

AAAS AMA: Hi, we're Drs. Philippa Benson, Kip Hodges, and Warren Warren, the managing editor and deputy editors of Science Advances. Ask Us Anything!

AAAS-AMA<sup>1</sup> and r/Science AMAs<sup>1</sup>

<sup>1</sup>Affiliation not available

April 17, 2023

## Abstract

Hi Reddit! We're the editors for Science Advances, an open access journal that accepts longer research articles (up to 6,000 words). Since our launch in February of 2015, we've published more than 1,500 papers and have a number of articles with tens (and even hundreds) of thousands of downloads, and hundreds of citations. As we mature as a publication, we continue our interest in areas of great scientific breakthroughs and innovation on both broad and disciplinary-specific levels. The journal is broadly organized in the areas of life and biological sciences, earth and environmental sciences, and physical and materials sciences. This month our publications range from water on the moon to the diverse interests of people who participated in the Women's March to the internal GPS of seabirds. Feel free to ask us about what makes for a good research article, what topics we're interested in, what questions we find most intriguing, and anything about open access. We're also happy to chat about what makes us different and unique as an open access journal of AAAS, and what the editorial process here is like. We have editors Kip and Warren here to answer your questions as well as the managing editor Philippa Benson. What do you want to know about publishing and open access? We'll be back at 2 pm ET to answer your questions, Ask us anything!

[REDDIT](#)

# AAAS AMA: Hi, we're Drs. Philippa Benson, Kip Hodges, and Warren Warren, the managing editor and deputy editors of Science Advances. Ask Us Anything!

AAAS-AMA [R/SCIENCE](#)

Hi Reddit! We're the editors for [Science Advances](#), an open access journal that accepts longer research articles (up to 6,000 words). Since our launch in February of 2015, we've published more than 1,500 papers and have a number of articles with tens (and even hundreds) of thousands of downloads, and hundreds of citations. As we mature as a publication, we continue our interest in areas of great scientific breakthroughs and innovation on both broad and disciplinary-specific levels. The journal is broadly organized in the areas of life and biological sciences, earth and environmental sciences, and physical and materials sciences.

This month our publications range from [water on the moon](#) to the [diverse interests of people who participated in the Women's March](#) to the [internal GPS of seabirds](#).

Feel free to ask us about what makes for a good research article, what topics we're interested in, what questions we find most intriguing, and anything about open access. We're also happy to chat about what makes us different and unique as an open access journal of AAAS, and what the editorial process here is like. We have editors Kip and Warren here to answer your questions as well as the managing editor Philippa Benson.

## What do you want to know about publishing and open access?

We'll be back at 2 pm ET to answer your questions, Ask us anything!

---

[READ REVIEWS](#)

[WRITE A REVIEW](#)

### CORRESPONDENCE:

DATE RECEIVED:  
September 29, 2017

DOI:  
10.15200/winn.150660.06667

ARCHIVED:  
September 28, 2017

CITATION:  
AAAS-AMA , r/Science , AAAS  
AMA: Hi, we're Drs. Philippa  
Benson, Kip Hodges, and  
Warren Warren, the managing  
editor and deputy editors of  
Science Advances. Ask Us  
Anything!, *The Winnower*  
4:e150660.06667 , 2017 , DOI:  
[10.15200/winn.150660.06667](#)

© et al. This article is  
distributed under the terms of  
the [Creative Commons](#)  
[Attribution 4.0 International](#)  
[License](#), which permits

The open access business model puts the cost of publishing on the investigators submitting the papers. Where do you think these funds should come from? Are you concerned that unfunded or underfunded investigators need papers to get grants, but under this model they need grants to pay to publish papers- creating something of a vicious cycle? Or do you see the funds to support publishing coming from elsewhere?

[p1percub](#)

PB: The answers to this set of questions could fill volumes. The questions are ones that have been around since open access first hit the publishing landscape in the mid-1990s and continue to be debated through venues like Sparc's International "Open Access Week." But – some short replies ...At this point the question is perhaps not where funding "should" come from, but where it is coming from. Funding is coming from a variety of sources, often and increasingly from research grants, but also from institutional resources including but not limited to individual investigators, departments, and university funding pool). Sources of funding for Article Processing Charges (APCs) will evolve over time, with lots of different drivers, among them changes in costs for editorial, production, hosting, and online security.

In terms of concern for researchers with constrained finances, I cannot speak for all journals, but certainly for Science Advances, we have a policy that if a stellar piece of science gets through review and is accepted for publication and authors provides compelling evidence that they do not have sufficient funding to pay our APCs, we grant reductions and even sometimes full waivers of those

unrestricted use, distribution,  
and redistribution in any  
medium, provided that the  
original author and source are  
credited.



costs.

Science communication experts have really pushed scientists to be better about talking to the public in accessible and engaging ways. Most of this has focused on things like science cafes, public talks, blogs, etc.

However, open access publishing is another way that the general public can access science. This is great for ensuring everyone can benefit from scientific knowledge. But not everyone can understand those articles and there are risks when people misunderstand science. Certainly on Reddit I frequently see people twisting research and misunderstanding a study, sometimes with serious implications for health decisions, race relations, economics, environment, etc. Most pseudoscience pushers feel deeply informed on these issues and point to a list of open access articles they think supports their claims.

Additionally, if open access is really giving science back to the public, how effective is that if the public can't understand it?

Given this, do you see an obligation for scientists publishing in open access to consider how the general public might respond to and understand their paper? Do you think science communication initiatives should include helping open access authors write their papers in more accessible ways? What might be lost if they do that?

[firedrops](#)

Kip Hodges (KH):

(KH): Certainly, open access is an excellent way to push cutting-edge research out to the general public. There is a tension, though, regarding how any specific journal should view the responsibility of its authors to make their papers understandable to the general public vs. focusing on a more informed scientific audience. In the case of Science Advances, we aspire to publishing cutting-edge papers and maintain similar standards to Science, which typically results in papers that can be a tough slog for non-specialists. I agree with you that scientists have a responsibility to make their research broadly accessible to the public, but the principal Science Advances audience includes practicing scientists.

Science communication experts have really pushed scientists to be better about talking to the public in accessible and engaging ways. Most of this has focused on things like science cafes, public talks, blogs, etc.

However, open access publishing is another way that the general public can access science. This is great for ensuring everyone can benefit from scientific knowledge. But not everyone can understand those articles and there are risks when people misunderstand science. Certainly on Reddit I frequently see people twisting research and misunderstanding a study, sometimes with serious implications for health decisions, race relations, economics, environment, etc. Most pseudoscience pushers feel deeply informed on these issues and point to a list of open access articles they think supports their claims.

Additionally, if open access is really giving science back to the public, how effective is that if the public can't understand it?

Given this, do you see an obligation for scientists publishing in open access to consider how the general public might respond to and understand their paper? Do you think science communication initiatives should include helping open access authors write their papers in more accessible ways? What might be lost if they do that?

[firedrops](#)

W<sup>2</sup>: let me add one more insight. I have published many papers in the paper version of Science over the years, and they were never free-there was always a charge for color figures. I have personally published once in Science Advances, and the cost was lower than the cost to publish in Science.

Warren, why did your parents give you the same first name as your last name?

But in all seriousness, where do you see the future of crispr cas-9? What good do you see coming as we continue to develop the technology and knowledge required for gene editing? What will the first abuses be?

[old\\_graag](#)

Warren Warren (W<sup>2</sup>): Thanks for your message. As for the first question-well, I didn't have much input at the time. But the truth is it has been very useful, because people remember my name (although it is not unique-I got a Christmas card one year from Warren Warren, retired postal worker in Chicago, who found me online). And it has made me keep a sense of humor in life. The second question is tougher, since I am mostly a chemical physicist. But we are getting a Science Translational Medicine editor online to give you a more informed reply than I would give.

On the topic of paper size, it seems like many authors these days are cramming tons of data into the supplement. I can't tell if this is because reviewers asked for the information or if it's in the name of being as transparent as possible. Since you said you publish longer articles, what sorts of considerations do you, as editors, think should dictate the "size" of a paper including what goes into the supplement vs the main body?

[zigzag071115](#)

Kip Hodges (KH):

(KH): I suspect you would get different answers from different editors on this one, but here's my take... My opinion is that the main body of a paper in Science Advances should include a basic description of methods (including statistical methods), typically accompanied by appropriate references, to allow a reader to understand how the authors conducted their research. The supplement should include greater detail on specific aspects of the methodology and, if the paper contains interpretation of pre-existing data, either reproductions of the key data or specific details on how the reader can access such data in the published scientific literature. Certainly, supplements are getting bigger these days, and I think both of the reasons you mention contribute to that.

For Science Advances, we have general page limitations, but those limitations are substantially more liberal than those for Science. This was one of the foundational goals of Science Advances: to permit the publication of excellent papers that might have been published in Science but were not accepted due to length constraints. Often, papers published in Science Advances are highly detailed in ways that papers in Science are not, simply because the additional material is necessary to present the data and justify their interpretation.

How is your journal differentiated from PLOS journals, which also are open-access and have pretty long articles?

[nate](#)

Warren Warren (W<sup>2</sup>): Thanks for your message. There is a fundamental difference in the mission, which is a large part of the reason I was willing to sign on as a Deputy Editor. I have published in, and reviewed for, PLoS One; explicit in the reviewer's instructions is that significance is not supposed to be a review criterion. So I reviewed one paper that did an imaging study on a piece of salmon that had previously been done by others in people, and it got published. Science Advances is *highly* selective; the current acceptance rate is about 17%, and a large number of papers do not get sent out for review. So the intent is to have quality comparable to the paper version of Science, but perhaps to target a broader range of research, and give more flexibility in length.

Hi and thanks for joining us today!

Do you all think Sci-hub will force the scientific publishing industry to change for the better?

[PHealthy](#)

The incredible popularity of Sci-hub certainly underscores the need for open access to scientific content and perhaps will prompt more publishers to start high-quality open access journals. In the meantime, however, the site bypasses paywalls and, in the view of many, violates copyright and a host of other IP and business-related laws. In my opinion, Sci-hub is forcing the STM publishing industry is spending a great deal of effort to get it to work on a level playing field with other content distributors, energies that might otherwise be spend on activities that would actually move the industry forward in equitable ways.

Hi there. I'm sorry for the question but I think that's the elephant in the room. As a young, not famous, researcher I get spammed by ~10 different journals a day (at least 1 of which legit) asking me for papers. There are more journals concerning my very specific subfield than I can possibly keep up with, both open and closed, for profit or published by not-for-profit societies.

So... Why would the research community benefit from yet another journal? Why did you decide to start a new one? At the same time while many top journals are even starting to launch spin-off journals!!

[lucaxx85](#)

W<sup>2</sup>: It is an excellent question. A big part of the answer, as I noted above, is that Science Advances is *highly* selective; the current acceptance rate is about 17%, and a large number of papers do not get sent out for review, usually because we think they aren't interesting enough to a broad audience. So the intent is to have quality comparable to the paper version of Science, but perhaps to target a broader range of research, and give more flexibility in length.

AAAS does not have the same massive proliferation of "baby journals" that some publishers have, and we as editors are not driven to increase the number of papers for financial reasons. We want Science Advances to be a "go-to" place for curious scientists who want to see a broad range of exciting work that has been very rigorously reviewed.

Hi there. I'm sorry for the question but I think that's the elephant in the room. As a young, not famous, researcher I get spammed by ~10 different journals a day (at least 1 of which legit) asking me for papers. There are more journals concerning my very specific subfield than I can possibly keep up with, both open and closed, for profit or published by not-for-profit societies.

So... Why would the research community benefit from yet another journal? Why did you decide to start a new one? At the same time while many top journals are even starting to launch spin-off journals!!

[lucaxx85](#)

PB here. Yes, the proliferation of journals is both a blessing and a curse. On the positive side, there are more venues for researchers to get their work published, yielding more opportunities for the progression of incremental science. On the other hand, there is so much now that researchers as readers are forced to skill and select, and run the risk of passing over or just not seeing a really important piece of work that could inform the problems they're interested in addressing. AAAS launched Science Advances for a number of reasons. First, the organization wanted to support the open access movement and provide readers with high-impact research in an open access format. (Advances is the only AAAS journal that is fully open access). Another motivator was that Science gets in a great many more excellent papers in the very broad range of topics we cover than a print journal can possibly publish. Many of those papers now transfer to Science Advances and get published by us. At present, there are no active plans to launch any other AAAS journals.

Thanks for taking the time to talk with us about your work. I was just wondering how you ensure the papers you publish are high quality and speak to the current issues in the field when your journal has such a broad range of topics and fields represented? How does the selection process occur?

[PapaNachos](#)

Kip Hodges (KH):

(KH): When a manuscript is submitted to Science Advances, it is assigned to an appropriate Deputy Editor (DE) who is a "practicing" scientist. That editor typically reads the manuscript and makes the decision as to whether or not it should be forwarded to an Associate Editor (AE) closer to the field. As a DE, I personally look for manuscripts that are well-written, of relatively broad interest (usually of interest to others in the broad field but not in the specific sub-field of the authors), and that are novel. I reject a significant number of papers based on that first read. If it passes those filters, I assign the paper to the AE. I think all AE's apply the same filters independently, and the AE may recommend to me that the paper is just not appropriate based on their reading. (When they do, I usually defer to their opinion.) If all the tests are passed, the AE sends the manuscript off to independent, unbiased reviewers. Based on these reviews and a re-reading of the manuscript by the AE in the context of the reviews, the AE decides to either recommend rejection, revision, or acceptance. If they recommend revision, the same AE will handle all further review of the revised manuscript. Only when the AE recommends rejection or acceptance do I get involved again. I read this recommendation, evaluate whether or not it is fair, and then decide to accept or reject. Although percentages vary among disciplines, Science Advances ultimately accepts no more than 10-20% of all submitted papers. It is important to know that authors can appeal rejections, but successful appeals must demonstrate that one or more of the reviewers made a factual mistake in their reviews.

In general, our editorial board views Science Advances as an extension of Science, not an alternative to it. Thus, we aim for papers of equivalent quality to those published in Science, but we allow for greater length and we do not have topical quotas...in other words, we don't reject a paper because we have published too many papers on that topic lately.

Thanks for taking the time to talk with us about your work. I was just wondering how you ensure the papers you publish are high quality and speak to the current issues in the field when your journal has such a broad range of topics and fields represented? How does the selection process occur?

[PapaNachos](#)

W<sup>2</sup>: We have a very broad board of Deputy Editors and Associate Editors, all of them accomplished

scientists, who do the first pass. The board is listed online, and we strongly urge authors to suggest the person best equipped to see the impact and significance.

Once a paper goes out for review, the word Science in the title means a lot to the reviewers. I get a lot of reviews back that say "this work is good enough for {insert name of good but specialized journal here} but not for you." Papers don't get accepted without two substantive reviews, often more.

Thanks for taking the time to talk with us about your work. I was just wondering how you ensure the papers you publish are high quality and speak to the current issues in the field when your journal has such a broad range of topics and fields represented? How does the selection process occur?

[PapaNachos](#)

P Part of the way we work to ensure that the papers we publish are high quality is by building what we see as a stellar editorial board. All our Deputy and Associate Editors are active researchers (or leaders in research communities) who are in touch with the leading trends in their respective fields.

Submissions come in, are assigned to a Deputy Editor, who will desk reject some and pass others onto the appropriate Associate Editors, those with more specific subject matter knowledge related to the paper. Those Editors desk reject papers they feel are not well-suited and send others out for review.

Our editorial groups meet regularly to discuss editorial policies and practices, as well as the overall quality of the papers that are being submitted. As the open access extension of Science, Science Advances our editors work to maintain a relatively similar quality standard, understanding that Science has to reject a LOT of great papers, which we then can publish. One difference between Science and Science Advances, however, is that Advances is interested not only in very high impact science that pushes boundaries of knowledge across disciplines, but also significant advances within disciplines. It falls to the authors to convey those disciplinary big steps

Hi and welcome! I had some questions about your careers, rather than the journal specifically, I hope that's alright.

How did you become editors? What made you decide to do this instead of pursuing an academic or industry career? And what advice would you give to someone reading this who is interested in becoming an editor, or who is unsure about what they want to do with their career?

[ChemicalFreeJesus](#)

W<sup>2</sup>: Thanks for your message. Science Advances is a very unusual journal-the Deputy and Associate Editors are in fact prominent academics (I am the chair of the Duke Physics Department, former chair of Chemistry, and professor in Biomedical Engineering and Radiology.) This makes it different from all of the other Science journals, and most other journals as well.

Hi and welcome! I had some questions about your careers, rather than the journal specifically, I hope that's alright.

How did you become editors? What made you decide to do this instead of pursuing an academic or industry career? And what advice would you give to someone reading this who is interested in becoming an editor, or who is unsure about what they want to do with their career?

[ChemicalFreeJesus](#)

In terms of exploring a career in Science/Technical/Medical (STM) publishing, I suggest looking at a



few websites of organizations for professionals working in the field including the Council of Science Editors (CSE), the Society for Scholarly Publishing (SSP), the International Society of Managing and Technical Editors (ISMTE) and the Professional and Scholarly Publishing division (PSP) of the Association of American Publishers. These organizations reflect the work that science editors do and are great resources for anyone considering entering the profession.

From your experiences, do you think scientific publishing is shifting towards the open access model? What is good about that and do you think that there are any trade-offs?

[ImKnotJesus](#)

Kip Hodges (KH):

(KH): I do think that scientific publishing is going in that direction, partly because major government funding agencies are pushing the researchers they fund to make their work broadly accessible. I think this model is great for the sciences (and for university libraries confronting ever increasing subscription costs), but it does shift the costs to the investigators. Clearly, this means that the funding agencies pushing open access must find a way to fund it because it costs real money to ensure proper peer review. One model may be to permit increases in allowable indirect cost rates to universities and ask the universities to pass those funds on to researchers for open access publication. Another may be to ensure that all grants to researchers include publication costs.

I've seen a lot of debate about the merits of Impact Factors. Do you think that IF has value? Do you think there would be a better metric to use instead of IF, or should we get rid of all metrics for papers?

[kerovon](#)

W<sup>2</sup>: Impact factors are very problematic, because they are strongly biased towards large fields. So are all the other kinds of metrics in common use, such as h-index.

Let me give a specific example. A few years ago, we extended our melanoma imaging work to study Renaissance paintings nondestructively-work that got a huge amount of publicity. I originally submitted the work to Science, where I was 13-for-13, and it was turned down in a day. But the editor told me "as soon as you get it published, we will do a feature article on it". Same thing happened with Nature. It was published in PNAS, and simultaneous with publication, both Nature and Science did feature articles.

Obviously they thought it was interesting. It did not get considered because there is no possible paper on artwork imaging that could be cited 30 or 40 times in 18 months (unless I proved a painting was done by Martians), so by definition it would "damage" Science or Nature. The editorial pages don't have the same constraint.

Neither do we. We are much more driven to publish high-quality work of broad interest than to achieve a specific impact factor.

With the rise of predatory publishers, what can legitimate journals do to help prevent scientists who don't know about them from publishing with predatory publishers?

[thepluralofanecdote1](#)

W<sup>2</sup>: Thanks for the message. Predatory publishing (and for that matter for-profit conferences) and their proliferation is a major nuisance. But most scientists know where their colleagues publish papers, and



are naturally skeptical of new journals. Of course, the name Science helps us a lot with that. It also helps that AAAS is a nonprofit corporation. So everything else being equal, we (or organizations such as the American Institute for Physics, American Chemical Society, or Optical Society of America) have pretty high standards for new journals, and are safer bets.

With the rise of predatory publishers, what can legitimate journals do to help prevent scientists who don't know about them from publishing with predatory publishers?

[thepluralofanecdote1](#)

Kip Hodges (KH):

(KH): Predatory publishers are a major problem. Someone should do a study of how much treasured research time is spent by scientists culling their emails of invitations to publish in specious journals. Journals like Science do publish their fair share of news items on predatory publishing and there are some excellent web resources to allow researchers to get better informed. Science Advances does not have a "news section" as yet, so it is hard for us to weigh in easily. Ultimately, what will kill off these journals is a refusal by legitimate scientists to reference papers published in those venues, or to give researchers seeking tenure or promotion credit for papers referenced in those journals.

With the rise of predatory publishers, what can legitimate journals do to help prevent scientists who don't know about them from publishing with predatory publishers?

[thepluralofanecdote1](#)

PB: Publishers and librarians do try to provide information and guidance to researchers about predatory publishers - like the now defunct Beall's List. But those the predators keep popping up! Earlier this year, the World Association of Medical Editors (WAME) published a paper "Identifying Predatory or Pseudo-Journals" which contains a reference list to research and resources on predatory journals, and useful guidance including the original list by Beall of criteria for identifying a predatory journal ([www.wame.org/identifying-predatory-or-pseudo-journals](http://www.wame.org/identifying-predatory-or-pseudo-journals)). Journals can help, but responsibility also falls to scientists to study the journals they are considering to make sure they are being produced professionally. This means looking at the editorial board and staff, the stated peer review process, how the published articles are being indexed, and other characteristics of legitimate journals. It can be surprisingly easy to tell when a journal is being produced out of someone's basement.

As experienced editors for a journal that accepts submissions from almost every area of science, you must get a lot of interesting research that crosses your desks. Do you have an example of a paper that came through where you thought, "Woah that is so cool!" and were really excited to be able to publish?

[Upvotes4theAncestors](#)

PB: We've published a boatload of amazing science. One example is the super cool "From damage to discovery via virtual unwrapping: Reading the scroll from En-Gedi" about the use of a combination of technologies to allow the reading of ancient texts (e1601247.) Another amazing paper (e1501055) was about how smartphones can be used to collect and distribute seismic data to provide early warnings of earthquakes. Two really important pieces of work provide alarms about mass extinction (e1400252) and the collapse of the world's largest herbivores (e1400103). Just this week, we've published on turning a laser beam into a flow of liquid, and the internal GPS of seabirds. The list really goes on and on and we're thrilled that researchers are sending in work that really is novel and high impact to us. That being said, when a paper on a super cool topic comes in, we can get excited about the potential

of the paper, but everything still has to go through peer review. Sometimes reviewers find fatal flaws in research that appears at first blush to be amazing and ground-breaking, and those works are rejected, despite the initial "wow" factor.