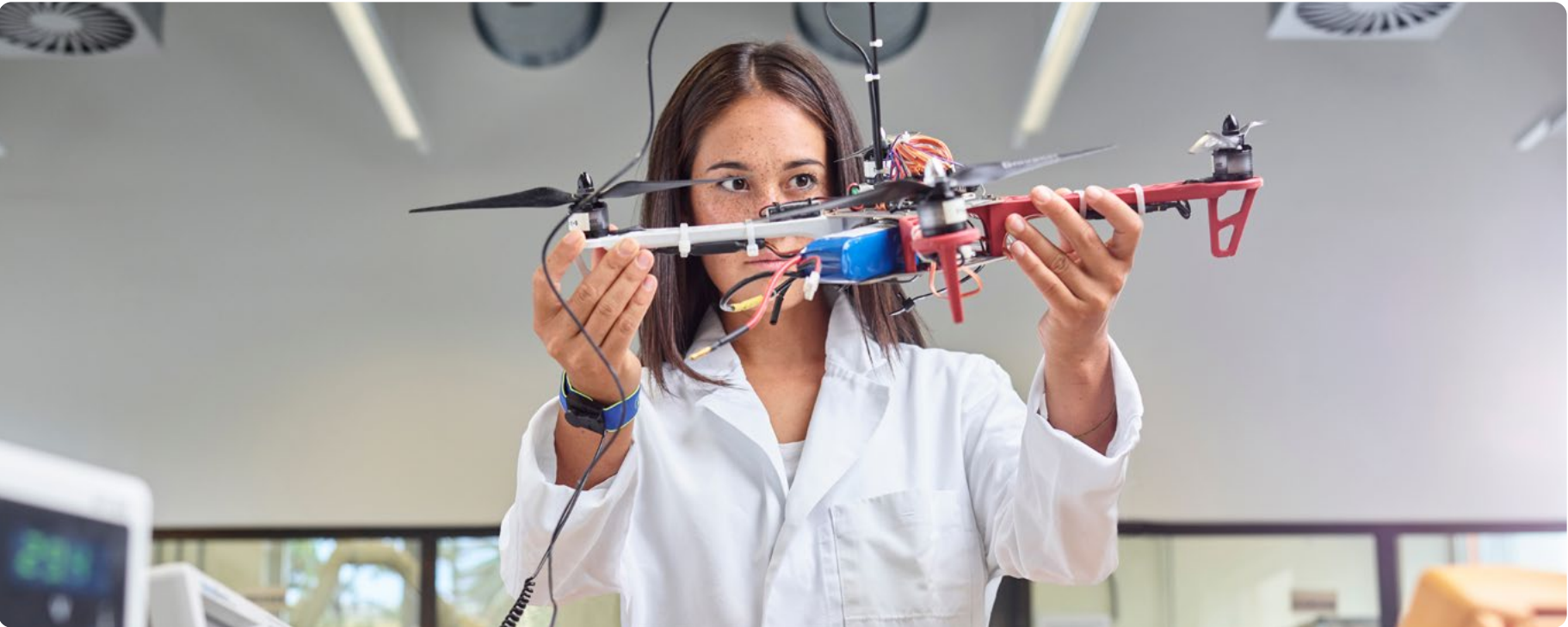


Your research
is changing
the world



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561,000
total published
articles

3.7
billion
total views and
downloads

4.2
average citations
per article

5th
most cited
publisher

11
million
total citations

94%
rated our articles
as excellent
or good

670+
institutions with
publishing agreements

3.3
million
total published
authors

222
journals spanning
1,700 specialty
communities

Frontiers in numbers

A message from our CEO

Pioneering innovation and research integrity in scientific publishing

Our mission – to make science open so that scientists can collaborate and innovate faster to find solutions for healthy lives on a healthy planet – remains as vital today as when Frontiers was founded 17 years ago.

Only validated, high-quality research can gain society's trust and help solve the world's most pressing challenges. That's why quality is our core value and has always been our highest priority.

Over the past two years, we doubled down on our commitment to quality and research integrity by scaling our research integrity team and adding more sophisticated AI-enhanced quality checks to both our desk review and peer review. This enables us to detect articles that do not meet our quality standards, as well as misconduct, with unprecedented precision.

Our industry-leading research integrity team applies these cutting-edge AI solutions to proactively detect image manipulation, paper fabrication, and organizational fraud among the many quality checks we deploy on each submission. As a result, almost half of all article rejections were managed by our research integrity team, maintaining rigorous control while alleviating pressure on editorial boards.

The impact of these efforts is measurable. Each year, tens of thousands of researchers rate the quality of our articles, peer review and editorial boards, as well as their overall experience of partnering with us. In 2024, their feedback confirmed our continued success:

94% rated the quality of our articles as good or excellent

92% rated the quality of our peer review as good or excellent

93% rated the quality of our editorial boards as good or excellent

Championing open science to safeguard our planet

Driving the global shift to open science requires bold action. At Frontiers, we act as a catalyst for this transformation.

We continue to simplify open access publishing through our flat fee agreements, enabling institutions, funders and national consortia to transition from article-based payments to unlimited publishing models. This shift streamlines the process for researchers and allows institutions to plan budgets more effectively.

In 2024, we finalized flat fee agreements with the University of California, the German National Consortium and with the Swedish consortium Bibsam and supported 77 of our institutional partners in adopting this new model.



Speaking at Frontiers Planet Prize awards ceremony in 2024, Kamila explains why the prize was created, and describes the role of scientists in ensuring healthy, prosperous and safe lives for humanity within the planetary boundaries of our planet.

In 2023, we launched Frontiers in Science, our flagship multidisciplinary journal, to showcase groundbreaking research by renowned authors with the power to accelerate solutions for planetary and human health. Each article is enriched with a hub of complementary content – policy commentaries, lay summaries and infographics – ensuring that scientific discoveries are accessible not just to researchers, but to wider society. Frontiers in Science is rapidly advancing towards its stated goal of becoming the world's most impactful multidisciplinary journal.

Launched on Earth Day 2022, the Frontiers Planet Prize is the cornerstone of our mission – mobilizing science to accelerate solutions for healthy lives on a healthy planet. The prize recognizes and celebrates scientists whose research contributes breakthroughs in understanding and solving urgent environmental challenges.

By fostering competition and national pride in scientific excellence, the Frontiers Planet Prize has inspired institutions to showcase their best

researchers and breakthrough solutions. Over its first two years, we have recognized seven International Champions with USD 6.6 million in funding for their research spanning from freshwater biodiversity to air pollution mitigation.

Finally, Frontiers is a key strategic science partner at the World Economic Forum (WEF), and our aim is to establish open science as a core policy for governments. Because openly accessible science is integral to accelerating solutions for global challenges.

As partners we co-publish the Top 10 Emerging Technologies Report, to which selected Frontiers' editors contribute. The 2025 edition (our third co-publication) will once again identify technologies that have demonstrated the potential to scale and provide societal impact.

Collaboration is another of our core values and is at the heart of all progress. Only by working together across disciplines, institutions, and borders can we harness the full potential of open science to solve global challenges.

Thank you to everyone who has been part of this 17-year journey. We look forward to more partnerships, innovations, and real-world impact in our mission to accelerate healthy lives on a healthy planet by making rigorously reviewed science openly accessible to all.



Dr Kamila Markram
CEO and co-founder

Our publishing program

Our publishing program is unique and places researchers at the center to deliver a first-class publishing experience.



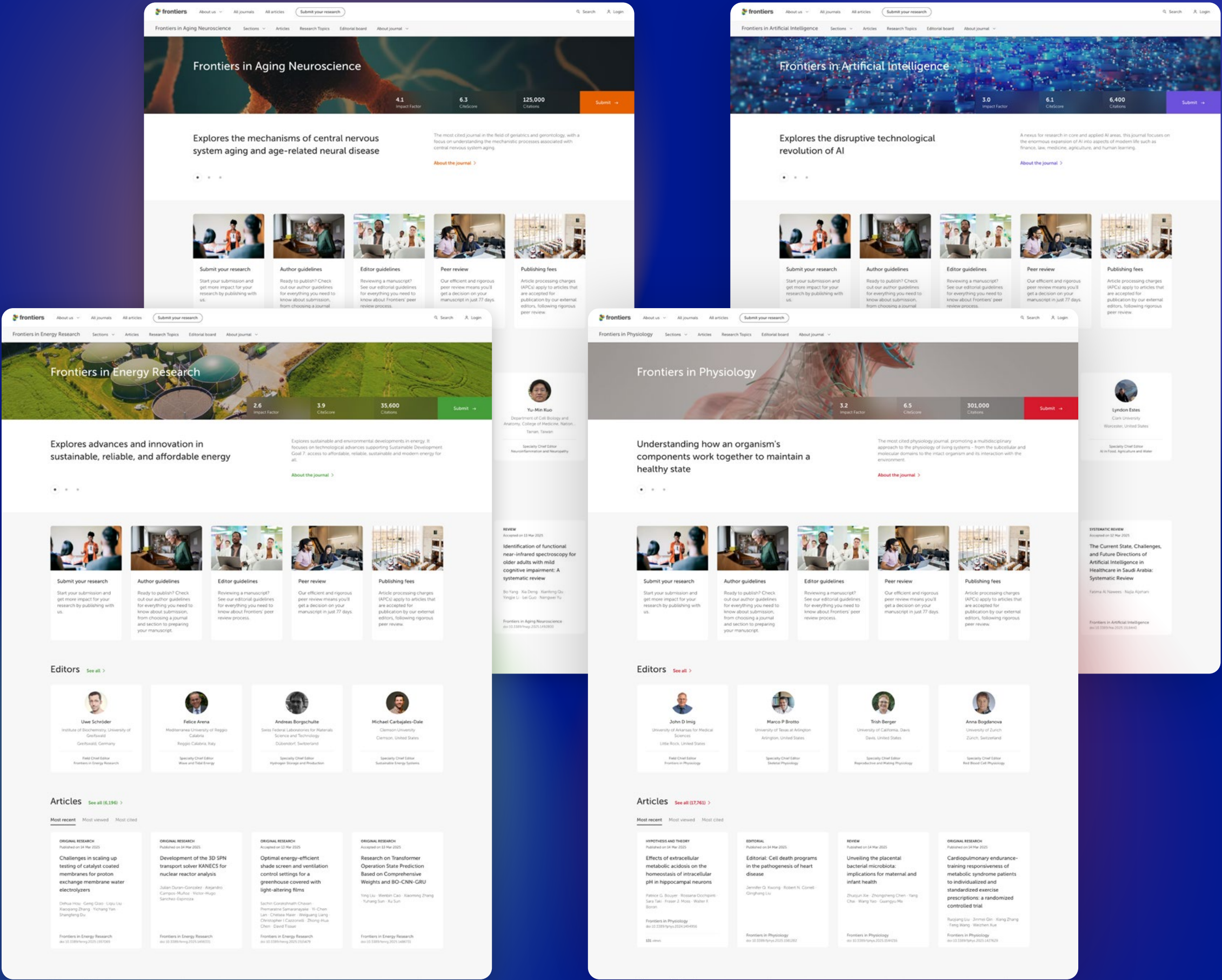
Leading journals and specialty sections

At the end of 2024, we publish **222 community-driven journals**, spanning more than **1,700 academic specialties**, many of which directly support the UN’s Sustainable Development Goals.

The organization of journals into specialty sections enables field chief editors to develop new sections as their field advances and grows. This includes scaling the editorial board to meet the needs of a growing journal while maintaining a rigorous and efficient peer review.

222
community-driven journals

1,700+
specialty sections



“Frontiers gave a great sense of community to everyone working smoothly together to make exciting research results available to all - from authors, review editors, associate editors, specialty chief editor and the ever-helpful editorial office team – we are all in this together!”



Brigitte Mauch-Mani

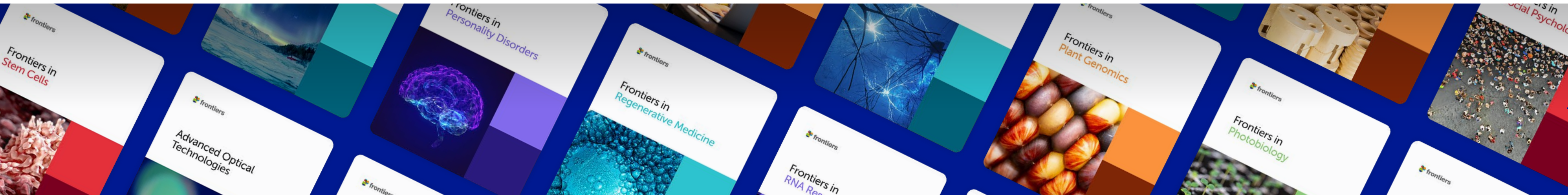
Retired from Université de Neuchâtel, Switzerland
Specialty Chief Editor, Frontiers in Plant Science



We publish 222 field journals that span 1,700 specialty sections

2007-2012	2013-2016	2017-2019	2020-2021		2022-2023		
<div>1. Neuroscience, IF: 3.2</div> <div>2. Hum. Neuroscience, IF: 2.4</div> <div>3. Aging Neuroscience, IF: 4.1</div> <div>4. Behav. Neuroscience, IF: 2.6</div> <div>5. Cell. Neuroscience , IF: 4.2</div> <div>6. Comp.I Neuroscience, IF: 2.1</div> <div>7. Mol. Neuroscience, IF: 3.5</div> <div>8. Neural Circuits, IF: 3.4</div> <div>9. Neuroanatomy, IF: 2.1</div> <div>10. Neuroinformatics, IF: 2.5</div> <div>11. Neurorobotics, IF: 2.6</div> <div>12. Integr. Neuroscience, IF: 2.6</div> <div>13. Synap. Neuroscience, IF: 2.8</div> <div>14. Syst. Neuroscience, IF 3.1</div> <div>15. Psychiatry, IF: 3.2</div> <div>16. Psychology , IF: 2.6</div> <div>17. Neurology, IF: 2.7</div> <div>18. Oncology, IF: 3.5</div> <div>19. Physiology , IF: 3.2</div> <div>20. Pharmacology, IF: 4.4</div> <div>21. Plant Science , IF: 4.1</div> <div>22. Microbiology, IF: 4.0</div> <div>23. Cell. Infect. Microbiol, IF: 4.6</div> <div>24. Immunology , IF: 5.7</div> <div>25. Endocrinology , IF: 3.9</div> <div>26. Genetics, IF: 2.8</div>	<div>27. Young Minds</div> <div>28. Pediatrics, IF: 2.1</div> <div>29. Chemistry , IF: 3.8</div> <div>30. Public Health, IF: 3.0</div> <div>31. Bio. & Biotech., IF: 4.3</div> <div>32. Physics, IF: 1.9</div> <div>33. Energy Research , IF: 2.6</div> <div>34. Earth Science , IF: 2.0</div> <div>35. Environ. Science , IF: 3.3</div> <div>36. Eco. and Evo, IF: 2.4</div> <div>37. Cell & Dev. Biology, IF: 4.6</div> <div>38. Marine Science, IF: 2.8</div> <div>39. Nutrition, IF: 4.0</div> <div>40. Surgery , IF: 1.6</div> <div>41. Cardio. Medicine , IF: 2.8</div> <div>42. Veterinary Science , IF: 2.6</div> <div>43. Molecular Biosci, IF: 3.9</div> <div>44. Medicine , IF: 3.1</div> <div>45. Materials , IF: 2.6</div> <div>46. Ast. & Space Sci, IF: 2.6</div> <div>47. Robotics and AI, IF: 2.9</div> <div>48. Built Environment, IF: 2.2</div> <div>49. Mechanical Engineering, IF: 2.0</div> <div>50. Res. Metrics & Analytics</div> <div>51. Education, IF: 1.9</div> <div>52. Communication, IF: 1.5</div> <div>53. Sociology, IF: 2.0</div> <div>54. Applied Math. and Statistics, IF: 1.3</div>	<div>55. Sust. Food Systems, IF: 3.7</div> <div>56. For. & Gl. Change, IF: 2.7</div> <div>57. Big Data, IF: 2.4</div> <div>58. Blockchain, IF: 1.9</div> <div>59. Artificial Intelligence, IF: 3.0</div> <div>60. Water, IF: 2.6</div> <div>61. Sports and Active Living, IF: 2.3</div> <div>62. Sustainable Cities, IF: 2.4</div> <div>63. Digital Health, IF: 3.2</div> <div>64. Chemical Engineering, IF: 2.5</div> <div>65. Nanotechnology, IF: 4.1</div> <div>66. Human Dynamics, IF: 2.2</div> <div>67. Medical Technology, IF: 2.7</div> <div>68. Toxicology, IF: 3.6</div> <div>69. Political Science, IF: 2.3</div> <div>70. Agronomy, IF: 3.5</div> <div>71. Climate, IF 3.3</div> <div>72. Computer Science, IF: 2.4</div>	<div>73. Adv. Drug. Alc. Res.</div> <div>74. Aerosp. Res. Comm.</div> <div>75. Aging, IF: 3.3</div> <div>76. Allergy, IF: 3.3</div> <div>77. Analytical Sci.</div> <div>78. Animal Sci, IF: 2.1</div> <div>79. Bioinformatics, IF: 2.8</div> <div>80. Biomaterials Sci.</div> <div>81. Catalysis</div> <div>82. Cl. Diabetes & Healthcare</div> <div>83. Comm. & Networks, IF: 2.1</div> <div>84. Conservation Sci., IF: 1.9</div> <div>85. Control Engineering</div> <div>86. Dental Medicine, IF: 1.5</div> <div>87. Drug Delivery</div> <div>88. Drug Discovery</div> <div>89. Drug Safety & Reg.</div> <div>90. Dystonia</div> <div>91. Electronics, IF: 1.9</div> <div>92. Electronic Materials</div> <div>93. Env. Chemistry</div> <div>94. Epidemiology</div> <div>95. Food Sci. & Tech.</div> <div>96. Fungal Biology, IF: 2.1</div> <div>97. Future Transportation, IF: 1.3</div> <div>98. Gastroenterology</div> <div>99. Genome Editing, IF: 4.9</div> <div>100. Global Women’s Health, IF: 2.3</div> <div>101. Health Services IF: 1.6</div> <div>102. Insect Sci, IF: 2.4</div> <div>103. Int. J. Pub. Health, IF: 2.6</div>	<div>104. J. Abd. Wall. Surg.</div> <div>105. Manufacturing Tech.</div> <div>106. Molecular Medicine</div> <div>107. Nephrology</div> <div>108. Network Physiology</div> <div>109. Neuroergonomics, IF: 1.5</div> <div>110. Neuroimaging</div> <div>111. Nuclear Medicine</div> <div>112. Ophthalmology</div> <div>113. Oral Health, IF: 3</div> <div>114. Pain Research, IF: 2.5</div> <div>115. Path. & Onc. Res., IF: 2.8</div> <div>116. Photonics</div> <div>117. Public Health Reviews, IF: 3.5</div> <div>118. Radiology</div> <div>119. Rehabilitation Sci, IF: 1.3</div> <div>120. Remote Sensing, IF: 3.4</div> <div>121. Reproductive Health, IF: 2.3</div> <div>122. Sensors</div> <div>123. Signal Processing IF: 1.3</div> <div>124. Soft Matter</div> <div>125. Soil Science, IF: 2.1</div> <div>126. Spanish J. Soil Sci, IF: 2.0</div> <div>127. Space Tech.</div> <div>128. Sustainability</div> <div>129. Systems Biology</div> <div>130. Thermal Engineering</div> <div>131. Tropical Diseases</div> <div>132. Urology</div> <div>133. Virology, IF: 2.0</div> <div>134. Virtual Reality, IF: 3.2</div>	<div>135. Frontiers in Science</div> <div>136. Acoustics</div> <div>137. Acta Virologica IF: 1.1</div> <div>138. Adolescent Medicine</div> <div>139. Aerospace Engineering</div> <div>140. Amphibian and Reptile Science</div> <div>141. Anesthesiology</div> <div>142. Antennas and Propagation</div> <div>143. Antibiotics</div> <div>144. Arachnid Science</div> <div>145. Audiology and Otology</div> <div>146. Aquaculture</div> <div>147. Bacteriology</div> <div>148. Batteries and Electrochemistry</div> <div>149. Bee Science</div> <div>150. Behavioral Economics</div> <div>151. Bird Science</div> <div>152. British J. Bio. Sci, IF: 2.7</div> <div>153. Carbon</div> <div>154. Cell Death</div> <div>155. Chemical Biology</div> <div>156. Child and Adolescent Psychiatry</div> <div>157. Coatings, Dyes and Int. Eng.</div> <div>158. Cognition</div> <div>159. Complex Systems</div> <div>160. Dementia</div> <div>161. Developmental Psychology</div> <div>162. Disaster and Emergency Medicine</div> <div>163. Energy Efficiency</div> <div>164. Environmental Archaeology</div> <div>165. Environmental Economics</div>	<div>166. Environmental Engineering</div> <div>167. Environmental Health</div> <div>168. Epigenetics and Epigenomics</div> <div>169. Ethology</div> <div>170. Eur. J. Cult. Man. & Pol, IF: 0.4</div> <div>171. Fish Science</div> <div>172. Freshwater Science</div> <div>173. Fuels</div> <div>174. Geochemistry</div> <div>175. Hematology</div> <div>176. High Performance Computing</div> <div>177. Horticulture</div> <div>178. Imaging</div> <div>179. Industrial Engineering</div> <div>180. Industrial Microbiology</div> <div>181. The Internet of Things</div> <div>182. Lab on a Chip Technologies</div> <div>183. Language Sciences</div> <div>184. Lupus</div> <div>185. Malaria</div> <div>186. Mammal Science</div> <div>187. Medical Engineering</div> <div>188. Membrane Science & Technology</div> <div>189. Metals and Alloys</div> <div>190. Microbiomes</div> <div>191. Natural Products</div> <div>192. Nuclear Engineering</div> <div>193. Oncology Reviews, IF: 3.1</div> <div>194. Organizational Psychology</div> <div>195. Parasitology</div> <div>196. Plant Physiology</div>	<div>197. Protistology</div> <div>198. J. Phar & Pharm. Sci, IF: 2.9</div> <div>199. Quantum Sci. & Tech.</div> <div>200. RNA Research</div> <div>201. Sleep</div> <div>202. Smart Grids</div> <div>203. Social Psychology</div> <div>204. Stroke</div> <div>205. Sustainable Energy Policy</div> <div>206. Sustainable Res. Mgmt.</div> <div>207. Sustainable Tourism</div> <div>208. Synthetic Biology</div> <div>209. Transplantation</div> <div>210. Transplant International, IF: 2.7</div> <div>211. Tuberculosis</div> <div>212. Adv. Opt. Tech IF: 2.3</div> <div>213. J Cutan Immunol All, If: 1.1</div> <div>214. Pastoralism, IF: 1.7</div> <div>215. Exp. Biol. Med., IF: 2.8</div> <div>216. Biophysics</div> <div>217. Cancer Control & Society</div> <div>218. Detector Science & Tech</div> <div>219. Musculoskeletal Disorders</div> <div>220. Ocean Sustainability</div> <div>221. Photobiology</div> <div>222. Acta Biochimica Polonica IF:1.4</div>
Data: Frontiers, October 2024 (2023 Journal Impact Factors)							

Data: Frontiers, October 2024
(2023 Journal Impact Factors)





Our journals support Sustainable Development Goals

From sustainable cities to water, many of our journals support the UN SDGs, an urgent call by all countries to safeguard peace and prosperity for people and the planet. This echoes our own mission established in 2007 – making science open to accelerate the solutions we need for healthy lives on a healthy planet.



frontiers

Frontiers in Environmental Health

frontiers

Frontiers in Membrane Science and Technology

frontiers

Frontiers in Energy Efficiency

frontiers

Frontiers in Smart Grids

frontiers

Frontiers in Sustainable Energy Policy

frontiers

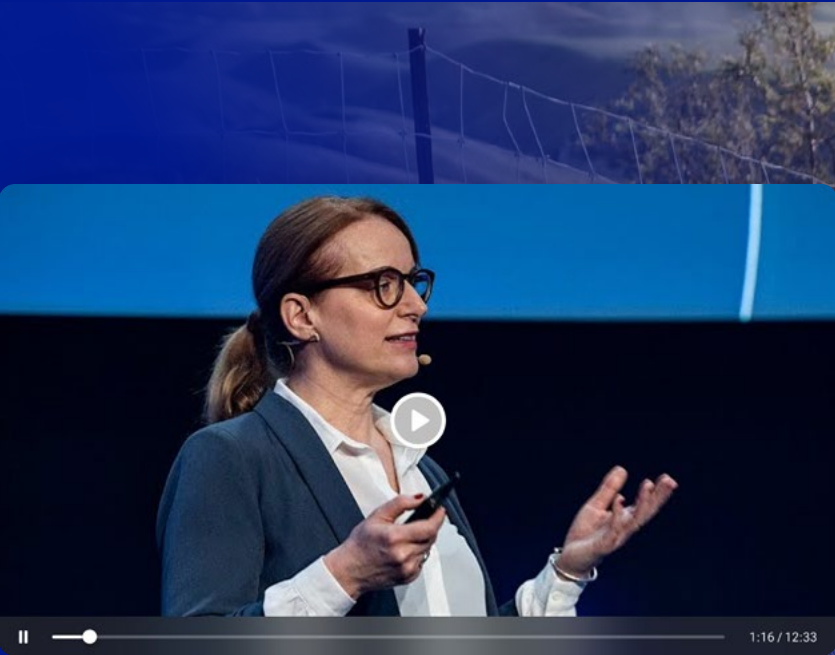
Frontiers in Sustainable Tourism

Frontiers in Science

Transformational science for healthy lives on a healthy planet

Frontiers in Science is our flagship multidisciplinary journal, focused on transformational science to accelerate solutions for healthy lives on a healthy planet.

Launched in 2023, the journal publishes a select number of exceptional, peer-reviewed lead articles invited from internationally renowned researchers. Each lead article is enriched by a hub of content making the science accessible to a wider audience. This includes expert perspectives, infographics, videos, and a version specifically for kids.



Watch: Speaking in 2023, Laure Sonnier, Executive Editor for Frontiers in Science, introduces our flagship journal which brings paradigm-shifting science to scientists, policymakers, industry, and the public.

850,000+

article
views

120,000+

article
downloads

420

citations in less
than two years



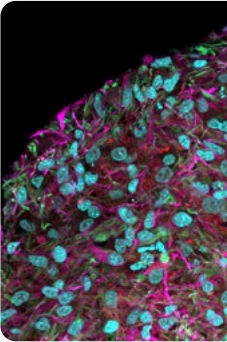
Frontiers in Science



Since its launch in 2023, Frontiers in Science has published **65 articles** across **17 research hubs** on topics like infectious diseases, climate change, and green hydrogen.

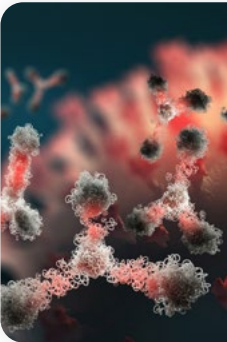
These articles have attracted more than **850,000 views, 120,000 downloads, and 420 citations**, along with media coverage in 690 outlets including The Guardian, BBC, World Economic Forum, Reuters, and CNN.

theguardian



Organoid intelligence: a new biocomputing frontier

Human brains outperform computers in many forms of processing and are far more energy efficient. What if we could harness their power in a new form of biological computing?



The future of medicine

The COVID-19 pandemic accelerated biomedical research, revolutionized vaccine development, and transformed public health practices. How will this shape the future of medicine?



Imperatives for reducing methane emissions

Methane emissions are rising rapidly and threaten our ability to achieve global climate goals. How can nations best meet their methane-reduction pledges?

“What an absolute pleasure to work with Frontiers in Science. The experience has renewed my faith in publishing. I wish there were more journals that would put this much effort to getting behind the science that’s being put out there for the good of the world.”



Eric Dinerstein

Conservation X Labs, US

Frontiers in Science corresponding author

[Conservation imperatives for biodiversity protection](#)



Research Topics: stimulating collaboration and innovation

Frontiers’ Research Topics are collaborative research hubs built around an emerging theme.

Defined, managed, and led by renowned researchers, they bring together communities of experts around a shared area of interest – stimulating collaboration and accelerating science.

While conceptualised as curated networks of specialised experts, Research Topics also attract many spontaneous authors with matching research interest. As is standard in Frontiers, all articles go through a rigorous review.

frontiers | Research Topics

Climate change, variability and sustainable food systems




460,000 views | 10 articles

Explores the impact of climate change and variability on sustainable farm productivity and food security, and the role of adaptation strategies in mitigating this impact.

frontiers | Research Topics

Marine Ecosystem Restoration (MER) – Challenges and new horizons



533,000 views | 23 articles

Highlights recent innovations in marine ecosystem restoration, deepens our understanding of successful restoration methods, and fosters the integration of ecological, sociological, and engineering perspectives into restoration practices.

frontiers | Research Topics

What do we know about COVID-19 implications for cardiovascular disease?



765,000 views | 109 articles

Discusses critical questions, including what we have learned so far, how this knowledge compares to insights gained from previous epidemics, and how we can effectively manage and monitor cardiovascular patients affected by COVID-19.

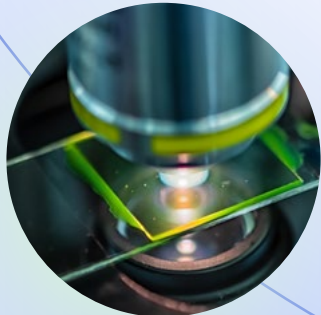
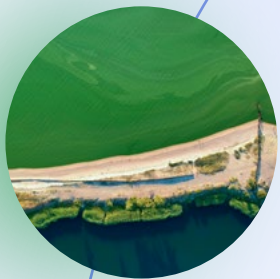
frontiers | Research Topics

Effective options regarding spay or neuter of dogs



2,400,000 views | 17 articles

Recent research questions the long-standing assumption that mandatory and indiscriminate spay-neuter policies are universally beneficial. This topic explores the diverse contexts and complexities surrounding spaying and neutering practices.



frontiers | Research Topics

Mechanistic Insights into Plant Biomechanical and Biochemical Adaptation to Climate Change

[Submit your paper >](#)



Boosting Research Topic impact

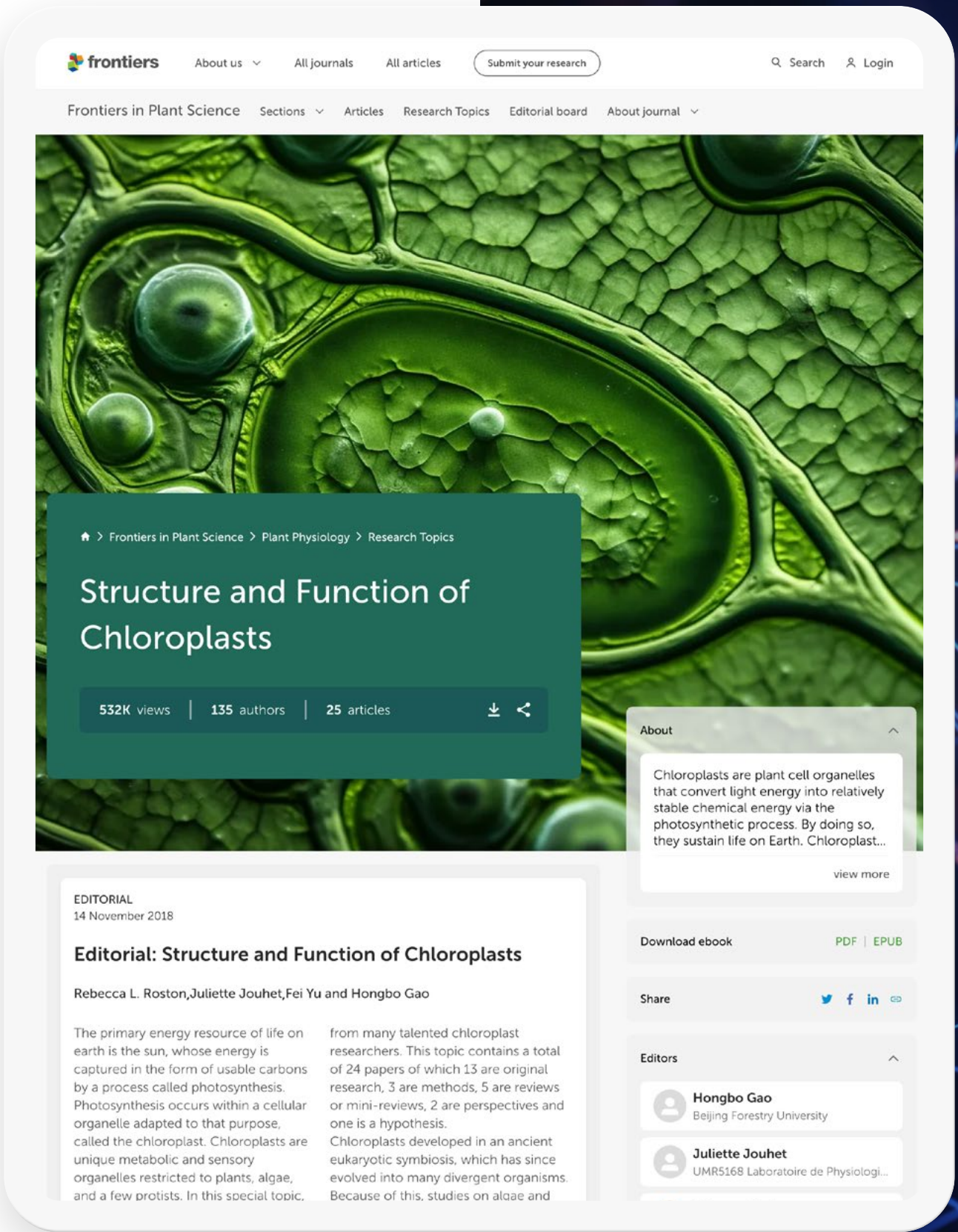
In 2023 we piloted a new magazine-style website page for Research Topics, making the content easier to browse and read. We used AI tools to support the page development and to create a compelling summary for each topic.

The result is a more engaging page which showcases the high-quality research within each topic and delivers more impact. New-look Research Topics gained **117% more downloads** and people spent **41% longer** browsing and reading the topic.

With this new product development we are delivering on our mission to maximize impact for our authors.

117%
more downloads with the new magazine-style Research Topics

41%
longer browsing and reading the topic



“Hosting a Research Topic provided a significant boost to our field of research. Our papers received hundreds of citations and were well received, demonstrating a substantial impact.”



Dr Andrea De Angelis
University of Zürich, Switzerland
Topic Editor, Frontiers in Political Science



Our institutional partnerships: accelerating the transition to open science

We are committed to financial models that support sustainable open access to science for both researchers and institutions.









With publishing agreements in place with more than 670 institutions, we simplify the payment of article processing charges and provide financial discounts for authors.

Flat fee agreements

In 2023, we took an important step forward by offering our institutional partners the option to pay one annual fee to cover unlimited publishing from members of their academic community. This greatly improves the experience for authors, who can then publish with us without the administration of handling an invoice. The agreements also provide simplicity, stability, and transparency to institutions in their financial planning and budgeting for publishing services. We currently have 77 research institutions covered by the flat fee model, including 11 from the University of California System, 46 in Sweden, and 17 in Germany.

These initiatives ensure that more researchers than ever can benefit from open access publishing and more institutions can join the transition to open science.

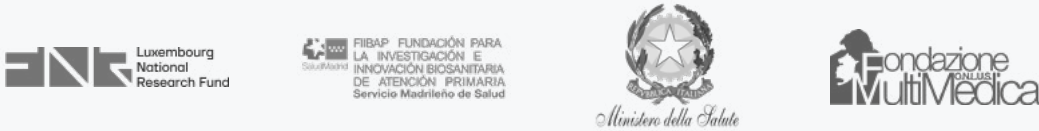
We pioneered fully transparent agreements at a national level

- | | |
|--|---|
|  Austria consortium |  Bibsam consortium |
|  National Library of Luxembourg (BnL) |  Consortium of Swiss Academic Libraries (CSAL) |
|  German National Library of Medicine (ZB MED) |  Qatar National Library |
|  Slovenian Consortium of Academic and Research Institutions (CTK) |  Norwegian Agency for Shared Services in Education and Research (Sikt) |

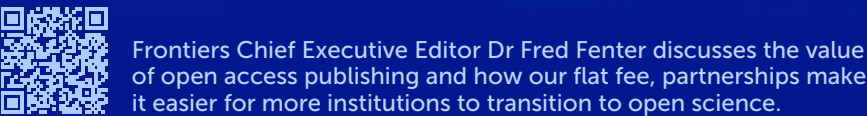
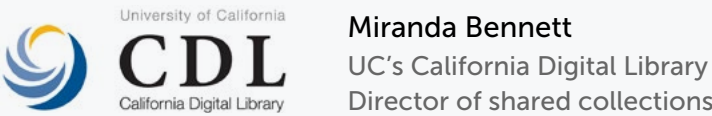
Our consortium-wide agreements support large communities of researchers



We also partner with funder organizations



“As a native open access publisher, Frontiers is a natural ally in our efforts to advance a more open, equitable, and transparent publishing landscape.”



Supporting our research community

Our fee support program ensures that all articles that pass peer review can benefit from open access publishing, regardless of the author’s field or funding situation. A portion of our income from APCs is used to support authors unable to pay publishing fees. Across 2023 and 2024, we waived more than USD 25 million in fee support for 22,000 published articles.

Editor recognition program

In 2023 and 2024 we piloted a community-focused program to recognize our editors’ contributions. Editors in pilot journals receive points for each manuscript they handle or review. Points are then redeemed against publishing fees, or donated to the community fund which helps researchers from low-income countries get published with Frontiers.

USD 25 million

fee support in
2023 and 2024



The background of the entire slide is a composite image. It features a view of Earth from space, showing swirling white clouds over a deep blue ocean. A bright sun is visible on the right side, creating a lens flare effect. Overlaid on this image is a complex network of data points and lines. These include numerous small, multi-colored squares (red, blue, yellow, green) and lines, many of which are accompanied by numerical values in various colors. The data points are scattered across the entire frame, giving the impression of a global data map or a scientific visualization of environmental or research data.

Our impact

Your research is making
a difference – that's why maximizing
its impact is important to us



Global visibility

There is an innovator in every corner of the globe

In 2024, we published 72,593 articles, each openly and permanently available immediately after publication, ensuring maximum readership and visibility.

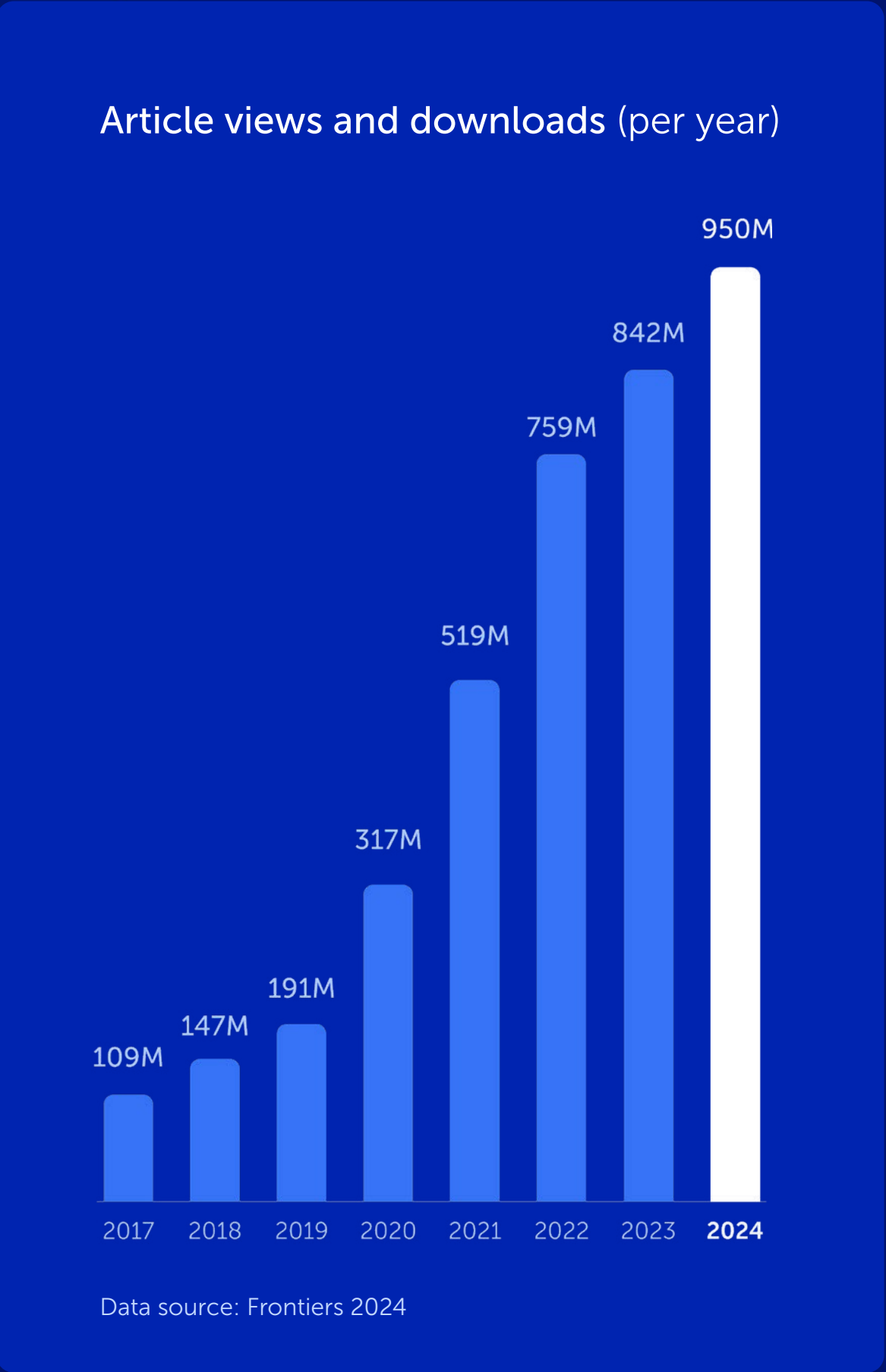
72,000+
new articles published in 2024

In 2024, articles published by Frontiers were viewed and downloaded 950 million times, making a total of 3.7 billion views and downloads to date.

3.7 billion
total views and downloads

Our articles were cited by researchers all over the world in the past year, now totaling 11 million.

11 million
total citations



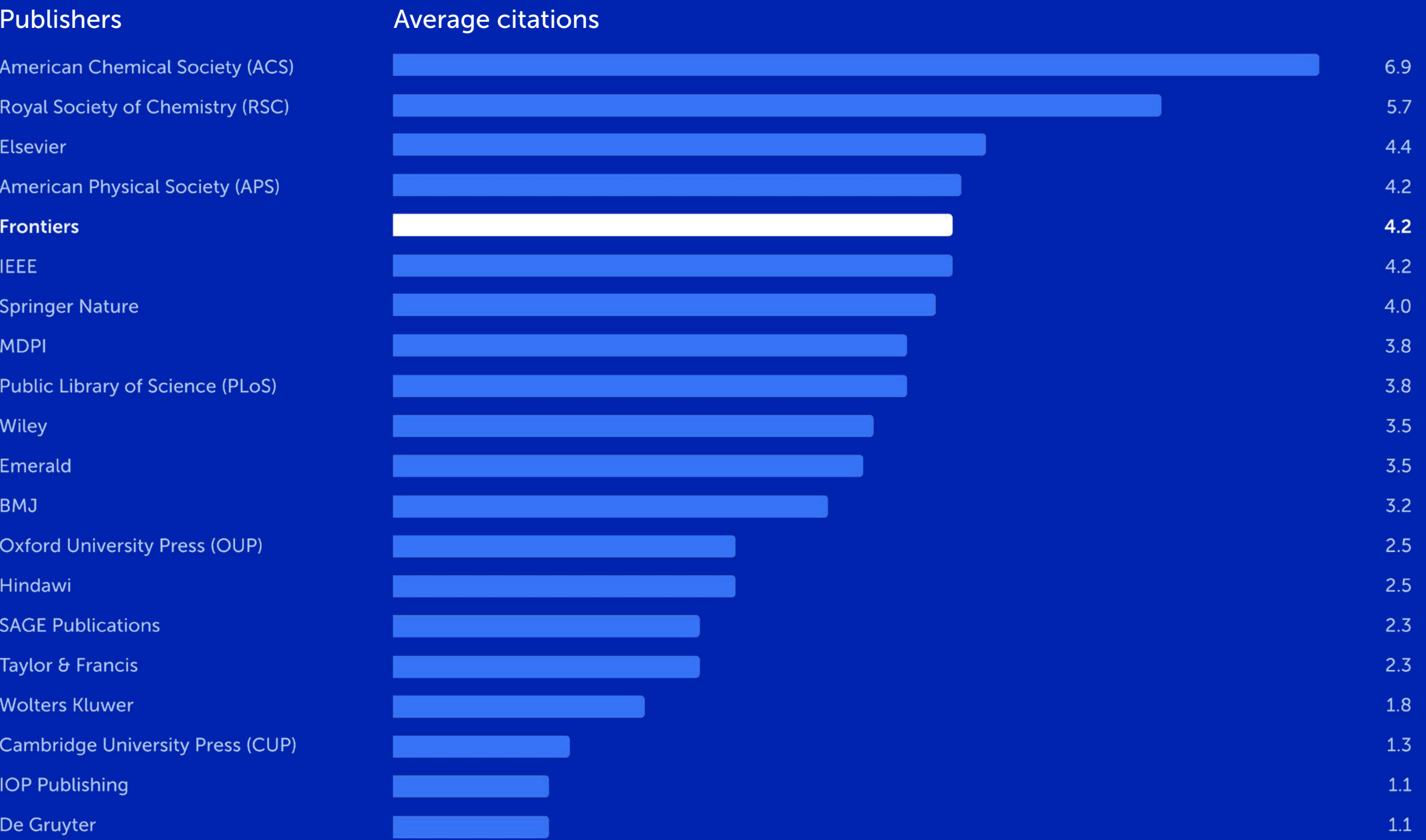
Our reach

Frontiers is the fifth most cited publisher among the 20 largest publishers with an average of 4.2 citations received by articles published in 2021, 2022, and 2023.

5th
most cited publisher

4.2
average citations

Average citations (by publisher)



Data source: analysis of the world's 20 largest publishers by volume, ranked by average number of citations in 2024, received by articles published in 2021, 2022 and 2023 (Dimensions, 2024)

“As an open access leader, Frontiers facilitates the dissemination of important high quality scientific results to a wide audience, boosting cross-disciplinary interactions, spurring collaborations and advancing scientific education.”



Dr Arianna Maffei

Stony Brook University, US

Specialty Chief Editor, Frontiers in Cellular Neuroscience

In the news

2024 news and feature highlights

Articles published in Frontiers’ journals were featured more than 19,000 times in the news.

19,108
news mentions in 2024 (Altmetric)

254,379
total news mentions (Altmetric)

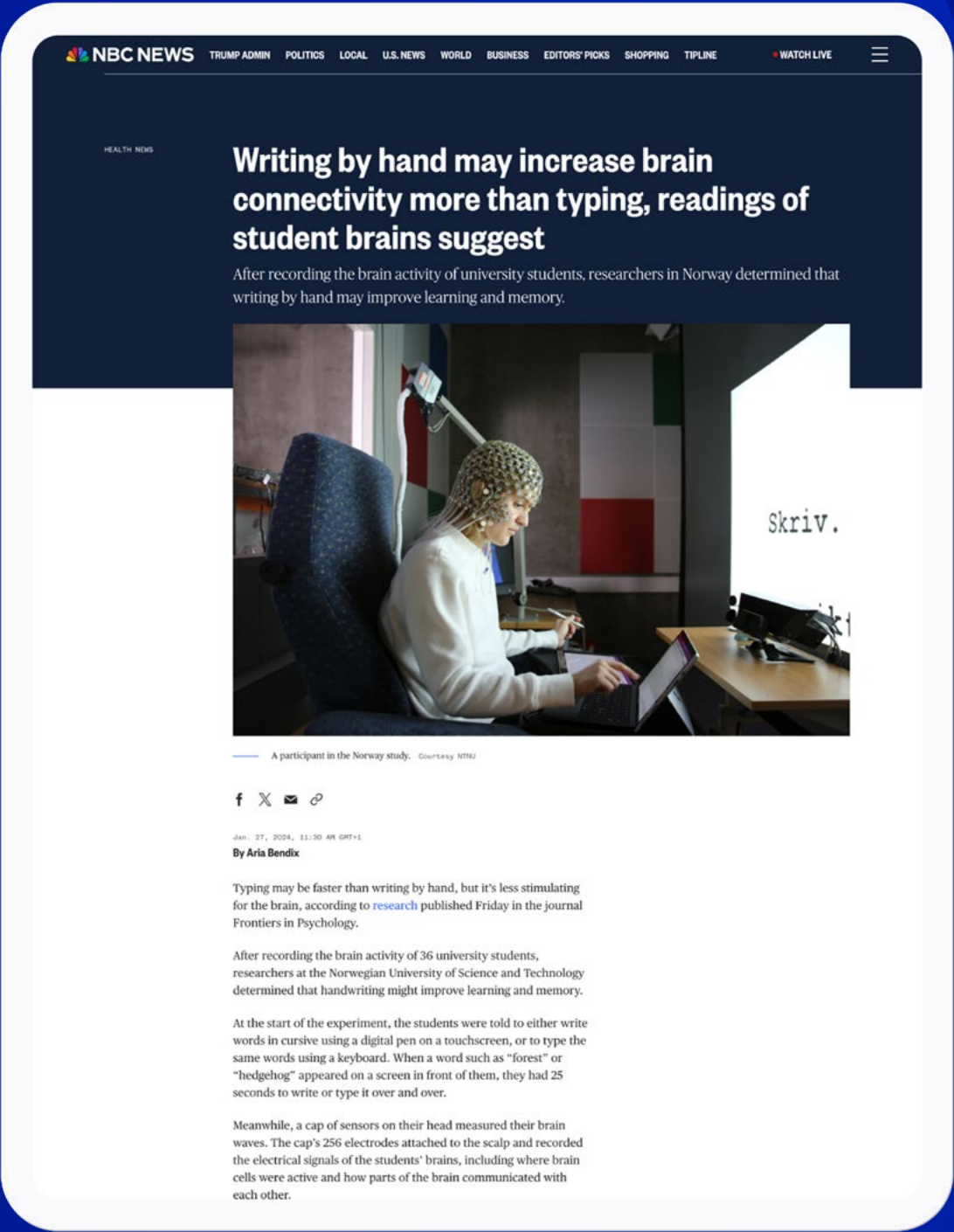


CASE STUDY

Featured in top news sites like NBC, Scientific American, Newsweek, The Times, and New Scientist



Read article



NBC NEWS

THE TIMES

SCIENTIFIC AMERICAN

The Washington Post

Newsweek

NewScientist

CNN

Forbes

NATIONAL GEOGRAPHIC

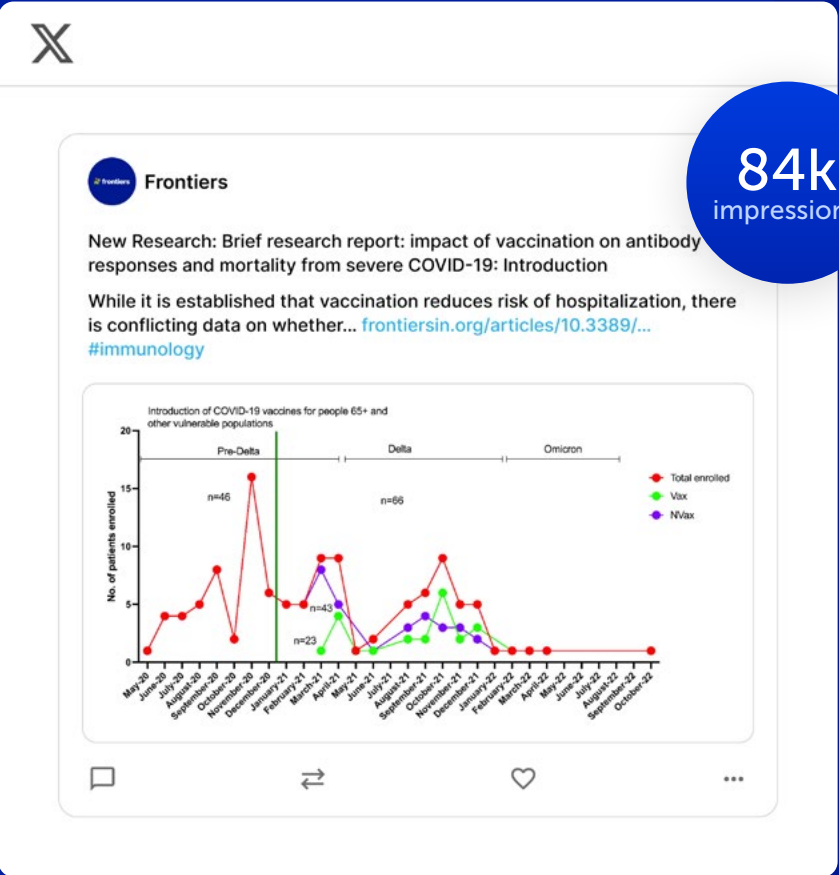
In the news

2024 social media highlights

In 2024, articles published in Frontiers' journals were mentioned more than 349,000 times across all social media channels.

349k+ social media mentions in 2024 (Altmetric)

3.4M total social media mentions (Altmetric)



Impact of vaccination on antibody responses and mortality from severe COVID-19

New research published in Frontiers in Immunology evaluates whether vaccination improves outcomes among hospitalized COVID-19 patients.

Frontiers

The Frontiers Planet Prize celebrates breakthroughs in Earth system and planetary science that enables society to stay within the safe boundaries of the planet's ecosystem. The prize puts scientific rigor and ingenuity at its heart, helping researchers worldwide accelerate society towards a green renaissance.

On Earth Day 2024, the Frontiers Planet Prize announced the second edition's 23 National Champions, based in institutions spread across 6 continents.

The 23 National Champions have published groundbreaking articles that contribute to our understanding of the Earth's systems and put forward pathways to transformative solutions with respect to the nine planetary boundaries. Their work spans a wide range of disciplines, from climate change mitigation and sustainable energy solutions to advancements in healthcare and technology.

As we get ready for the International Champions to be announced later this month, read more about the National Champions and their research <https://lnkd.in/gM9WZePD>

Read more about the National Champions and their research <https://lnkd.in/gM9WZePD>

Congratulations to all the National Champions!

[#EarthScience](#) [#Sustainability](#) [#ClimateChange](#) [#PlanetaryHealth](#) [#PlanetaryBoundaries](#)

frontiers planet prize 2024 National Champions

14k impressions

Frontiers Planet Prize national champions 2024

These 23 researchers from 23 different countries were voted as the 2024 National Champions by a jury of planetary health and Earth system science experts.

Frontiers

Methane is the second most important [#greenhousegas](#) driving [#climatechange](#).

This article, led by Prof Drew Shindell of **Nicholas School of the Environment at Duke**, published in **Frontiers in Science**, puts a spotlight on methane as the fastest way to slow global warming right now.

The levels are rising fast: between 2010 and 2019 a total warming of 1.07C was observed, of which half a degree was attributed to methane alone. Despite this, little action has been taken to reduce methane emissions, with most efforts continue to be focusing on CO2 mitigation.

The article outlines three methane imperatives for reducing emissions: Changing course and reversing methane emission growth

Imperatives for reducing methane emissions

47k impressions

Imperatives for reducing methane emissions

This article, led by Prof Drew Shindell of Nicholas School of the Environment at Duke, published in Frontiers in Science, puts a spotlight on methane as the fastest way to slow global warming right now.

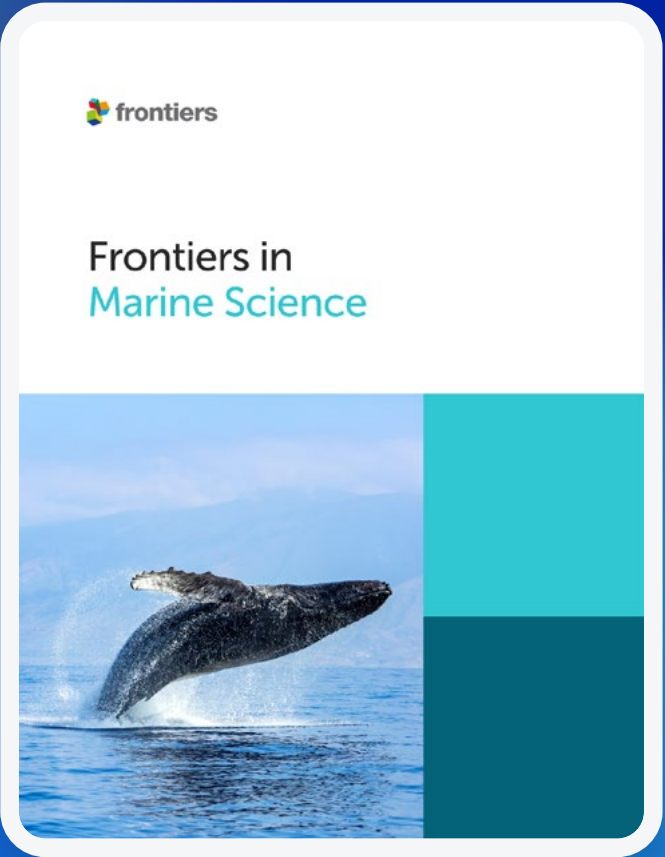
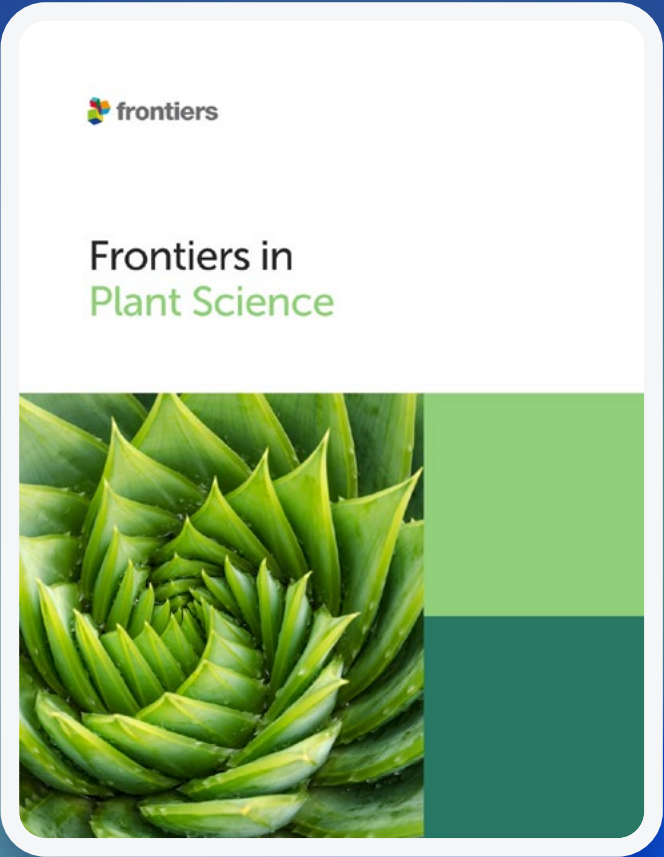
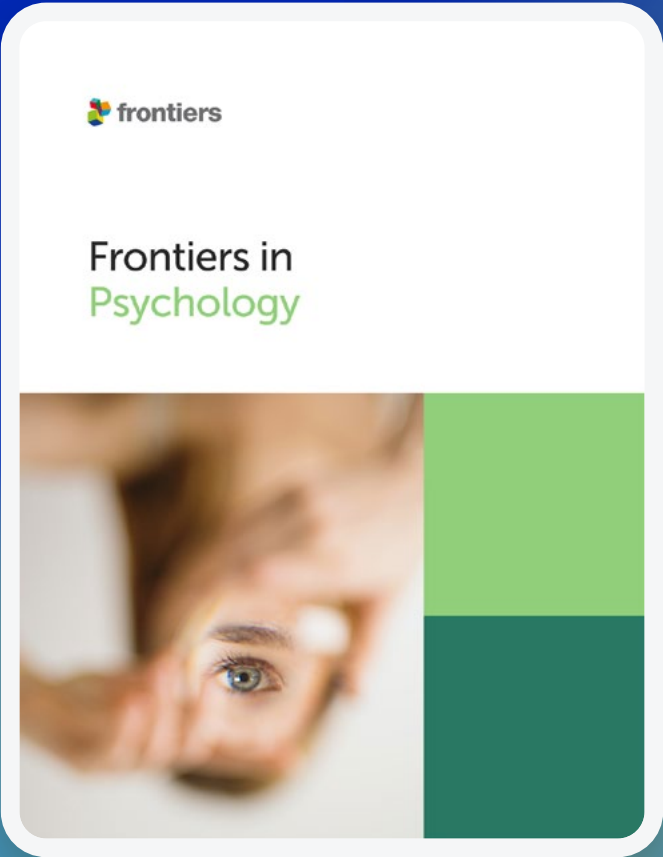
Journal impact metrics

Following the 2024 release of the Web of Science Group’s Journal Citation Report 2023, **109 journals have a Journal Impact Factor**. This is an increase of 37 from 72 journals in the previous year’s release – our biggest increase in a single year.

In Scopus, **we have 113 journals with a CiteScore**, including 29 who received their first CiteScore in 2023.



See our journal impact metrics in detail





Frontiers' journals rank most cited in 15 Journal Citation Reports categories

Many of our journals rank among the most influential in their fields. The graphs on this page show ranking of the top five most cited journals in their categories as released by the Web of Science Group in 2024. The bars represent the total number of citations received in 2023 for articles published in 2021 and 2022, with Frontiers' journals in blue.

Clinical Neurology

1st	Frontiers in Neurology	<div></div>	15,005
2nd	JOURNAL OF AFFECTIVE ...	<div></div>	14,175
3rd	NEUROLOGY	<div></div>	9,264
4th	BRAIN	<div></div>	8,059
5th	STROKE	<div></div>	7,310

Genetics & Heredity

1st	Frontiers in Genetics	<div></div>	17,437
2nd	Genes	<div></div>	12,415
3rd	NATURE GENETICS	<div></div>	10,567
4th	MOLECULAR BIOLOGY A...	<div></div>	8,045
5th	BMC GENOMICS	<div></div>	6,031

Microbiology

1st	Frontiers in Microbiology	<div></div>	37,803
2nd	Microorganisms	<div></div>	20,602
3rd	CLINICAL INFECTIOUS DI...	<div></div>	19,910
4th	Frontiers in Cellular and I...	<div></div>	15,045
5th	Pathogens	<div></div>	10,314

Pediatrics

1st	Frontiers in Pediatrics	<div></div>	8,138
2nd	PEDIATRICS	<div></div>	6,902
3rd	Children-Basel	<div></div>	6,114
4th	JAMA Pediatrics	<div></div>	5,095
5th	JOURNAL OF PEDIATRICS	<div></div>	3,055

Plant Sciences

1st	Frontiers in Plant Science	<div></div>	35,350
2nd	Plants-Basel	<div></div>	25,421
3rd	Agronomy-Basel	<div></div>	19,074
4th	JOURNAL OF ETHNOPH...	<div></div>	11,605
5th	NEW PHYTOLOGIST	<div></div>	10,725

Developmental Biology

1st	Frontiers in Cell and Deve...	<div></div>	29,253
2nd	DEVELOPMENTAL CELL	<div></div>	4,138
3rd	DEVELOPMENT	<div></div>	2,821
4th	SEMINARS IN CELL & DE...	<div></div>	2,524
5th	PLACENTA	<div></div>	1,343

Geriatrics & Gerontology

1st	Frontiers in Aging Neuros...	<div></div>	9,920
2nd	Aging-US	<div></div>	8,040
3rd	BMC Geriatrics	<div></div>	5,802
4th	AGEING RESEARCH REVI...	<div></div>	5,466
5th	Journal of Cachexia Sarc...	<div></div>	4,171

Marine & Freshwater Biology

1st	Frontiers in Marine Science	<div></div>	13,336
2nd	Marine Pollution Bulletin	<div></div>	12,548
3rd	AQUACULTURE	<div></div>	11,766
4th	FISH & SHELLFISH IMMU...	<div></div>	4,641
5th	AQUATIC TOXICOLOGY	<div></div>	2,032

Pharmacology & Pharmacy

1st	Frontiers in Pharmacology	<div></div>	40,942
2nd	Pharmaceutics	<div></div>	24,201
3rd	BIOMEDICINE & PHARMA...	<div></div>	20,860
4th	Biomedicines	<div></div>	20,359
5th	Antibiotics-Basel	<div></div>	14,255

Psychiatry

1st	Frontiers in Psychiatry	<div></div>	16,945
2nd	JOURNAL OF AFFECTIVE ...	<div></div>	14,175
3rd	MOLECULAR PSYCHIATRY	<div></div>	8,842
4th	PSYCHOLOGICAL MEDIC...	<div></div>	7,278
5th	Translational Psychiatry	<div></div>	6,358

Endocrinology & Metabolism

1st	Frontiers in Endocrinology	<div></div>	20,515
2nd	DIABETES CARE	<div></div>	10,370
3rd	JOURNAL OF CLINICAL E...	<div></div>	7,925
4th	Cell Metabolism	<div></div>	7,595
5th	FREE RADICAL BIOLOGY ...	<div></div>	6,648

Immunology

1st	Frontiers in Immunology	<div></div>	78,711
2nd	CLINICAL INFECTIOUS DI...	<div></div>	19,910
3rd	Vaccines	<div></div>	18,719
4th	Frontiers in Cellular and I...	<div></div>	15,045
5th	Journal for ImmunoThera...	<div></div>	10,896

Neurosciences

1st	Frontiers in Neurology	<div></div>	15,005
2nd	Frontiers in Neuroscience	<div></div>	12,666
3rd	Frontiers in Aging Neuros...	<div></div>	9,920
4th	NEUROIMAGE	<div></div>	9,219
5th	MOLECULAR PSYCHIATRY	<div></div>	8,842

Physiology

1st	Frontiers in Physiology	<div></div>	16,155
2nd	Physiological Reviews	<div></div>	2,570
3rd	JOURNAL OF PHYSIOLO...	<div></div>	2,513
4th	JOURNAL OF CELLULAR ...	<div></div>	2,509
5th	AMERICAN JOURNAL OF ...	<div></div>	2,210

Psychology, Multidisciplinary

1st	Frontiers in Psychology	<div></div>	36,332
2nd	CURRENT PSYCHOLOGY	<div></div>	8,535
3rd	COMPUTERS IN HUMAN ...	<div></div>	7,848
4th	JOURNALS OF GERONT...	<div></div>	2,904
5th	Current Opinion in Psych...	<div></div>	2,854



Frontiers’ journals rank most cited in 17 CiteScore categories

The graphs on this page show ranking of the top five most cited journals in their CiteScore categories, as released by Scopus, Elsevier, in 2024. The bars represent the number of citations received from 2020 to 2023 for articles published in the same four years, with Frontiers’ journals in blue.

Cell Biology

1st	Frontiers in Cell and Deve...	<div></div>	86,985
2nd	Antioxidants	<div></div>	82,509
3rd	Cell Death and Disease	<div></div>	58,900
4th	Blood	<div></div>	50,637
5th	Nature Methods	<div></div>	45,477

Genetics (clinical)

1st	Frontiers in Genetics	<div></div>	52,627
2nd	Genes	<div></div>	42,071
3rd	PLoS Genetics	<div></div>	16,026
4th	Nature Reviews Genetics	<div></div>	14,934
5th	Genetics in Medicine	<div></div>	13,305

Immunology and Allergy

1st	Frontiers in Immunology	<div></div>	227,143
2nd	International Immunopha...	<div></div>	37,861
3rd	Nature Reviews Immunol...	<div></div>	36,443
4th	Pathogens	<div></div>	36,007
5th	Journal for ImmunoThera...	<div></div>	35,347

Neurology

1st	Frontiers in Neurology	<div></div>	47,769
2nd	NeuroImage	<div></div>	39,451
3rd	Journal of Neuroinflam...	<div></div>	20,264
4th	Journal of Neurology	<div></div>	19,356
5th	Ageing Research Reviews	<div></div>	15,686

Pharmacology

1st	Frontiers in Pharmacology	<div></div>	113,227
2nd	Biomedicine and Pharma...	<div></div>	70,773
3rd	Vaccines	<div></div>	55,025
4th	Journal of Ethnopharmac...	<div></div>	40,231
5th	European Journal of Med...	<div></div>	39,199

Psychiatry and Mental Health

1st	Frontiers in Psychiatry	<div></div>	56,994
2nd	Journal of Affective Disor...	<div></div>	56,582
3rd	Psychiatry Research	<div></div>	37,938
4th	Molecular Psychiatry	<div></div>	35,213
5th	The Lancet Psychiatry	<div></div>	22,347

Developmental Biology

1st	Frontiers in Cell and Deve...	<div></div>	86,985
2nd	International Journal of B...	<div></div>	21,931
3rd	Developmental Cell	<div></div>	16,266
4th	Development (Cambridge)	<div></div>	11,101
5th	Seminars in Cell and Dev...	<div></div>	10,131

Histology

1st	Frontiers in Bioengineeri...	<div></div>	56,891
2nd	Journal of Extracellular V...	<div></div>	11,139
3rd	Bone	<div></div>	11,040
4th	Histopathology	<div></div>	7,245
5th	Cell Systems	<div></div>	5,617

Microbiology

1st	Frontiers in Microbiology	<div></div>	129,432
2nd	Foods	<div></div>	98,678
3rd	Microorganisms	<div></div>	73,481
4th	Antibiotics	<div></div>	43,784
5th	Frontiers in Cellular and I...	<div></div>	43,556

Neurology (clinical)

1st	Frontiers in Neurology	<div></div>	47,769
2nd	Neurology	<div></div>	38,524
3rd	Stroke	<div></div>	28,011
4th	World Neurosurgery	<div></div>	26,350
5th	Brain	<div></div>	26,103

Pharmacology (medical)

1st	Frontiers in Pharmacology	<div></div>	113,227
2nd	Vaccines	<div></div>	55,025
3rd	Antibiotics	<div></div>	43,784
4th	Cochrane Database of Sy...	<div></div>	31,012
5th	European Review for Me...	<div></div>	25,358

Psychology (all)

1st	Frontiers in Psychology	<div></div>	119,948
2nd	Computers in Human Be...	<div></div>	28,811
3rd	Current Psychology	<div></div>	19,554
4th	Personality and Individual...	<div></div>	18,171
5th	Appetite	<div></div>	13,878

Endocrinology, Diabetes and Metabo...

1st	Frontiers in Endocrinology	<div></div>	53,205
2nd	Diabetes Care	<div></div>	44,018
3rd	Frontiers in Nutrition	<div></div>	33,285
4th	Journal of Clinical Endoc...	<div></div>	30,748
5th	Diabetes and Metabolic S...	<div></div>	22,762

Immunology

1st	Frontiers in Immunology	<div></div>	227,143
2nd	Cell Death and Disease	<div></div>	58,900
3rd	Vaccines	<div></div>	55,025
4th	Blood	<div></div>	50,637
5th	Frontiers in Cellular and I...	<div></div>	43,556

Microbiology (medical)

1st	Frontiers in Microbiology	<div></div>	129,432
2nd	Clinical Infectious Diseases	<div></div>	95,707
3rd	Microorganisms	<div></div>	73,481
4th	International Journal of I...	<div></div>	48,862
5th	Antibiotics	<div></div>	43,784

Neuroscience subject area

1st	Frontiers in Neuroscience...	<div></div>	130,698
2nd	eLife	<div></div>	98,674
3rd	Neurocomputing	<div></div>	71,734
4th	Cell Death and Disease	<div></div>	58,900
5th	Frontiers in Neurology	<div></div>	47,769

Plant Science

1st	Frontiers in Plant Science	<div></div>	106,821
2nd	Foods	<div></div>	98,678
3rd	Plants	<div></div>	80,226
4th	New Phytologist	<div></div>	46,602
5th	Environmental Technolo...	<div></div>	31,345

Journal Impact Factors and Citescores

Journal	2023 Impact Factor	2023 CiteScore	2023 JIF rank quartile	2023 CiteScore rank quartile
Frontiers in Aging	3.3	3.0	Q2	Q3
Frontiers in Aging Neuroscience	4.1	6.3	Q2	Q2
Frontiers in Agronomy	3.5	4.8	Q1	Q1
Frontiers in Allergy	3.3	2.8	Q2	Q3
Frontiers in Animal Science	2.1	2.3	Q1	Q2
Frontiers in Applied Mathematics and Statistics	1.3	1.9	Q3	Q3
Frontiers in Artificial Intelligence	3.0	6.1	Q2	Q2
Frontiers in Astronomy and Space Sciences	2.6	3.4	Q2	Q2
Frontiers in Behavioral Neuroscience	2.6	4.7	Q2	Q2
Frontiers in Big Data	2.4	5.2	Q2	Q1
Frontiers in Bioengineering and Biotechnology	4.3	8.3	Q1	Q1
Frontiers in Bioinformatics	2.8	2.6	Q2	Q2
Frontiers in Blockchain	1.9	7.0	Q3	Q1
Frontiers in Built Environment	2.2	4.8	Q2	Q1
Frontiers in Cardiovascular Medicine	2.8	3.8	Q2	Q2
Frontiers in Cell and Developmental Biology	4.6	9.7	Q1	Q1
Frontiers in Cellular and Infection Microbiology	4.6	7.9	Q1	Q1
Frontiers in Cellular Neuroscience	4.2	7.9	Q2	Q2
Frontiers in Chemical Engineering	2.5	3.5	Q3	Q3
Frontiers in Chemistry	3.8	8.5	Q2	Q1
Frontiers in Climate	3.3	4.5	Q2	Q2
Frontiers in Clinical Diabetes and Healthcare		1.0		Q4
Frontiers in Communication	1.5	3.3	Q2	Q1
Frontiers in Communications and Networks	2.1	4.9	Q3	Q2
Frontiers in Computational Neuroscience	2.1	5.3	Q2	Q1
Frontiers in Computer Science	2.4	4.3	Q3	Q2
Frontiers in Conservation Science	1.9	2.6	Q2	Q2
Frontiers in Dental Medicine	1.5	2.1	Q3	Q2
Frontiers in Digital Health	3.2	4.2	Q1	Q2
Frontiers in Earth Science	2.0	3.5	Q3	Q2
Frontiers in Ecology and Evolution	2.4	4.0	Q2	Q2
Frontiers in Education	2.3	2.9	Q2	Q2
Frontiers in Electronics	1.9		Q3	
Frontiers in Endocrinology	3.9	5.7	Q2	Q2
Frontiers in Energy Research	2.6	3.9	Q3	Q2
Frontiers in Environmental Science	3.3	4.5	Q2	Q2
Frontiers in Forests and Global Change	2.7	4.5	Q1	Q1
Frontiers in Fungal Biology	2.1	2.7	Q3	Q2
Frontiers in Future Transportation	1.3	2.2	Q3	Q2
Frontiers in Genetics	2.8	5.5	Q2	Q2

Journal	2023 Impact Factor	2023 CiteScore	2023 JIF rank quartile	2023 CiteScore rank quartile
Frontiers in Genome Editing	4.9	7.0	Q1	Q2
Frontiers in Global Women’s Health	2.3	3.7	Q1	Q1
Frontiers in Health Services	1.6	1.0	Q3	Q3
Frontiers in Human Dynamics	2.2	2.8	Q1	Q2
Frontiers in Human Neuroscience	2.4	4.7	Q2	Q2
Frontiers in Immunology	5.7	9.8	Q1	Q1
Frontiers in Insect Science	2.4	1.8	Q1	Q3
Frontiers in Integrative Neuroscience	2.6	4.6	Q2	Q2
Frontiers in Marine Science	2.8	5.1	Q1	Q1
Frontiers in Materials	2.6	4.8	Q3	Q2
Frontiers in Mechanical Engineering	2.0	4.4	Q2	Q2
Frontiers in Medical Technology	2.7	3.7	Q3	Q1
Frontiers in Medicine	3.1	5.1	Q1	Q1
Frontiers in Microbiology	4.0	7.7	Q2	Q2
Frontiers in Molecular Biosciences	3.9	7.2	Q2	Q1
Frontiers in Molecular Neuroscience	3.5	5.7	Q2	Q3
Frontiers in Nanotechnology	4.1	7.1	Q2	Q1
Frontiers in Network Physiology		2.7		Q3
Frontiers in Neural Circuits	3.4	6.0	Q2	Q1
Frontiers in Neuroanatomy	2.1	4.7	Q1	Q2
Frontiers in Neuroergonomics	1.5		Q3	
Frontiers in Neuroinformatics	2.5	4.8	Q2	Q2
Frontiers in Neurology	2.7	4.9	Q2	Q2
Frontiers in Neurorobotics	2.6	5.2	Q3	Q2
Frontiers in Neuroscience	3.2	6.2	Q2	Q2
Frontiers in Nuclear Medicine		0.9		Q4
Frontiers in Nutrition	4.0	5.2	Q2	Q2
Frontiers in Oncology	3.5	6.2	Q2	Q2
Frontiers in Ophthalmology		0.5		Q4
Frontiers in Oral Health	3.0	3.3	Q1	Q1
Frontiers in Pain Research	2.5	2.1	Q2	Q1
Frontiers in Pediatrics	2.1	3.6	Q2	Q2
Frontiers in Pharmacology	4.4	7.8	Q1	Q1
Frontiers in Physics	1.9	4.5	Q2	Q1
Frontiers in Physiology	3.2	6.5	Q2	Q2
Frontiers in Plant Science	4.1	7.3	Q1	Q1
Frontiers in Political Science	2.3	2.9	Q1	Q1
Frontiers in Psychiatry	3.2	6.2	Q2	Q1
Frontiers in Psychology	2.6	5.3	Q2	Q1
Frontiers in Public Health	3.0	4.8	Q2	Q2

Journal	2023 Impact Factor	2023 CiteScore	2023 JIF rank quartile	2023 CiteScore rank quartile
Frontiers in Radiology		1.2		Q3
Frontiers in Rehabilitation Sciences	1.3	1.1	Q3	Q3
Frontiers in Remote Sensing	3.4	3.9	Q2	Q2
Frontiers in Reproductive Health	2.3	2.0	Q2	Q2
Frontiers in Research Metrics and Analytics		3.5		Q1
Frontiers in Robotics and AI	2.9	6.5	Q2	Q2
Frontiers in Signal Processing	1.3		Q3	
Frontiers in Sociology	2.0	3.4	Q2	Q1
Frontiers in Soil Science	2.1	1.9	Q3	Q3
Frontiers in Sports and Active Living	2.3	2.6	Q2	Q1
Frontiers in Surgery	1.6	1.9	Q2	Q2
Frontiers in Sustainability		3.3		Q2
Frontiers in Sustainable Cities	2.4	4.0	Q2	Q1
Frontiers in Sustainable Food Systems	3.7	5.6	Q2	Q1
Frontiers in Synaptic Neuroscience	2.8	7.1	Q2	Q2
Frontiers in Systems Neuroscience	3.1	6.0	Q2	Q1
Frontiers in Toxicology	3.6	3.8	Q2	Q1
Frontiers in Tropical Diseases		1.6		Q3
Frontiers in Urology		0.4		Q4
Frontiers in Veterinary Science	2.6	4.8	Q1	Q1
Frontiers in Virology	2.0		Q4	
Frontiers in Virtual Reality	3.2	5.8	Q2	Q1
Frontiers in Water	2.6	4.0	Q2	Q2
Acta Biochimica Polonica	1.4	2.4	Q4	Q3
Acta Virologica	1.1	3.1	Q4	Q3
Advanced Optical Technologies	2.3	4.4	Q2	Q2
British Journal of Biomedical Science	2.7	4.4	Q2	Q2
European Journal of Cultural Management and Policy	0.4			
Experimental Biology and Medicine	2.8	6.0	Q2	Q2
International Journal of Public Health	2.6	4.2	Q2	Q2
Journal of Cutaneous Immunology and Allergy	1.1	0.6	Q4	Q4
Journal of Pharmacy and Pharmaceutical Sciences	2.9	6.9	Q2	Q1
Oncology Reviews	3.1	6.3	Q2	Q2
Pastoralism: Research, Policy and Practice	1.7	4.2	Q3	Q1
Pathology and Oncology Research	2.3	6.3	Q2	Q1
Public Health Reviews	3.5	8.3	Q1	Q1
Spanish Journal of Soil Science	2.0	2.2	Q3	Q3
Transplant International	2.7	4.7	Q1	Q2

Our commitment to quality and research integrity

Quality and integrity are built
by design into everything we do
to safeguard academic research.



“Because our published articles are openly accessible, every mistake we potentially make is under the spotlight, fully visible to everybody in the world. Can we afford to cut corners? We can’t. Therefore, quality is at the center of everything we do.”



Dimitri Christodoulou
Publishing Development Director



Our Publishing Development Director Dimitri Christodoulou outlines Frontiers' evolving quality control processes and tools for ensuring scientific excellence at scale

Our rigorous and transparent peer review

High-quality, reliable research is essential for informed decision-making by other researchers, practitioners, policymakers, and the public to address global challenges. When research undergoes rigorous expert review, it builds a foundation of trust in the scientific record that can accelerate scientific progress and societal impact.

At Frontiers, we take a unique approach to peer review and research integrity, combining human expertise with cutting-edge technology to ensure scientific excellence at scale.

The result is high-quality publications with measurable impact, reflected in our strong quality ratings and citation rates. By combining expertise, integrity, and innovation, we set a new standard for trust and excellence in open science.



Editorial boards

Our editorial boards are made up of leading researchers who bring deep expertise to the peer review process, ensuring rigorous assessment of every article.



Our research integrity and review teams

Our dedicated research integrity team, one of the largest in the industry, has more than a decade of experience in doing the detective work to assess the quality and integrity of manuscripts before, during, and after peer review, safeguarding the reliability and credibility of published work. Simultaneously, our review team supports handling editors, reviewers and authors at every stage of the peer review.



AI and technology

Our advanced AI and technology performs quality checks that would be impossible at scale through human effort alone, and always in conjunction with human validation.

Our expert editorial boards

The first aspect of our unique approach is our editorial boards, comprised of scientists from the world’s top institutions, who bring their expertise to the peer review process.

Our journals are overseen by world-leading scientists as chief editors, and edited and reviewed by active researchers, empowering them to drive progress and shape their fields.

In 2024, our global research community included **3.3 million published authors, 63,332 editors and 596,332 reviewers across 164 countries**, all playing a vital role in maintaining the highest standards of research quality and integrity.



Institutions	Editors	Reviewers	Authors
University of California System	643	8,272	16,783
Chinese Academy of Sciences (CAS)	499	6,638	15,753
Centre National de la Recherche Scientifique (CNRS)	449	4,003	12,065
University of Texas System	442	4,717	7,696
Harvard University	427	5,364	8,107
State University System of Florida	370	3,436	6,384
Spanish National Research Council (CSIC)	313	2,013	4,985
National Institutes of Health (NIH)	256	3,035	4,901
University of London	237	2,561	5,096
University of North Carolina System	215	2,479	4,440
Helmholtz Association of German Research Centres (HZ)	206	1,959	6,219
Johns Hopkins University	204	2,070	4,110
INSERM	180	1,543	5,865
University of São Paulo	179	2,485	5,170
University of Pittsburgh	174	1,588	3,109
University of Toronto	167	1,693	3,955
University of Michigan	140	1,721	3,465
The Ohio State University	140	1,380	3,126
The University of Melbourne	139	1,485	3,213
McGill University	136	1,141	2,639
The University of Queensland	133	1,423	2,573
Cornell University	131	1,993	3,513
Yale University	123	1,538	2,304
Imperial College London	117	1,189	2,730
Stanford University	116	1,932	3,486
King's College London	115	1,173	2,422
The University of Tokyo	114	1,073	2,332
The University of Sydney	114	1,151	2,338
University of British Columbia	112	1,130	3,021
University of Copenhagen	109	1,285	3,491



Our research integrity and review teams

The second aspect of our approach to scientific excellence at scale is the work of our expert in-house teams.

One of the largest and most experienced in the publishing industry, our research integrity team is responsible for safeguarding the integrity of Frontiers’ scientific record, both pre- and post-publication.

As well as quality checks before, during, and after peer review, a dedicated auditing division unique to Frontiers focuses on proactively investigating authors

linked to wider patterns of misconduct to uncover networks of large-scale organizational fraud. We are confident that we have the most advanced detection process for fraudulent manuscripts in the publishing industry.

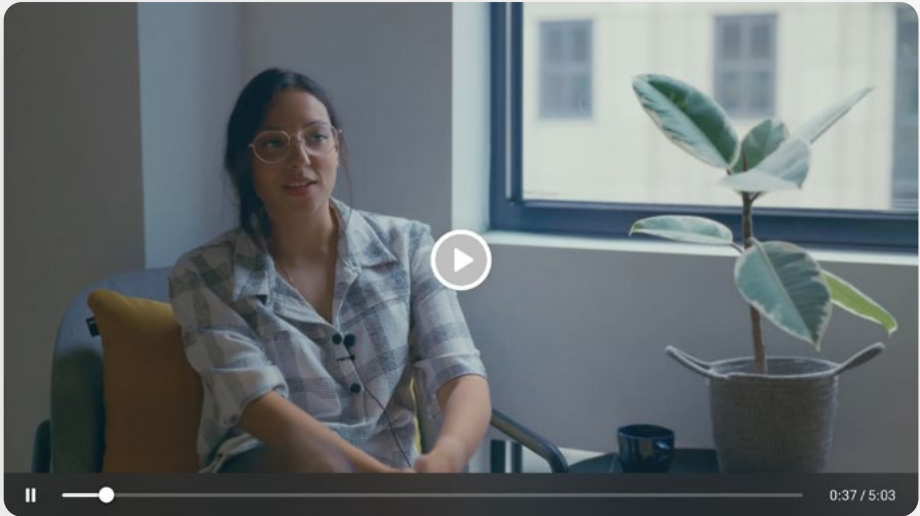
Our handling editors, reviewers, and authors are supported during the process by our dedicated review professionals. They ensure high quality standards for manuscripts and for the review itself, certifying the quality, rigor, and validity of articles and promoting a constructive discussion between reviewers and authors.



“Frontiers’ approach to RI sets us apart. Our proactive and detailed approach to pre-screen for research integrity issues before peer review is unique in the publishing industry. We are also pioneers in exploring patterns and using data and audits to uncover larger fraudulent networks. If you are not doing this, you are risking problematic articles reaching peer reviewers or the wider community”



Elena Vicario
Head of Research Integrity



Hear from our research integrity team about their work

Our collaboration in industry-wide research integrity

Our research integrity team takes an active role in the publishing landscape, sharing knowledge and contributing to cross-publisher initiatives including the STM Integrity Hub, COPE, and the United2ACT Research on Papermills working group.

C O P E

Through our COPE membership, Frontiers actively contributes to the advocacy and promotion of ethical publishing practices. We are currently represented by:


Marie Soulière, Head of Editorial Ethics and Quality Assurance – as an elected council member and chair of the COPE Papermill Working Group.

Simone Ragavooloo, Research Integrity Portfolio Manager – as a COPE advisor.


We’ve been involved in the crafting of key industry-wide guidance and best practice for publishers on the topics of:

- Artificial intelligence decision-making
- Cooperation between publishers and institutions
- Guest edited article collections




 Elena Vicario, Head of Research Integrity, provides an update on the use of AI to improve peer review quality using Frontiers’ artificial intelligence review assistant (AIRA) and how our high-quality peer review process supports the prevention of fake articles (papermills), forged authorship, manipulated images, and peer review manipulation.



 Marie Soulière, Head of Editorial Ethics and Quality Assurance, provides guidance on the use of artificial intelligence (AI) in publishing and summarizes Frontiers’ efforts to raise awareness of publishing ethics topics and our collaboration with other publishing stakeholders.



“The future of publishing lies in our ability to work together across organizations towards a common goal of quality, accountability, and excellence. It’s crucial for Frontiers to have a strong presence in publication ethics and integrity in publishing. I feel lucky to be part of this dynamic environment and to be able to contribute meaningfully”



Marie Souliere
Head of Editorial Ethics and Quality Assurance

Our research integrity team’s unique support

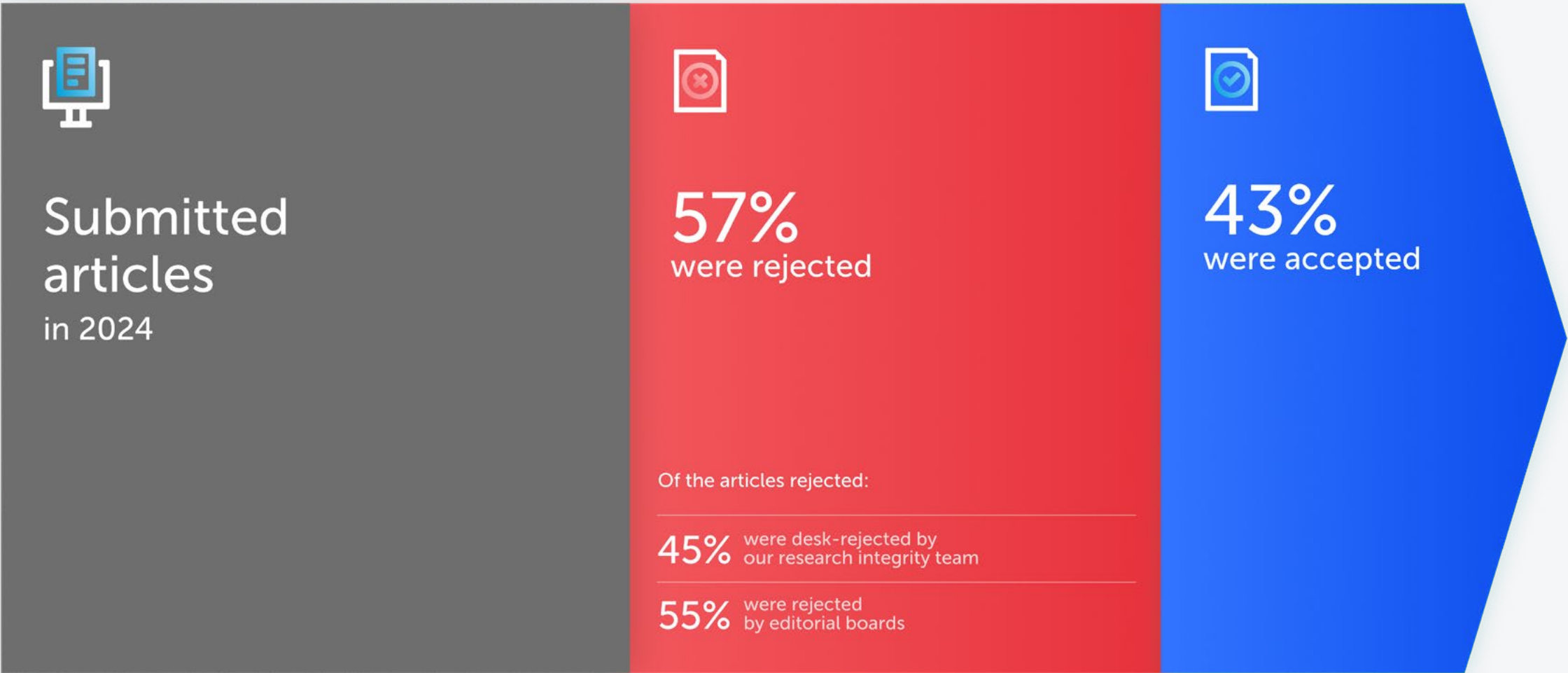
Each year, thousands of articles that don’t meet our quality standards are rejected by our in-house team before they reach the peer review stage. This means our editors and reviewers aren’t burdened with manuscripts that don’t meet our publication and quality standards, and instead can focus on making great research even better.

The graph shows that overall on average only 43% of articles are accepted across all Frontiers journals, whereas 57% of articles are rejected. Of those rejections, a bit more than half or 55% were rejected by researchers serving on the editorial boards. In 2024, **45% of all rejections were carried out by our research integrity team.**

Rejection rates across Frontiers’ journals vary depending on field and maturity of journals and can reach **up to 75%.**

65,544
articles desk-rejected in 2024

Average acceptance and rejection rates across all Frontiers journals



Data source: Frontiers’ peer review 2024

The power of technology to support human expertise

The third aspect of our approach to scientific excellence at scale harnesses the power of AI and technology.

We are pioneers in our use of artificial intelligence to support academic publishing. Our Artificial Intelligence Review Assistant (AIRA) was an industry first when it launched in 2018. AIRA makes rapid automated quality checks and can spot issues which are beyond human capability, from assessing language accuracy to detecting image manipulation. In 2024, we harnessed new developments in AI to focus on detecting research manipulation fraud. AIRA performs more than 40 quality checks to support our teams and editors, with new checks being added all the time. We use AIRA to provide decision support and create efficiency, but the final decision is always made by a human expert.

Company-wide, our teams embrace tools including Large Language Models (LLMs) to boost efficiency and enhance our work. We have also brought the power of AI to our editorial boards, helping them to work with our team to plan their journal's strategy.

Researcher-centric development

We build all of our technology in-house, so we can adapt and develop according to feedback from our community. This ensures every advancement we make is user-centric and purpose-driven.

We continually improve our peer review platform based on your feedback. In 2024, changes included improving the technology that suggests suitable reviewers for each manuscript, doubling the number of reviewers accepting their invitation.

“We’ve taken bold steps to integrate AI into our work in a purpose-driven way. Most importantly, we have embedded the newest AI technologies into critical parts of our platform, providing unparalleled support to our editors”



Daniel Petrariu
Chief Product Officer

"I strongly recommend Frontiers to prospective authors and editors; they're doing really innovative things in the review and publication process, which leads to publishing high-quality content through rigorous, interactive peer review."



Prof John Provis

Paul Scherrer Institut, Switzerland

Specialty Chief Editor, Frontiers in Materials

An efficient process, delivering quality at scale

By combining the speed and power of AI with human expertise and a rigorous expert review, we provide a process that safeguards the quality of published articles while remaining efficient.

Thanks to this, our average acceptance time is **96 days**.

96 days

2024 average acceptance time

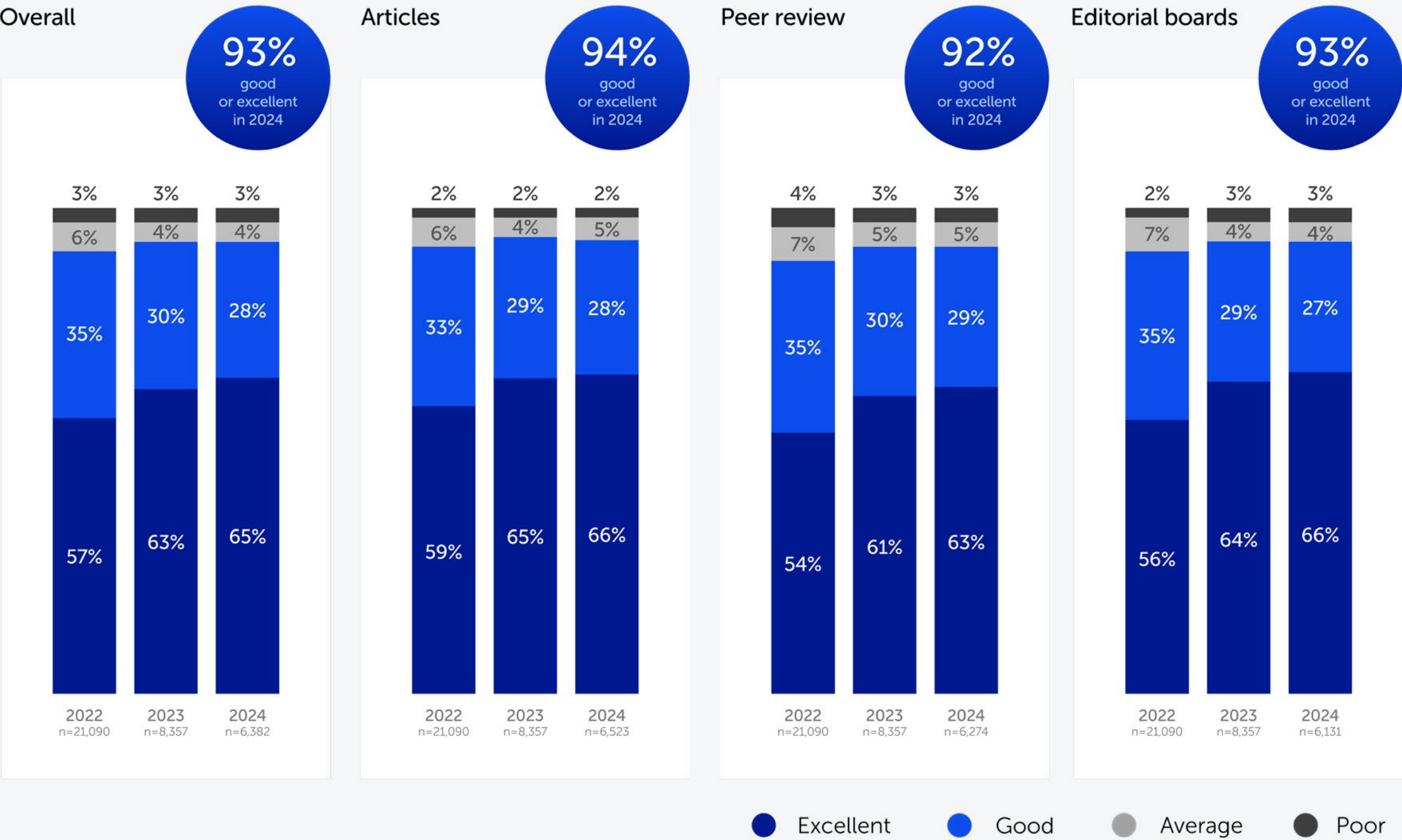


Our approach to quality works and is measurable

Our unique three-layered approach to quality and research integrity combines the human expertise of our editorial boards and in-house teams with cutting-edge technology. And the outcome of this approach is quantifiable. Each year we ask tens of thousands of researchers to rate the quality of our articles, peer review, and editorial boards. More than 92% rate our services as good or excellent.



Please rate Frontiers on the quality of our:

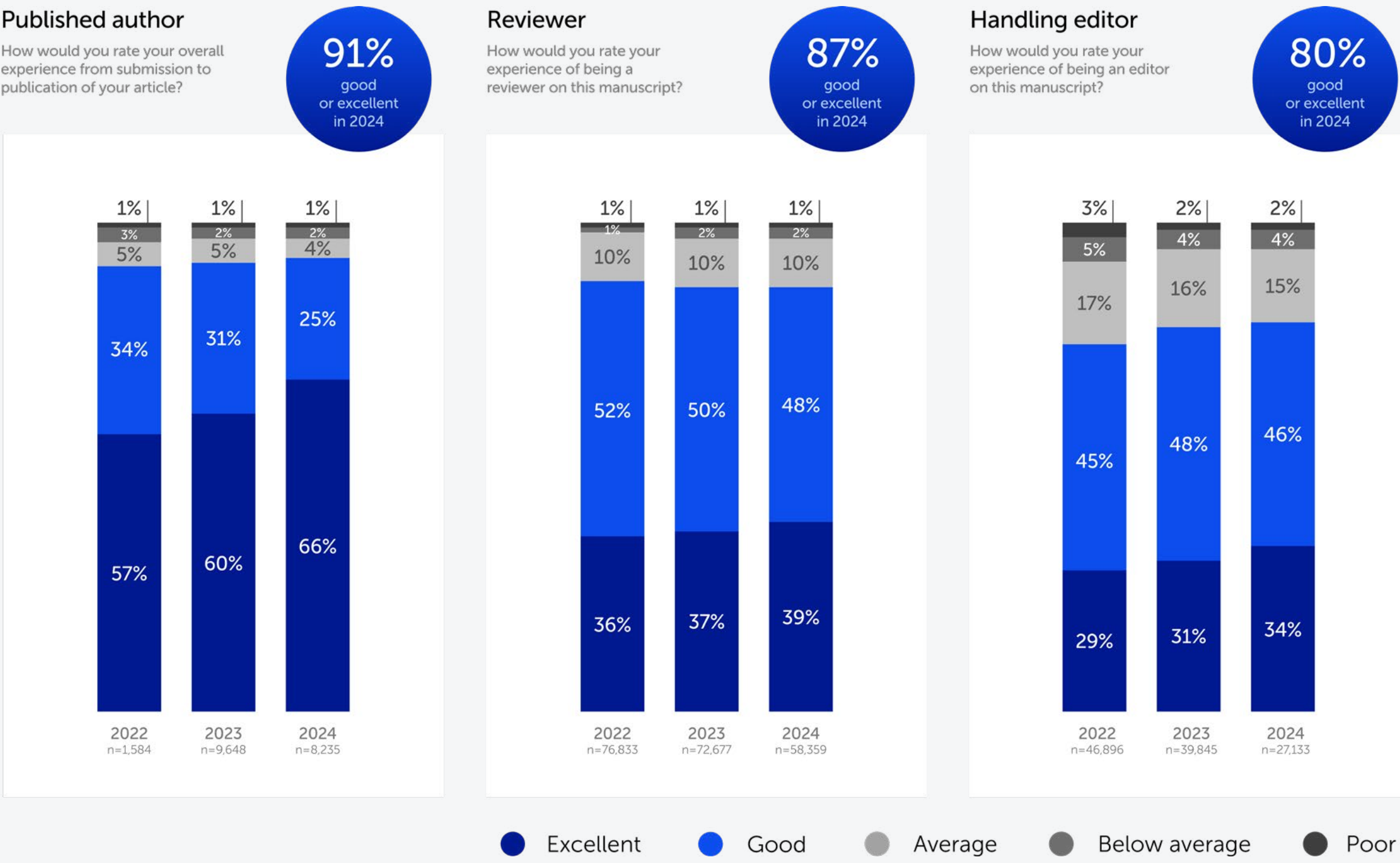


Data source: Frontiers' surveys

You rated our peer review as excellent

Our unique layered approach provides a peer review process that not only safeguards the quality of published articles, but delivers a high-quality publishing experience for our research community.

In 2024 we asked 94,359 accepted authors, handling editors, and reviewers how they would rate their recent experience of the process. Over the last three years, more and more of you have rated your experience as excellent.



Data source: Frontiers' surveys, January to December 2024

We're champions for open science

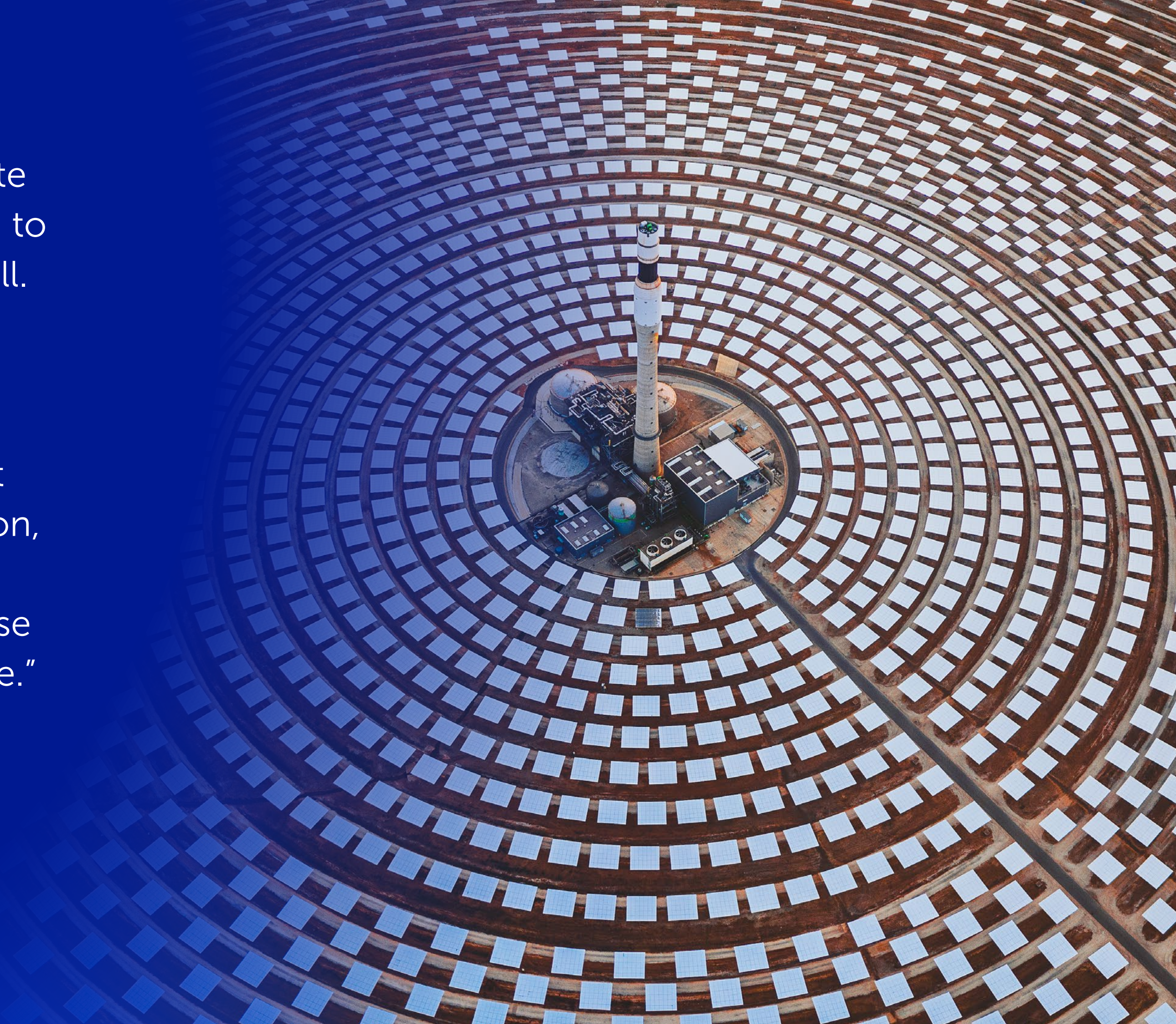
We actively create strong links, partnerships,
and high profile initiatives to bring the
benefits of open science to more people.



“To solve challenges like the climate emergency in time, we must align to make science fully accessible to all. Building coalitions of like-minded organizations with the vision and resources to move the needle, to drive awareness, and to show that there is hope through collaboration, is a core part of our mission. We welcome others to join us, because together we will make a difference.”



Dr Fred Fenter
Chief Executive Editor



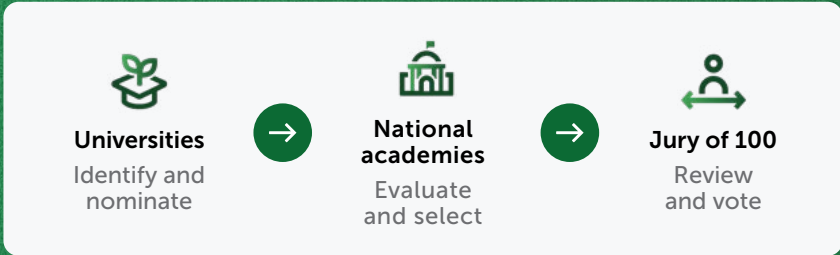
Mobilizing science for a green renaissance

Frontiers Planet Prize awards three prizes of \$1million US dollars each to accelerate and scale up breakthrough research in planetary health science.

Addressing planetary challenges—such as climate change, biodiversity loss, and the risk of crossing additional planetary boundaries—requires accelerating the pace of scientific consensus on breakthrough solutions. To meet this urgency, we launched the Frontiers Planet Prize in 2022.

This prestigious award recognizes and rewards outstanding scientific research that advances global sustainability. Each year, nominations are made by the world’s foremost universities and institutions. A distinguished jury of 100 climate and earth science experts selects champions whose research has the potential for real-world impact.

Our goal is to ensure solutions move swiftly from research to action. By promoting breakthrough science and fostering collaboration, we aim to drive urgent, meaningful change.



To date, more than 600 universities from 42 countries have participated in the prize, with support from 20 national academies, including the National Academy of Sciences, USA and the China Association of Science and Technology. The prize also engages with key strategic partners including the International Science Council, Potsdam Institute of Climate Impact Research, Future Earth, The Villars Institute, the African Academy of Sciences, and the World Economic Forum.

Our 2024 award ceremony recognized 23 National Champions and brought together leading academics, policymakers and philanthropists to connect and amplify the transformative impact of the National Champions. The prize has gained media coverage in over 1,200 news outlets globally, with a total reach of over 3 billion.



Find out more

Frontiers Planet Prize 2024 national and international champions, joined by Johan Rockström, Jean-Claude Burgelman, Kamila Markram, and Henry Markram

4,000+
participating
scientists

610
participating
universities

20
participating
national academies

43
National
Champions

7
International
Champions

\$6.6M
to support
their research

"The remarkable contributions of the international winners underscore the critical importance of interdisciplinary research in safeguarding our planet's future. Their innovative approaches exemplify the spirit of the Frontiers Planet Prize, fostering a deeper understanding of planetary boundaries and providing a roadmap for a more sustainable and resilient world."



Prof Johan Rockström

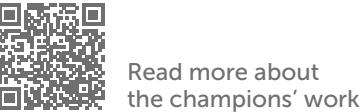
Potsdam Institute for Climate Impact Research, Germany

Chairman of the Jury of 100, and pioneer of the Planetary Boundaries framework



Frontiers Planet Prize

International Champions



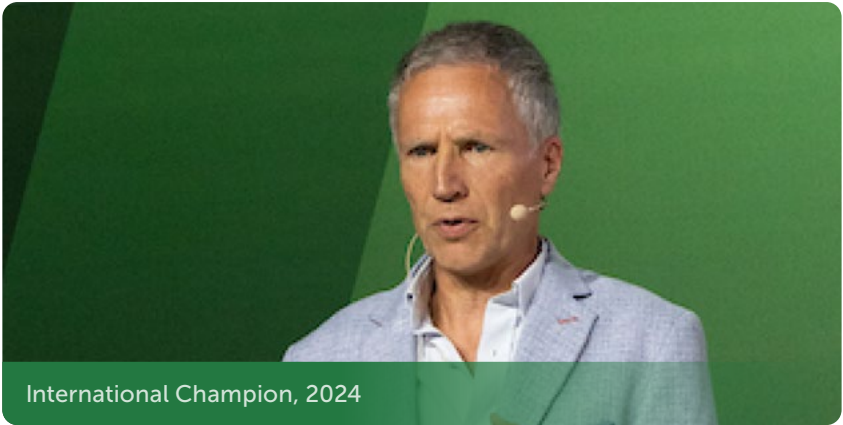
Read more about the champions' work

Dr Pedro Jaureguiberry
Instituto Multidisciplinario de Biologica Vegetal, Argentina



Pedro Jaureguiberry and his team’s research highlights the need for concerted action to mitigate the adverse impacts of human activities on biodiversity.

Prof Dr Peter Haase
Senckenberg Society for Nature Research, Germany



Peter Haase’s research shows that the recovery of European freshwater diversity has come to a halt and investigates what is needed to return to a safe operating space.

Since winning the prize, Peter’s work has been cited in multiple policy documents and was a keynote speaker at Berlin Science Week 2024

Prof Jason Rohr
University of Notre Dame, USA



Focusing particularly on Africa, Jason Rohr’s research explores planetary health innovations and the paradigm shift needed in science to address the UN’s Sustainable Development Goals.

Jason participated as a panelist at COP29 and was invited to deliver the closing keynote at the inaugural National Sustainability Society conference.

Prof Baojing Gu
Zhejiang University, China



Baojing Gu represents the international nitrogen management research group based at Zhejiang University, whose research is based on mitigating global PM2.5 pollution by reducing nitrogen emissions through analysis of nitrogen budget, atmospheric chemistry, human health, cost-benefit and policy implications.

Prof Carlos Peres
University of East Anglia, United Kingdom



Carlos Peres’s research with the non-profit conservation organization Instituto Juruá has focused on how best to protect tropical floodplain and forest ecosystems in marginalized tropical regions with poor governance, while rewarding the local stakeholders.

Carlos also won second place in the Xprize Forest category, securing 2 million USD to deliver actionable biodiversity insights in the amazon, and was a finalist in the ISC’s science pilot mission program.

Prof Mark New and Dr Petra Holden
University of Cape Town, South Africa



Representing the AXA Research Chair in African Climate Risk group, Mark and Petra’s research aims to attribute the impacts of climate on society and how different adaption responses can offset these impacts.

Petra set up the People in Nature Climate lab and was a finalist in the WEF’s Giving to Amplify Earth Action Awards, science category.

Dr Paul Behrens
Leiden University, Netherlands



Paul Behrens researches reducing environmental impacts through changes in behavior and production. The nominated research looks at how land freed up by the shift to a plant-based diet can be used in high-income countries.

Since winning the award Paul secured a British academy global professorship at Oxford University and frequently advises the UK government on policies around climate and nature.

“We participated in the prize as it is a great opportunity to boost our research, and to be engaged in such an impactful community. No solution is better than others. Too many planetary boundaries have been breached — we need combined solutions, and we need to do this together.”



Prof Raquel Peixoto
Frontiers Planet Prize National Champion 2024
King Abdullah University of Science and Technology, Saudi Arabia

“It feels unreal, yet so exciting to have the honor of being awarded International Champion. This study was a huge amount of work with many people involved over decades. I would like to thank my director general for nominating me, and the Frontiers Research Foundation because without them, today would not have happened.”



Prof Dr Peter Haase
Frontiers Planet Prize International Champion 2024
Senckenberg Society for Nature Research, Germany

“The Frontiers Planet Prize is a new way of rewarding and promoting impactful science that serves as knowledge for action. It is a unique award and fills an important gap allowing funding to directly support the research through the generosity of the Frontiers Research Foundation.”



Sir Peter Gluckman
President, International Science Council
Advisor and board member, Frontiers Planet Prize

Where visionary thinkers discuss science-led solutions for healthy lives on a healthy planet

The Frontiers Forum highlights transformational science as the key to solving the grand challenges of our time – with the most urgent being to reach net-zero carbon to prevent climate disaster.

Speaking at our live event in 2023, Frontiers' CEO and co-founder Kamila Markram put this challenge into context. She described how science has improved human lives over the past 200 years and the consequences of this on the Earth's nine planetary boundaries. Her rallying call to Forum delegates was that science has the solutions, and it's only by opening all science that we can accelerate the urgent solutions needed to transition to clean, carbon-neutral economies by 2050.



Watch session

Frontiers Forum Live 2023

Our largest ever event took place in 2023, welcoming guests virtually as well as in person for the first time. Leading researchers, innovators, and influencers from around the world united to accelerate the global transition to open science and mobilize solutions for healthy lives on a healthy planet.

As well as the keynote from our co-founder and CEO Kamila Markram, we heard from iconic figures in the fields of conservation, sustainability, climate change, and artificial intelligence.

“One of the most thought-provoking events I’ve attended. It sparked so many new thoughts and conversations.”



Prof Yuval Noah Harari
Hebrew University Jerusalem



Jane Goodall
Founder, Jane Goodall Institute

In her opening talk, Jane Goodall outlined why she believes humanity’s indomitable spirit will overcome the climate crisis, and how the scientific community adds to her hope for the future.



Ban Ki-moon
Eighth Secretary-General, United Nations

Live at the event, Ban Ki-moon spoke of the need for global solutions to address global crises such as armed conflict, pandemics and climate change that are inherently intertwined and interconnected.



Yuval Noah Harari
Historian and author, Hebrew University of Jerusalem

Yuval focused on the potential for artificial intelligence to become the first inorganic lifeform on our planet, and how it might change the very make-up or meaning of the world’s ecological system.



Johan Rockström
Director, Potsdam Institute for Climate Impact Research

In his keynote, Johan explained that humans are now the dominating force of change to the Earth system, and that we have a short window open to keep the planet in a Holocene-like interglacial state.



Al Gore
Former Vice President and Nobel Laureate

Al Gore emphasized that we already have the solutions to the global climate challenge in our hands, drawing on examples from around the world.



Frontiers Forum: virtual events

Our virtual series continued in 2024, connecting global audiences with Nobel laureates and other renowned scientists to advance science-led solutions for humanity’s challenges.

A further 15 deep dive events, modeled on scientific symposia, focused on a specific area of transformational science published in our flagship journal Frontiers in Science.



Watch all sessions

“Thank you for bringing this great seminar to life with such professional support and smart communication. It has been wonderful to work together to move the genomic surveillance field forward”



Prof Marc Struelens
Université Libre de Bruxelles (ULB),
Frontiers in Science lead author
and event speaker



Dr Eric Topol, one of the most cited researchers in medicine, discussed the impact and potential of AI in redefining the future of healthcare



Prof Thomas Crowther explored how thriving natural habitats are improving local livelihoods while addressing the twin crises of biodiversity loss and climate change



Prof Rob Knight, pioneer in microbiome research, examined the future of this fast-moving field.



Dr Kari Nadeau explored the effects of climate change on immune-mediated diseases and human health



Prof Carlos Duarte discussed the exciting new applications of the global ocean genome



Prof Drew Shindell highlighted three crucial imperatives for reversing methane emissions

Frontiers Forum in numbers

106

speakers
and panelists

10k+

attendees from
137 countries

4.7M+

video views



Influencing global thinking on open science

Frontiers is a strategic science partner with the World Economic Forum, attached to their Centre for the Fourth Industrial Revolution. As partners, we collaborate on the co-publication of scientific reports, including the annual flagship report ‘Top Ten Emerging Technologies.’ We worked with more than 50 chief editors from our international editorial boards for evidence and insight. These reports identify technologies that have demonstrated the potential to scale and provide societal benefits within the next three to five years.





Bridging the gap between science and policy

Each year, the world's leaders meet at the Conference of the Parties (COP) to negotiate policy to address the threat of climate change, with the objective of defining realistic and effective action. Frontiers was in attendance in 2023 and 2024 with two main objectives.

Firstly, we connect policymakers with leading scientists whose insights and developments can make an impact. In this politically charged setting, negotiations must be guided by expertise and validated evidence if we are to meet the challenge of moving to a carbon-neutral society by 2050. In collaboration with the UNFCCC, we organize panel events that catalyze these critical exchanges,

with speakers from our editorial boards, Frontiers Planet Prize champions, and representatives of the International Science Council and the World Economic Forum.

Secondly, we advocate for the official recognition of open science principles by the Conference of the Parties. Open science plays a critical role in accelerating innovation and scientific collaboration. It is essential to reach carbon-neutral economies in less than 25 years and prevent the worst outcomes of climate change within the short timescales we have left. If we are to achieve this, universal open access publishing must be adopted immediately. In our [Open Science Charter](#), published at COP28 in Dubai, we call on all governments, funders, research institutions, and scientists to support mandatory open access publishing.

"Open science is not just an objective. It is a catalyst for unlocking the transformative power of knowledge in the short time we have left to address pressing global challenges. Our commitment extends beyond publication - we actively bridge the gap between researchers and decision-makers, policy leaders, and communities. By connecting science with those who drive meaningful change, we empower informed action for real-world impact."



Stephan Kuster
Director of External Affairs



Sign the Open
Science Charter

Frontiers for Young Minds: engages the next generation

Frontiers for Young Minds is our scientific journal for kids, where children aged 8-15 review scientific articles to ensure that they are readable and suitable for their peers around the world. Articles are submitted by some of the world’s most recognized scientists, including 33 Nobel Prize Laureates. This empowering experience opens a new world for children, as they work with a scientist mentor who explains their role and responsibility as a peer reviewer.

Frontiers for Young Minds is free for all to access and read, and the articles have been read by tens of millions of children and their families internationally. The journal is published in English, Hebrew, Arabic, Chinese and French.



9,450
young reviewers

700
mentors in 65 countries

1,635
total articles

50,340,781
total article views and downloads



Frontiers for Young Minds Nobel collection

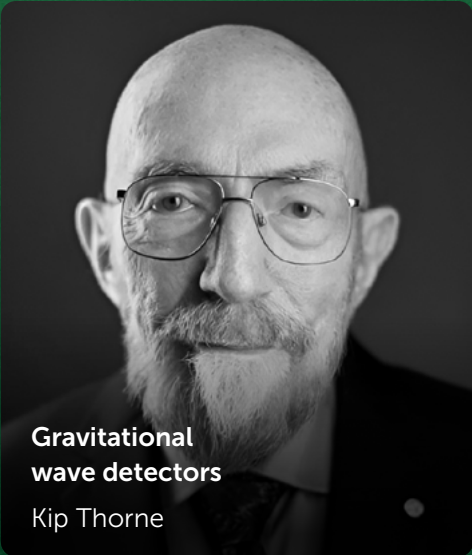
Our flagship Nobel collection attracts the most distinguished scientists in their fields to connect with our young community. A total of 33 Nobel Laureates have taken part as authors across our first four volumes.



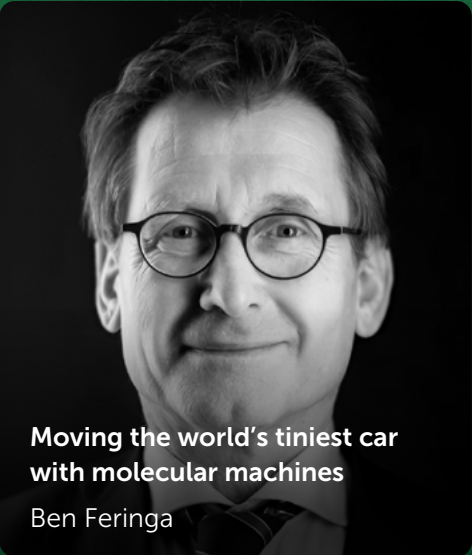
The CRISPR revolution: can we change genes for the better?
Jennifer Doudna



Defying gravity? On the magic tricks of superfluids
Michael Kosterlitz



Gravitational wave detectors
Kip Thorne



Moving the world’s tiniest car with molecular machines
Ben Feringa

250M+
social media impressions

2.2M
collection views

Our environmental impact

Sustainability is a key focus of everything we do, from providing a digital-first path for researchers to publish to global initiatives like the Frontiers Planet Prize. It's how we'll achieve our mission of healthy lives on a healthy planet.

As part of this mission, we are prioritizing reducing our carbon footprint and exploring new ways we can integrate sustainability into our products, daily operations, and communities. We have partnered with Plan A to collect and measure our current carbon footprint. Our overall carbon footprint for 2024 measured **7,732.06** metric tons of carbon dioxide equivalent (tCO₂e).

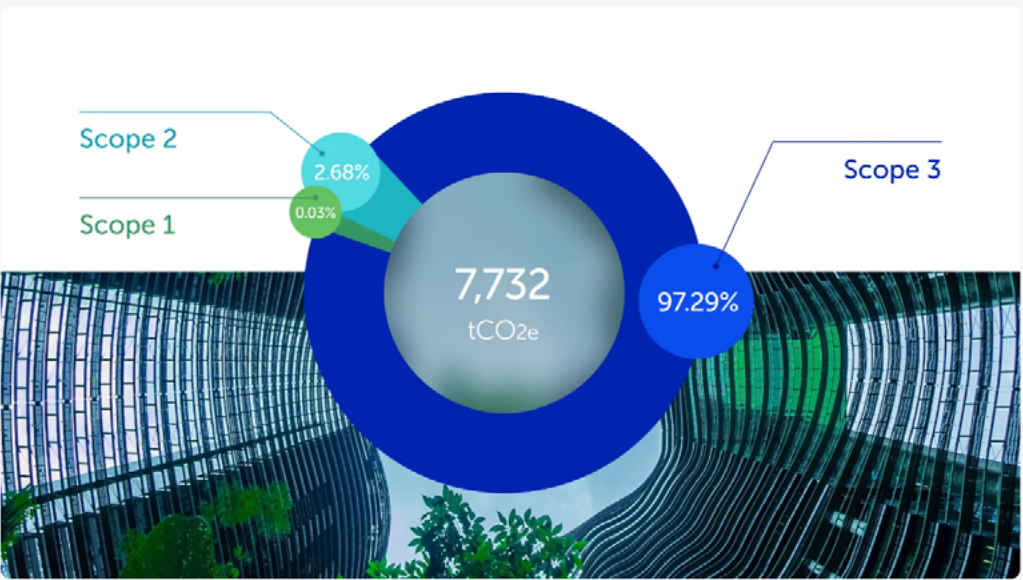


Read the report

Our carbon footprint

We partner with **Plan A** to collect, measure, and consolidate our emissions data. Plan A is certified by **TÜV Rheinland** and is **Green House Gas Protocol** compliant.

Our overall carbon footprint for 2024 measured **7,732.06 metric tons** of carbon dioxide equivalent (tCO₂e).



- **Scope 1** - 2.17 tCO₂e - This corresponds to direct emissions from sources we control, specifically related to fugitive emissions from refrigerant leakage and other similar sources in our main offices.
- **Scope 2** - 207.6 tCO₂e - This corresponds to indirect emissions associated with purchased electricity and heating in our main offices.
- **Scope 3** - 7,522.29 tCO₂e - Includes purchased goods and services, business travel, work from home, and emissions related to employee commuting. Emissions related to purchased goods and services have been calculated via spend-based factors for each supplier.

Looking to the future

There is still a long way to go before open science is the norm. Disseminating quality research quickly and openly is key to enabling progress, and this is where a publisher like us has a critical role to play. We will continue to inject a sense of urgency to accelerate science - global challenges like climate emergency will not wait.

Bringing transformational science to a wider audience

In that context, we will welcome the third edition of the Frontiers Planet Prize in April 2025. More than 610 institutions and 4,000 researchers are now registered to participate, and we look forward to celebrating their achievements in planetary science.

Frontiers in Science will continue to bring transformational science in human and planetary health to a wider audience. A further 15 virtual events are planned for 2025, including Prof Kazunari Domen on advances in green hydrogen technology, and Prof Sergey Shabala and Prof Michael Palmgren on adapting crops for climate change.

Pioneering the transition to open science

In January 2025 Dr. Kamila Markram took part in a panel discussion at Davos 2025, the World Economic Forum's annual meeting. Looking ahead to COP30, the session explores how to leverage open science in collaboration with business, governance, and civil society, to address the planetary crisis.

Supporting more researchers and their institutions with flat fee agreements will be a key priority for our partnerships team in 2025. With these agreements in place we can simplify their payments, streamline their experience, and share the benefits of open access publishing with more people.

Empowering research communities

Our community-led journals continue to serve our global communities of researchers and institutions in more than 1,700 academic fields.

Quality and integrity remain cornerstones of our work. As industry-wide fraud and data manipulation increases, we will continue to pioneer the latest AI and technology to counteract the threat.

And our journey with AI is just beginning. Embracing it in a purposeful way also means we will be able to provide the most efficient, user-friendly publishing experience for our community.

About us

Frontiers is one of the world’s largest and most impactful research publishers, dedicated to making peer-reviewed, quality-certified science openly accessible. Our mission is to enable better collaboration and faster innovation so that scientists can deliver solutions for healthy lives on a healthy planet.

With over three million published authors across 222 community-led journals covering approximately 1,700 academic disciplines, we provide researchers with a trusted, cutting-edge, AI-powered open science platform to rigorously review their findings and maximize the dissemination of their discoveries.

As an open access pioneer, we actively drive the global transition to open science, working with researchers, universities, educators, policymakers, and businesses. In line with our mission to accelerate scientific solutions for a healthier planet, our initiatives include the Frontiers Planet Prize, which recognizes and rewards breakthrough research that supports efforts to stabilize Earth’s ecosystems, and Frontiers for Young Minds, a journal that engages children in the peer review process, inspiring the next generation of researchers.



Where scientists
empower society



visit
frontiersin.org