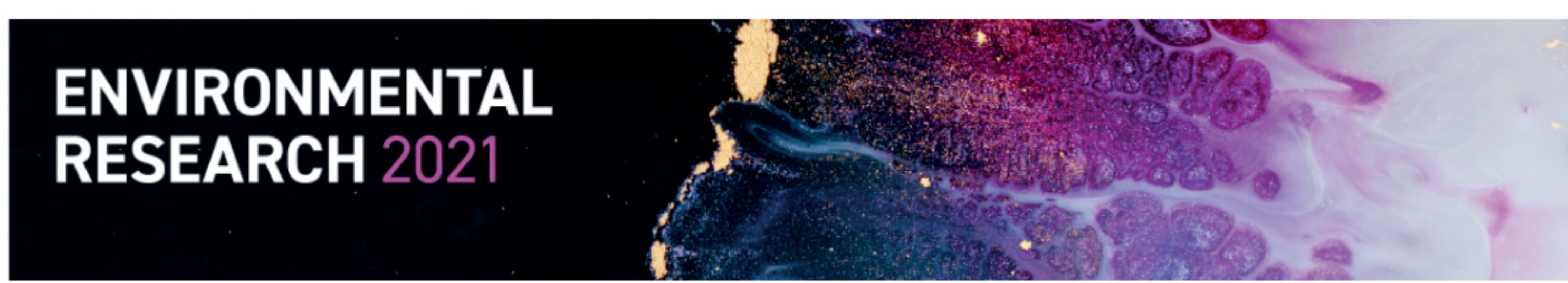


99.95%

IOPscience uptime



Over **2000** reviewers received IOP trusted reviewer status in 2021 now making a total of over **9000** trusted reviewers



ENVIRONMENTAL RESEARCH 2021

Hosted international Environmental Research Conference



A note from Antonia Seymour, chief executive

In last year's annual report, just as I was about to become chief executive of IOP Publishing, I pointed to more uncertainty ahead. I remained optimistic that the resilience and adaptability that I had seen from my colleagues throughout the pandemic would continue to see us succeed, and it has. We've achieved another set of outstanding results in 2021.

Ensuring that everyone has been able to work safely and effectively from home means that we have been able to maintain our services to authors, reviewers, librarians, conference organisers and society publishing partners. Building on the positive elements that working from home has introduced, we've now adopted a progressive new way of working. Our approach centres on trust and autonomy, guided by a new set of 'Ways of Being' that give a clear expression of what we stand for as an organisation. We're re-imagining our global offices to provide spaces where people want to come together and connect and we're supporting this with the right technology, devices and tools so colleagues can stay productive and engaged no matter where they are working.

More broadly, we are seeing an industry in transition. Library budgets remain challenged, and researchers have an enormous variety of options as to where to publish their research, from well-established journals through to hundreds of new journals launched every year, through to open publishing platforms and preprint servers. At the same time, governments, funders and librarians continue to push for research to be more open.

Our direction is set – the future of scholarly publishing is open, and it is our priority to make universal access to research a reality. We've made some great strides already – in 2021 26% of all journal articles were published open access (OA) and all of our conference proceedings content was OA. Transformative agreements remain the most effective way to accelerate the transition to OA and we will continue to seek more of these arrangements that enable unlimited OA publishing. We want to ensure maximum opportunity to participate in these agreements across our regional customers and consortia partners.

We've also introduced new OA journals and a new policy to encourage the sharing of data through data availability statements which is now a requirement across all our journals. As a community-focused, society-owned publisher, IOP Publishing has always placed a strong emphasis on the author experience. We recognise that in an author-pays model of Gold OA, the contact that an author has with us becomes even more important. Service excellence takes centre stage in meeting and exceeding our customers' expectations.

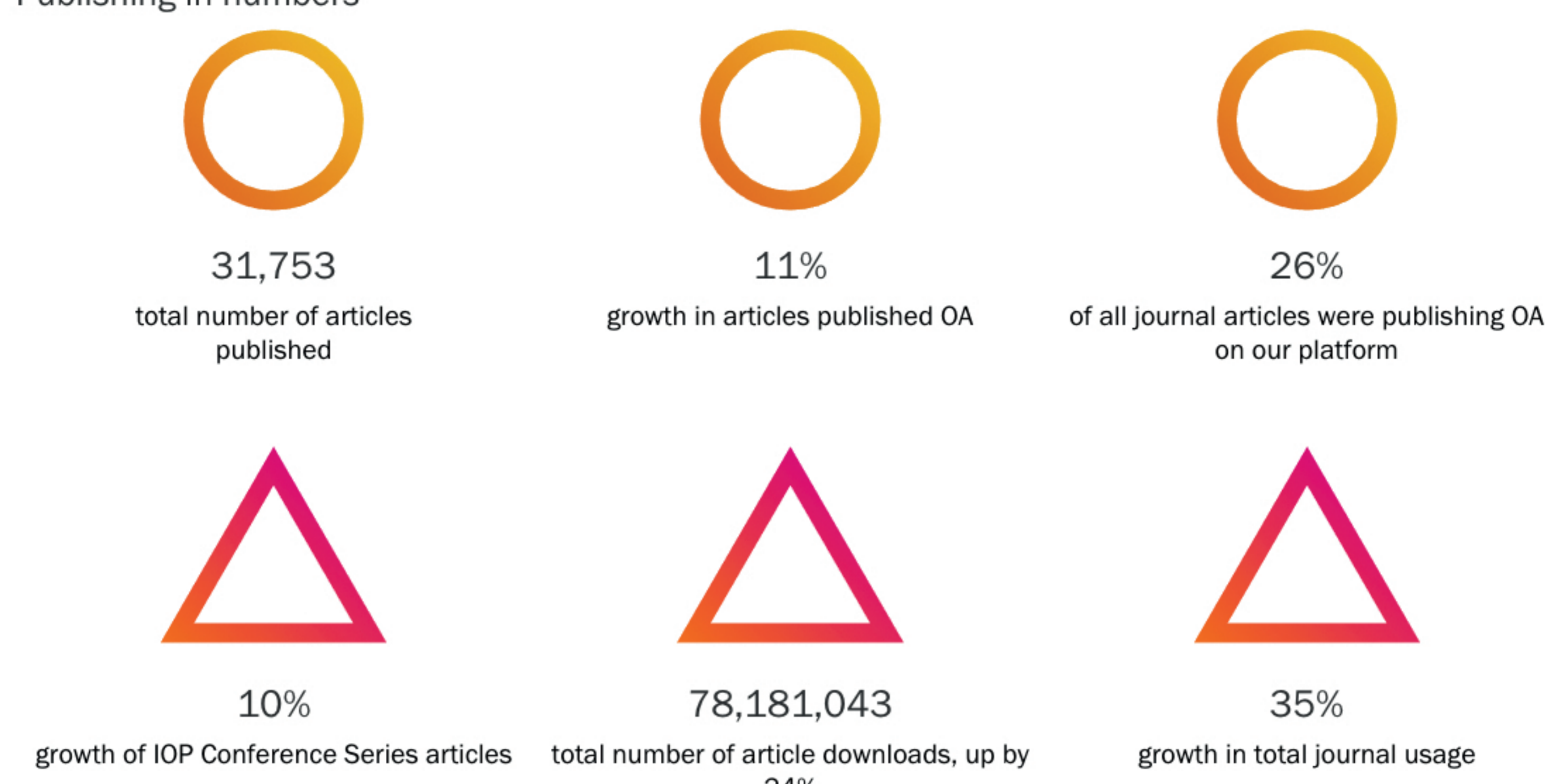
Responding to the global environmental emergency has been another major objective for us. Our inaugural international environmental research conference brought together researchers from across many disciplines to discuss the challenges and potential solutions to climate change. At the same time, we also committed to a series of industry-wide sustainability pledges to reduce our carbon footprint and support a greener economy.

Looking ahead, I'm excited to accelerate our transformation toward open science and continue to deliver impact, recognition and value to the scientific community. The research we publish touches millions of lives and I feel proud to expand the world of physics in the most inclusive and sustainable way.

Antonia Seymour

Ensuring service excellence and creating efficiencies for the scientific community

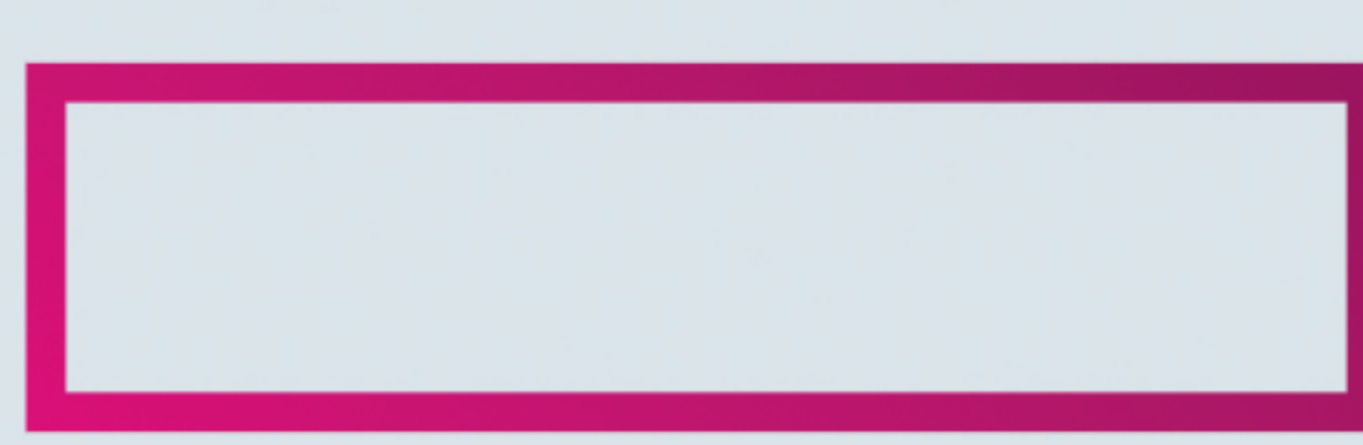
Publishing in numbers



Usage of our subscription journal articles went up by **31%**, conference series articles by **37%** and fully OA journal articles by **22%**

Impact of our journals

Our journal content featured in the top 10% of their specific areas, demonstrating the value and relevance of the research we publish driving new advancements across the physical sciences.

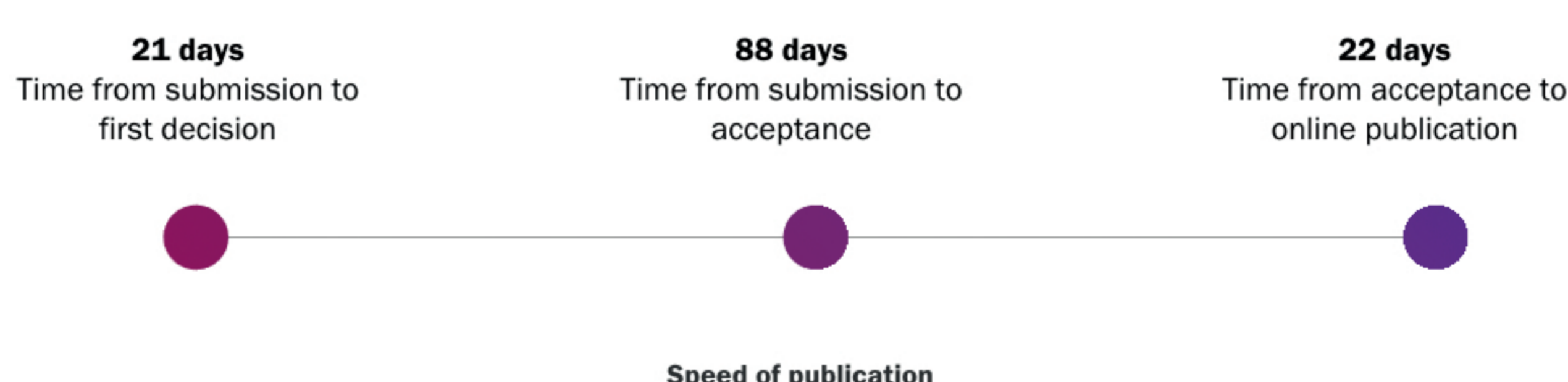


7

IOP Publishing journal titles are in the top 10% of their specific areas

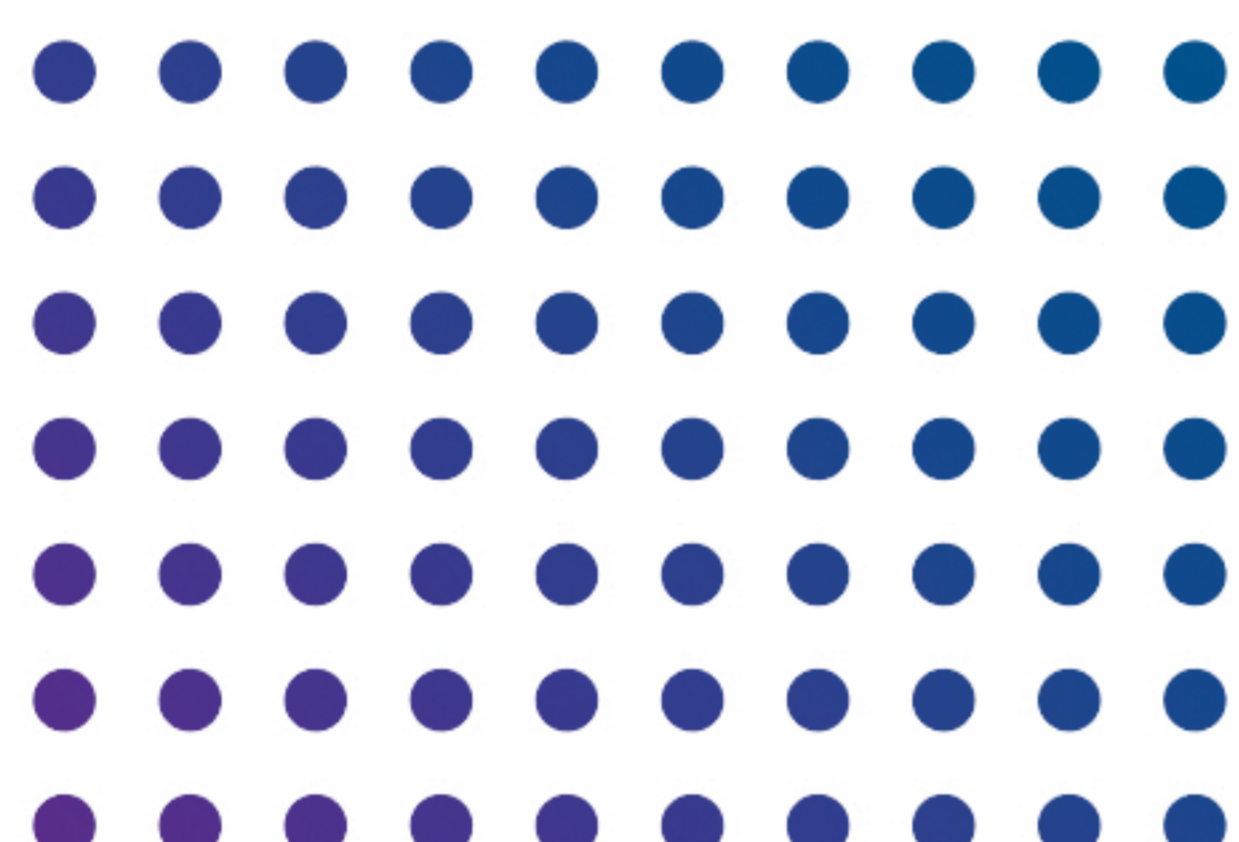
Increased demand, improved level of service

Recognising the importance of combining peer review excellence with efficiency and speed, 2021 saw our review times hugely improve.



Tracking article progress

Our track my article tool has been used over 700,000 times in 2021 which is over 1,900 uses per day.



Each dot represents 10,000 interactions

Submission support

We've introduced Paperpal Preflight, a pre-submission service for authors to receive feedback on their manuscript, to all peer review managed titles. Every day 50 authors use our new pre-submission feedback service.



Each dot represents 1 author

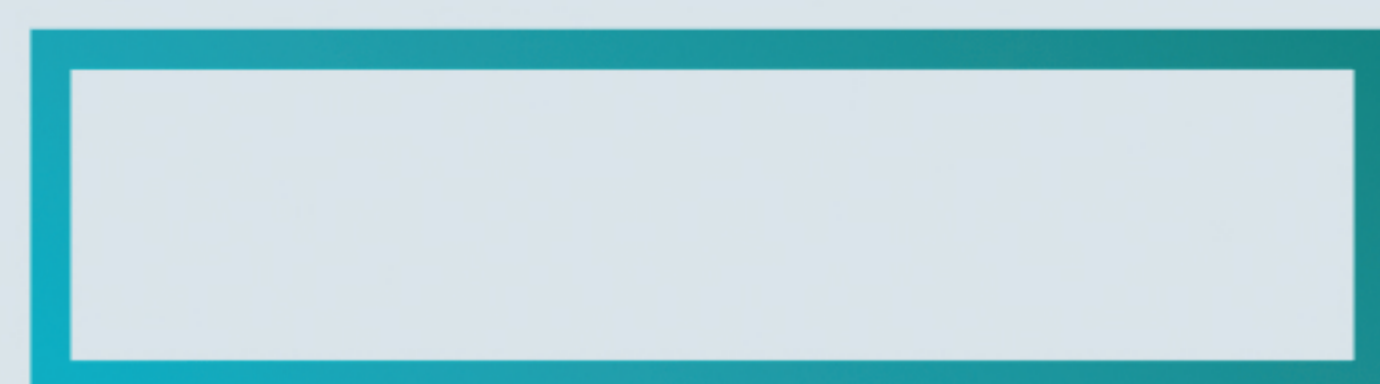
Continuous availability of service

Last year, content on our IOPscience platform was available for 99.95% of the time. This achievement is a great result, considering increased cyber security attacks are seen within the sector.

99.95%
IOPscience uptime

Modernising content services with new APIs and Gateways

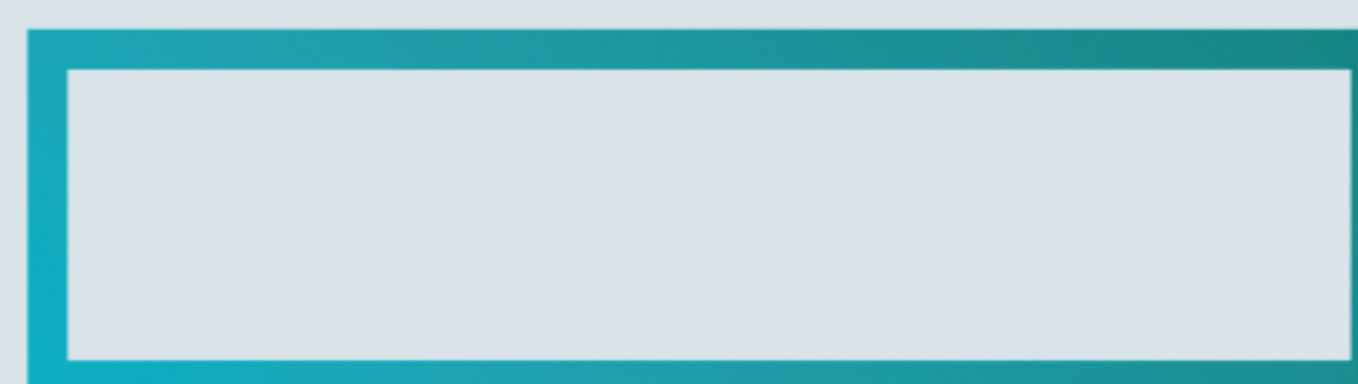
We've now migrated 1.3 million journal articles and all of our ebooks to a new JATS content format. This means our content can be seamlessly cross-searched and linked opening our content to the wider publishing infrastructure via modern API standards. New gateways distribute our content to 70 external services, supporting effective discovery and usage.



1.3 million
articles migrated to new content model

SeamlessAccess to our content

Since the implementation of SeamlessAccess onto IOPscience, we have seen an 82% increase in usage generated via federated authentication, a vital improvement to our service during the global pandemic.



↑ 82%
SeamlessAccess has generated an 82% increase in usage

World-leading science news

↑ 1.75 million

The Physics World website saw year-on-year growth in users and pageviews, with an additional 1.75 million users and 2.6 million pageviews across the year.

↑ 13 million

Total pageviews in 2021 of almost 13 million, with an average of more than 1 million pageviews per month.



75 webinars

Physics World ran 75 webinars in 2021 with an average of nearly 300 registrants per session.



Physics World



ESRF



CERN

Making research openly available

Open Physics in numbers



We now publish **26** open access (OA) journals



11%

growth of the number of articles published OA



26%

of all journal articles were published OA

Our conference series published more than **77,000** OA papers

Open access through transformative agreements

Transformative agreements (TAs) continue to be the most sustainable vehicle in the transition to OA. In 2021, we secured another five TAs with:

- Sweden
- Israel
- Finland
- Ireland
- Canada

We now have TAs with 242 institutions in 14 countries.



For example, we now see close to 100% OA publishing of eligible articles with our agreement with the Swedish Consortium Bibsam, and we expect the same uptake from all of our new TAs.

Transparent peer review

We have moved all our OA journals to transparent peer review, making us the first physics publisher to adopt the approach portfolio-wide.

Transparent peer review involves publication of the complete peer review process, from initial review to final decision.



“With this exciting new development we will bring greater transparency to research published in IOP Publishing journals and increase the quality of the peer review process whilst aiding teaching of best practice in peer review.”

Marc Gillett, Head of Publishing Operations, IOP Publishing

New data policy

The introduction of our new open data policy has resulted in over 35,000 data availability statements. The policy will be updated again in 2023 to further encourage data transparency.



Each dot represents 1000 authors

35,000 researchers have provided data availability statements.

Supporting the American Astronomical Society to flip their journals to OA

In September we supported the American Astronomical Society (AAS) when they transitioned their entire journal portfolio to gold OA



In the first month since flipping to fully OA, the AAS journals have seen an impressive **620%** increase in monthly article downloads.

Making abstracts openly available

By joining the [Initiative for Open Abstracts](#), we've made 160,000 abstracts openly available through [Crossref](#) making our research searchable in this cross-disciplinary database.



160,000

abstracts have been made openly available

Papers indexed on MyScienceWork

We've created one of the largest collections of academic journals, books and conference series in physical sciences on the [MyScienceWork platform](#).

MyScienceWork



Improving author choice

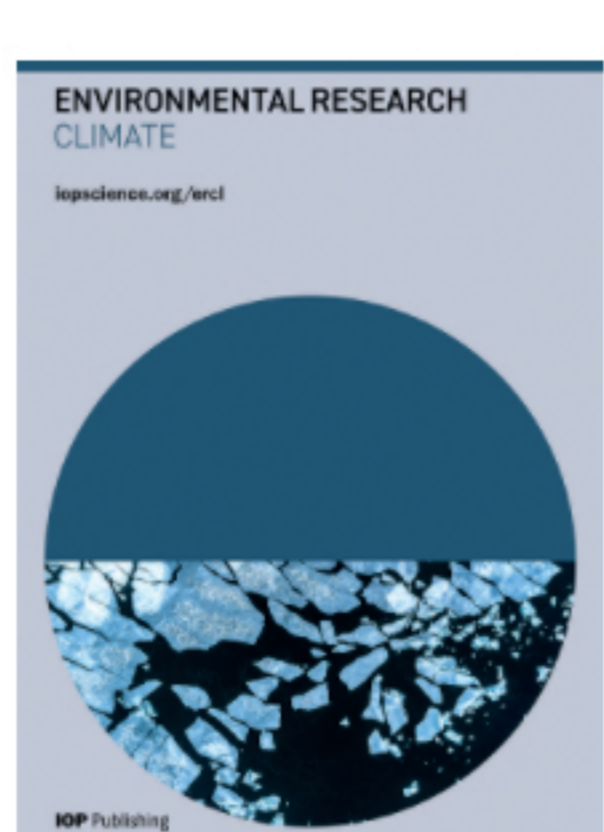
During the year we launched a series of new open access (OA) journals expanding our authors' options to publish with us.

Three new environmental journals

Three fully OA environmental journals were launched in response to the growing demand for environmental research outlets:



Environmental Research: Health



Environmental Research: Climate



Environmental Research: Ecology

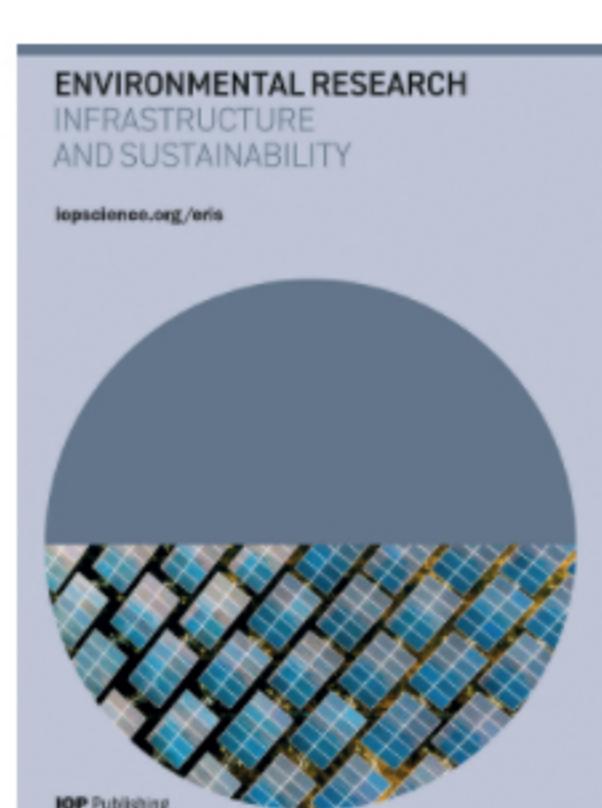
IOP Publishing's Environmental Research Series now comprises six OA titles that collectively address all major areas of environmental science. We expect the growth in this scientific field to accelerate further in the coming years.



Environmental Research Letters



Environmental Research Communications



Environmental Research: Infrastructure and Sustainability

Materials Futures

Materials Futures was launched in partnership with Songshan Lake Materials Laboratory (SLAB), in affiliation with the Institute of Physics, Chinese Academy of Science. This fully OA journal offers a new platform for researchers from the global materials science community and focusses on discoveries of sustainable materials and applications.



Materials Futures

Neuromorphic Computing and Engineering

In July, we launched Neuromorphic Computing and Engineering. This first-to-market, fully OA journal covers the intersection of artificial intelligence (AI), materials science, neuroscience, engineering and computer science. The most significant article commissioned so far is the forthcoming '2022 Roadmap for Neuromorphic Computing and Engineering' that will essentially shape the field.

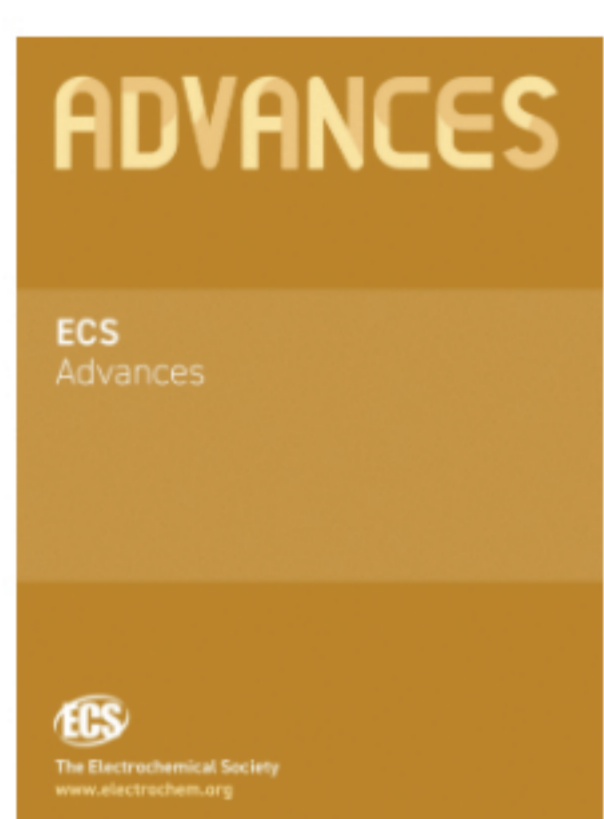


Neuromorphic Computing and Engineering

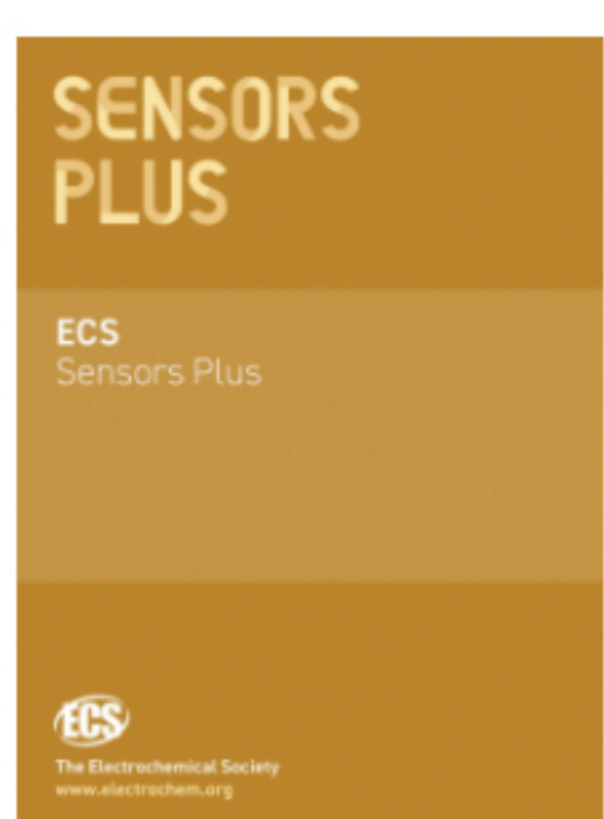


The Electrochemical Society launches two new journals

Together with The Electrochemical Society (ECS), we've launched two new, fully OA journals. ECS Advances covers all technical areas supported by the ECS and ECS Sensors Plus is dedicated to sensor technology. We expect these areas of research to expand over the coming years.



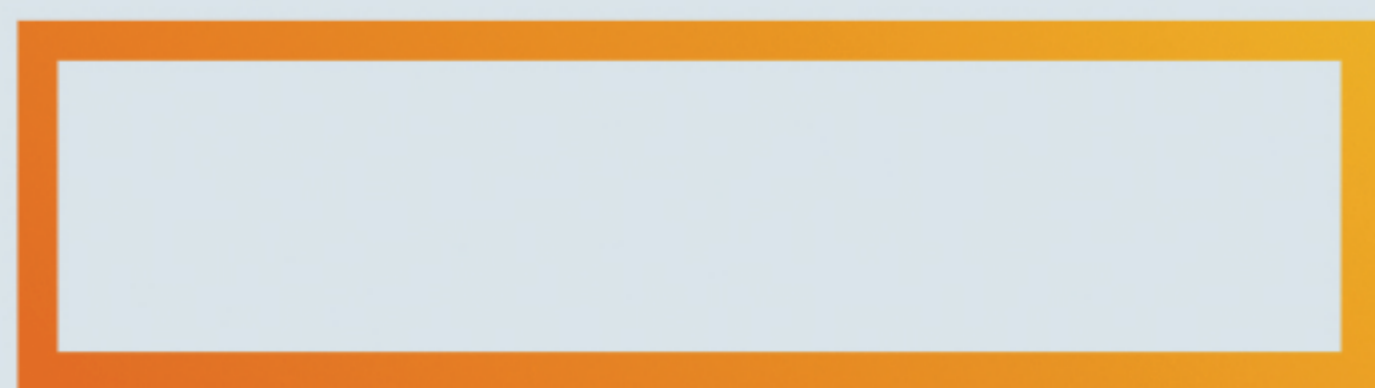
ECS Advances



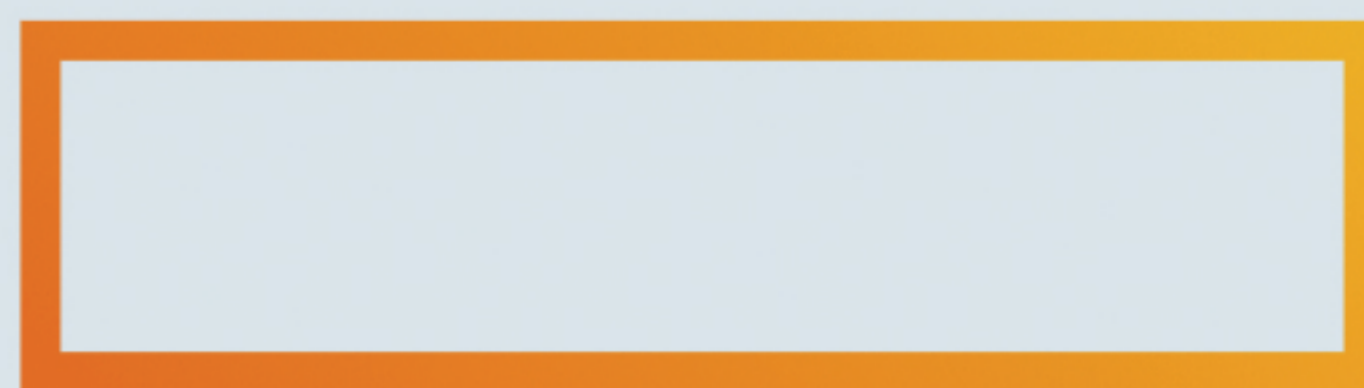
ECS Sensors Plus

Developing an end-to-end conference publishing and hosting solution

Powered by Morressier, IOP Publishing's Conference Series now offers a powerful set of publishing workflow tools for conference organisers, integrated with a best-in-class online conference hosting service.



10%
growth of IOP Conference Series articles



10,000
papers have been submitted via the new platform since launch in July

IOP | ebooks

A growing book collection

Our ebook programme continues to expand the range and depth of its offering. Areas with particularly strong output were optics and photonics, materials science, astronomy and condensed matter physics.

111 new ebook titles were added to our collections in 2021.

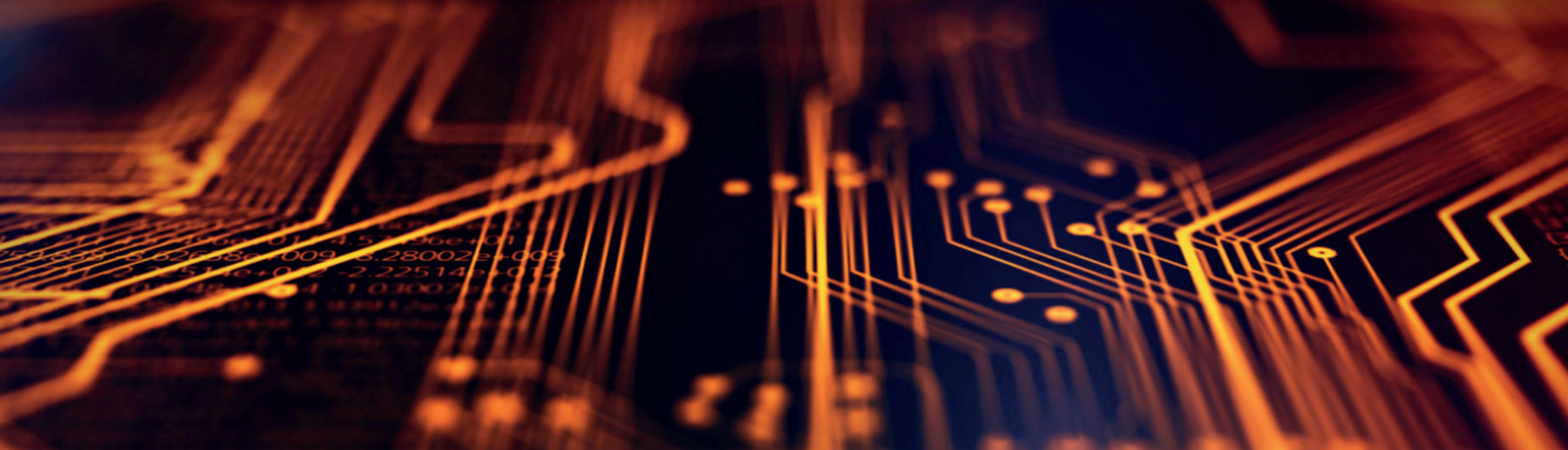


Each dot represents 1 book

We also renewed our book publishing partnerships with the American Astronomical Society and the Institute of Physics and Engineering in Medicine.



More than **130** titles have been commissioned to date across these partnerships



Acknowledging the vital contributions that scientists make

Peer review excellence programme

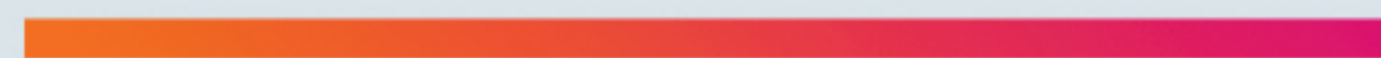
Over 2000 reviewers achieved 'IOP trusted reviewer' status in 2021, meaning that we now have awarded over 9000 trusted reviewers. Achieving 'IOP trusted reviewer' status demonstrates an exceptionally high level of peer review competency.



Over **2000** reviewers achieved 'IOP trusted reviewer' status in 2021

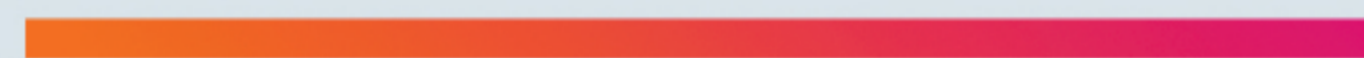
Top Cited Paper Awards

Designed to give high-quality Chinese and Indian research greater visibility and recognition.



174

Top Chinese papers awarded



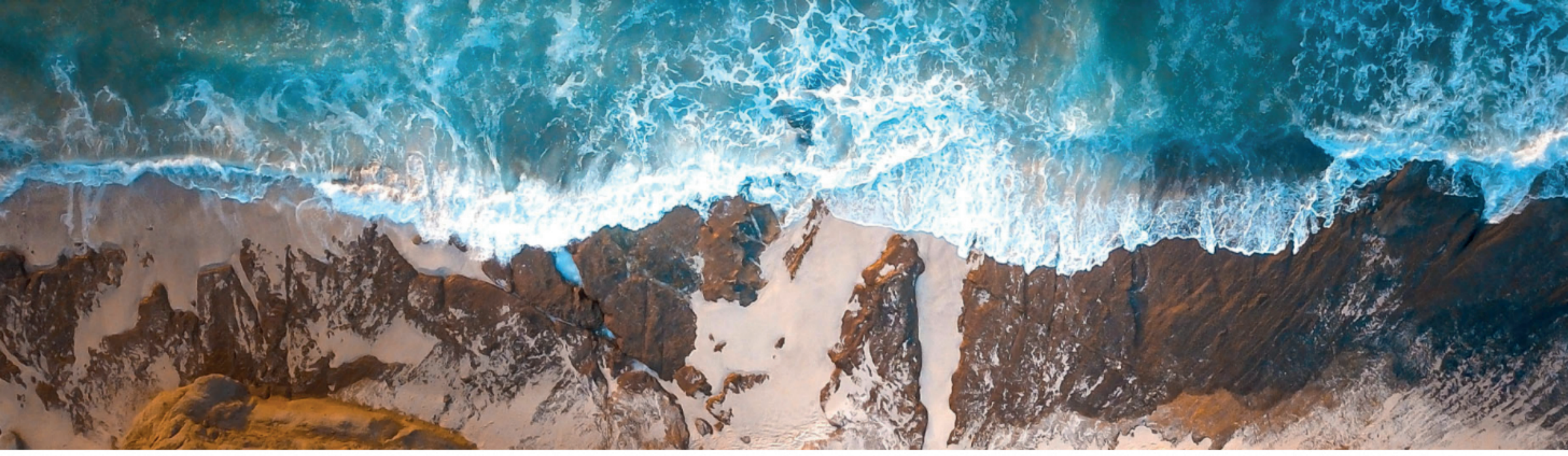
30

Top Indian papers awarded



Mark Reed Young Researcher Award

From more than 80 nominations, we've selected the winner of the Nanotechnology Young Researcher Award, recently renamed in honour of Professor Mark Reed, to celebrate early career brilliance.



IOP Publishing for environmental change

We are committed to supporting a greener economy and have joined industry-wide sustainability pledges.



We became a signatory of the UN Sustainable Development Goals (SDGs) Publishers Compact. In support of the SDGs, we have brought together more than **72,000** SDG related articles in a [Sustainability Collection](#).



72,374

number of IOP Publishing articles linked to SDGs



567,589

total citations made to SDG linked articles



163,108

total Altmetrics mentions

Managing our digital carbon footprint

In June we created an internal sustainability taskforce advocating for sustainable practices and driving plans to deliver our sustainability strategy. We have [partnered with DIMPACT](#) to map and manage our digital carbon footprint.



Insight to action on digital carbon impacts

Publishing Declares

Together with 39 other founding signatories from across the industry and led by the Publishers Association we joined [Publishing Declares](#). The initiative raises awareness of the sustainability issues most relevant to the UK book and journal publishing industry with the aim to reduce our environmental impact and transform our ways of working.



82

number of industry signatories that have come together to sign this pledge so far



1.5°C

maximum global warming level we commit to achieving

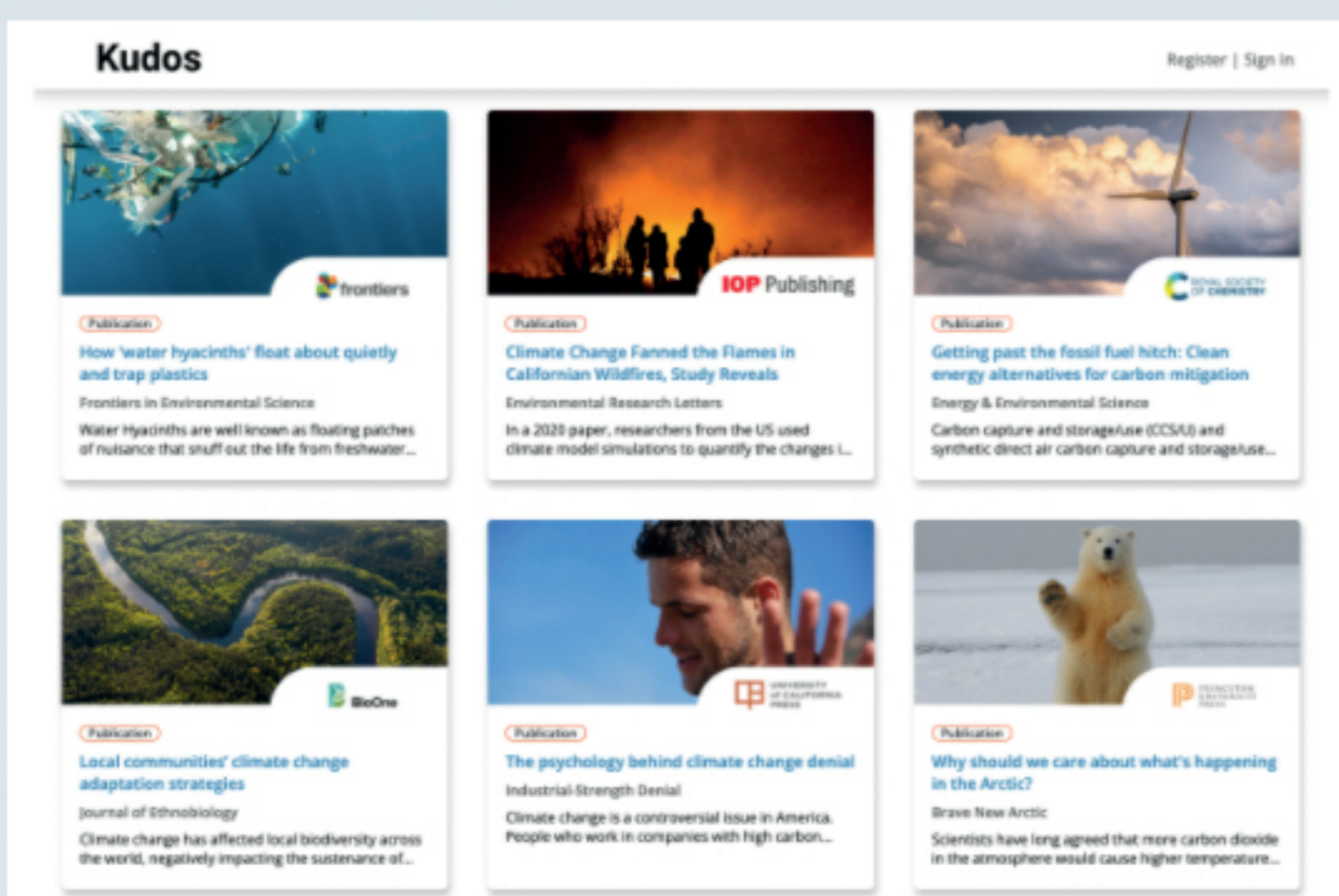


Net Zero

level of emissions we commit to achieve as soon as possible, and by 2050 at the latest

Physics societies for environmental change

The Institute of Physics (IOP) has [signed a joint statement](#) together with national physical societies around the globe to fight climate change. Physicists worldwide pledged to partner with national governments to combat the challenges of global warming and contribute to the green economy.



Making science accessible to the wider public

Together with 15 of the world's largest and most reputable academic publishers we have come together to create the [Climate Change Knowledge Cooperative](#), a platform that provides easy-to-comprehend research summaries to help everyone understand and act on climate change science.



Focussing on diversity, equality and inclusion in publishing

Diversity and inclusion in numbers



↑ 24.5%

of our board members are female, an increase of 2% from 2020.



↑ 16.4%

of reviewer invitations go to women, up from 15.7% in 2020.



↑ 18.6%

of published articles were from female submitting authors, up from 17.8% in 2020.

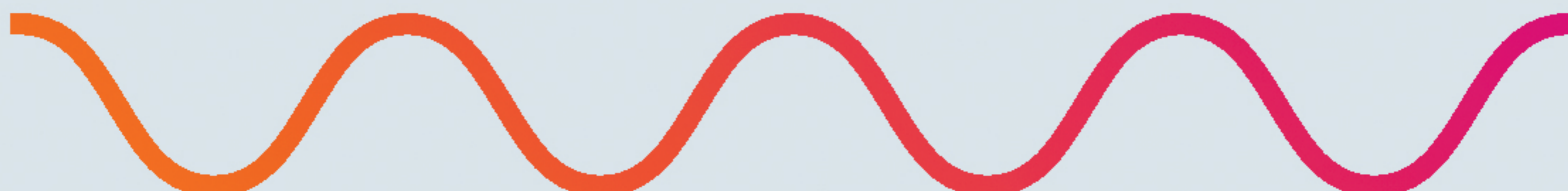
Introducing a new name change policy

In April we implemented a **new name change policy** which enables authors to change their name on previously published research. The policy ensures a more open and supportive research environment especially for women and members of the transgender community who are more likely to change their name.



Article publication charge waiver policy

In support of greater global equity and inclusion in publishing, researchers from low-income countries **can now publish open access (OA) for free** in any of our fully OA or hybrid OA journals. In 2021, we waived £1.2m of article publication charges for OA articles across 64 countries.

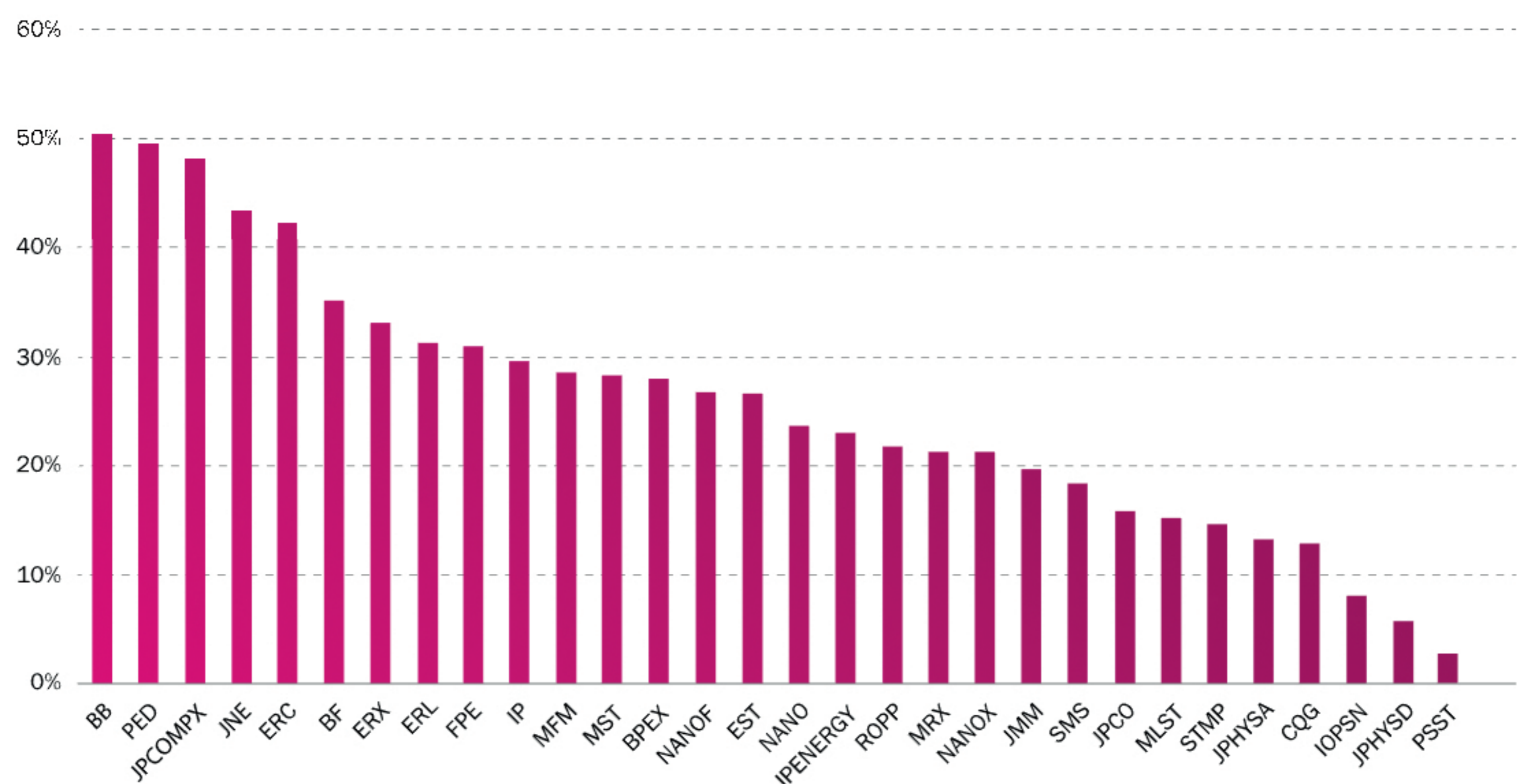


£1,200,000

article publication charges waived across 64 countries.

Double-anonymous peer review for all IOP Publishing journals

Double-anonymous peer review has been made the default option for all IOP Publishing journals. Double-anonymous peer review – where the reviewer and author identities are concealed – has the potential to reduce bias with respect to gender, race, country of origin or affiliation which should lead to a more equitable system.

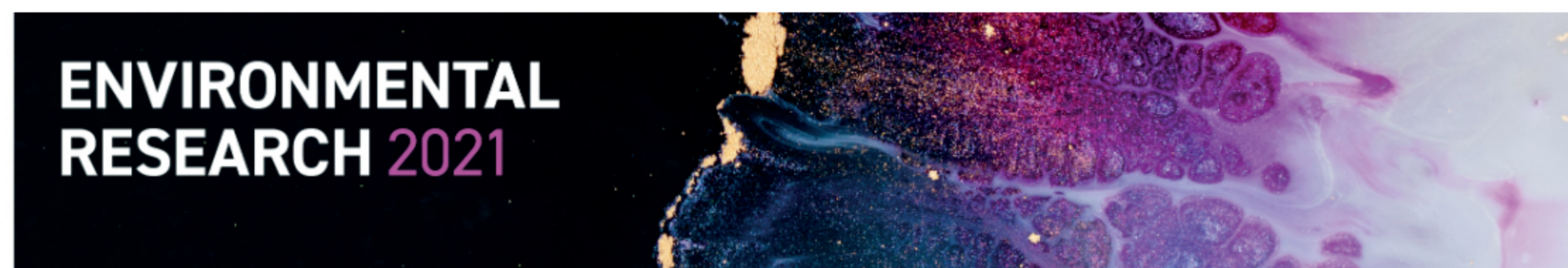


The uptake of double-anonymous with our authors has been very positive with some journals seeing nearly half of all authors opting to have their manuscripts anonymised.

Embedded in the scientific community

The progress of science depends on interaction within the scientific community. In 2021, we strengthened connections across the globe through a range of initiatives to share knowledge and collaborate.

International Environmental Research Conference



Our inaugural international [Environmental Research Conference](#) saw:

3,300 people from 120 countries registered for the live event.



Each dot represents 100 people

The programme ran over five days.



Each dot represents 1 day

Featuring more than 100 invited talks.



Each dot represents 5 talks

5 panel discussion sessions.



Each dot represents 1 discussion session

The associated satellite workshop in China represented a positive first collaboration with the World Young Scientist Summit (with the prospect of a continued collaboration on events in 2022).

Chinese satellite event attracted over **500 registrations**, attracted **16,000** views on Koushare, the Chinese equivalent of YouTube.

Twitter Poster Conference

Our [Twitter poster conference](#), once again brought the global scientific community together for online discussions and knowledge exchange.

- 11 subject categories
- 9 different countries represented

- 30,000 impressions
- 400 comments

Active site is enough for kinase inhibitor affinity prediction
3D effects in a 1D model

MSGPRAGFYR
QELNKTYWVVP
ORLQGLRPVLP
EPKPKKQLEIQ
Full Sequence

VSGYGVSAK
ELIITLMG-
ANRNALDL
Active Site

Human Kinases

Ligands

Generative Models

Novel Ligands

Binding Affinity Predictive Models

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² Department of Biosystems Science and Engineering, ETH Zurich
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Unassisted Noise-Reduction of Chemical Reactions Data Sets
#chemistry

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*IBM Research Zurich, † University of Bern, ‡ University of Pisa

Noisy chemistry

Cleaned chemistry

Molecular Transformer

Abstract
The quality of the data sets plays a crucial role in the performance of deep learning models applied to reaction prediction in organic chemistry. We propose a machine learning-based, unassisted approach to remove chemically incorrect entries (noise) from chemical reaction collections.

[Click to go to page](#)

Training and support

Throughout the year we've supported the scientific community by offering webinars on 'How to get published', librarian support training, excellence in peer review and scientific talks from expert speakers.

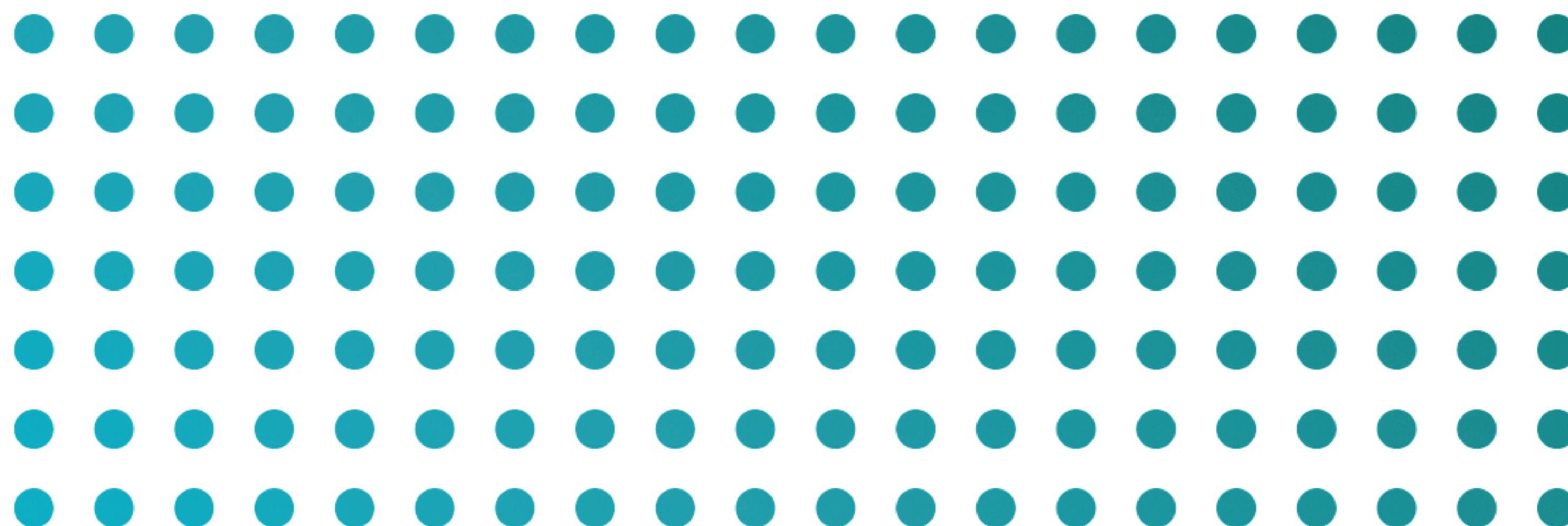


In 2021, we've organised 52 webinars

Tracking progress

Our ['track my article' tool](#) for authors has been used over 700,000 times in 2021 which is over 1,900 uses per day. The integration of the tool on WeChat, the Chinese multi-purpose app, resulted in 3,514 authors tracking their work with our service.

IOP Publishing's track my article tool has been used 700,000 times.



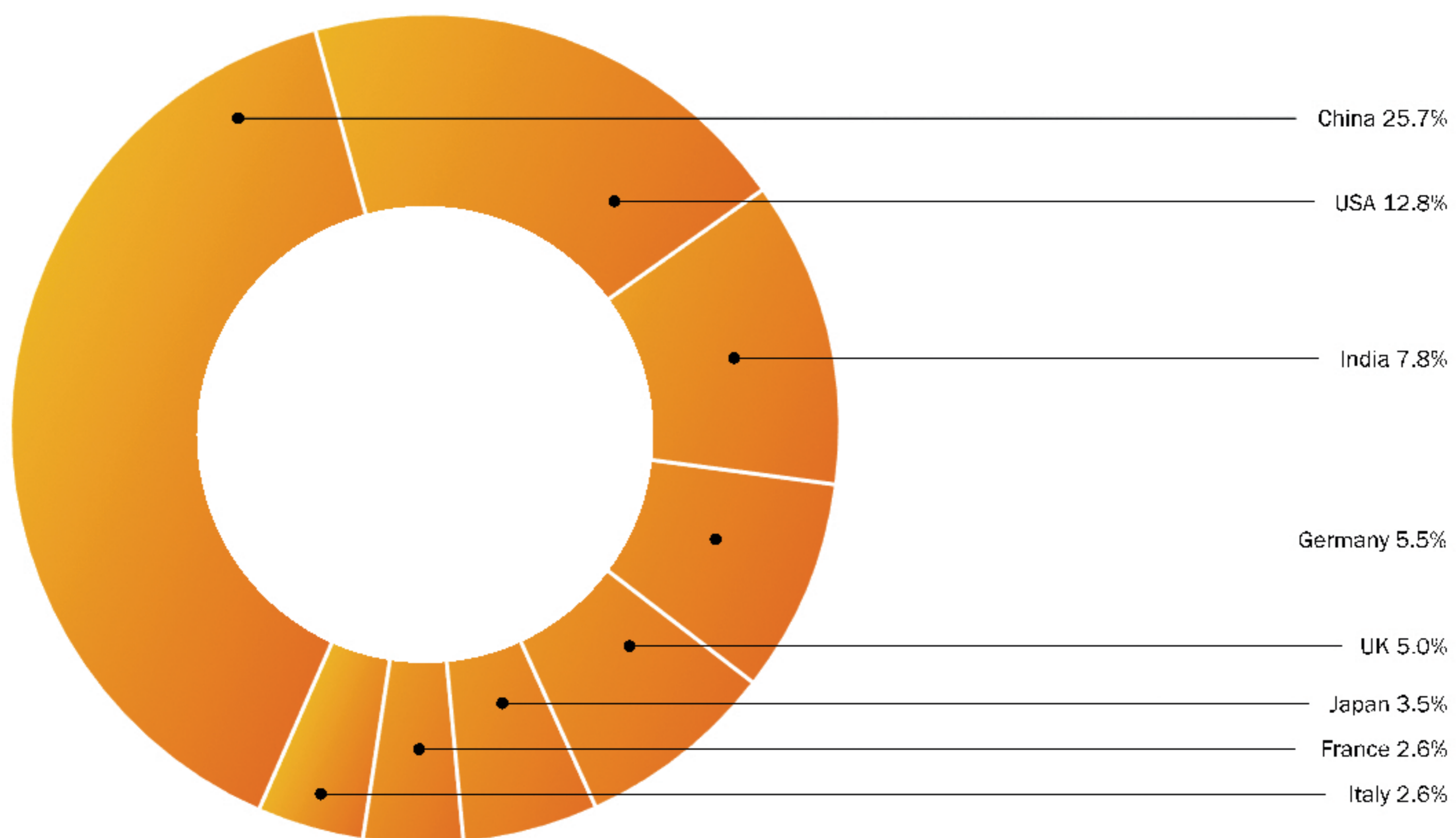
Each dot represents 5,000 interactions



Our global reach

As an internationally respected scientific publisher we work closely with researchers around the globe to publish their ground-breaking work.

Number of articles published in IOP Publishing journals by top eight countries.



Top 10 countries – article downloads on IOPscience

