How to publish in Nature Physics

Dr Andreas Trabesinger

Senior Editor

Nature Physics



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The editors



Alison Wright *Chief Editor*



May Chiao *Senior Editor*



Ed Gerstner Senior Editor



David Gevaux Senior Editor



Andreas Trabesinger Senior Editor



My background

- PhD at ETH Zurich (*in vivo* NMR and MRI)
- 5 years postdoctoral experience at UC Berkeley and ETH Zurich (NMR, SQUIDs, atomic magnetometry, MRFM)
- Joined *Nature Physics* in 2005, involved in the launch and now running of the journal

Responsible for manuscripts in quantum physics, cold gases, mathematical physics, complexity



A history of Nature journals



A WEEKLY ILLUSTRATED JOURNAL OF SCIENCE

"To the solid ground Of Nature trusts the mind which builds for aye."-WORDSWORTH

THURSDAY, NOVEMBER 4, 1869

NATURE: APHORISMS BY GOETHE MATURE! We are surrounded and embraced by her: powerless to separate ourselves from her, and powerless to penetrate beyond her.

Without asking, or warning, she snatches us up it her circling dance, and whirls us on until we tired, and drop from her arms.

She is ever shaping new forms: what is, has ne yet been; what has been, comes not again. Eve thing is new, and yet nought but the old.

We live in her midst and know her not. She incessantly speaking to us, but betrays not her sec We constantly act upon her, and yet have no pov over her.

The one thing she seems to aim at is Individuali yet she cares nothing for individuals. She is alw building up and destroying; but her workshop inaccessible.

Her life is in her children; but where is the moth. She is the only artist; working-up the most unifo material into utter opposites; arriving, without a tra of effort, at perfection, at the most exact precisiv though always veiled under a certain softness.

Each of her works has an essence of its ow each of her phenomena a special characterisatio and yet their diversity is in unity.

She performs a play; we know not whether she se it herself, and yet she acts for us, the lookers-on

Incessant life, development, and movement : in her, but she advances not. She changes for e and ever, and rests not a moment. Quietude inconceivable to her, and she has laid her cu upon rest. She is firm. Her steps are measurn her exceptions rare, her laws unchangeable.

She has always thought and always thinks ; thou not as a man, but as Nature. She broods over

all-comprehending idea, which no searching can find out.

Mankind dwell in her and she in them. With all men she plays a game for love, and rejoices the more they win. With many, her moves are so hidden, that the game is over before they know it.



- November 4, 1869: First issue
- Published and privately owned by Macmillan
- One of the leading scientific journals for original research
- Editorial offices in London, Washington DC, New York, Boston, San Francisco, San Diego, Munich, Paris and Tokyo



Nature's hits...

- Discovery of the neutron (Chadwick, 1932)
- Structure of DNA (Watson and Crick, 1953)
- Demonstration of the laser (Maiman, 1960)
- Magnetic resonance imaging (Lauterbur, 1973)
- IHGSC (2001) human genome sequence



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... and misses!

- Krebs cycle rejected without review
- Beta decay rejected without review
- Pavlov's obituary published while he was still alive
- Schön
- ... and surely many more.



How many journals?



The Physical Review

THE

PHYSICAL REVIEW

A JOURNAL OF EXPERIMENTAL AND THEORETICAL PHYSICS

CONDUCTED WITH THE CO-OPERATION OF THE AMERICAN PHYSICAL SOCIETY BY EDWARD L. NICHOLS, ERNEST MERRITT, AND FREDERICK BEDELL

VOL. XXX

THE MACMILLAN COMPANY NEW YORK & LONDON BERLIN: MAYER AND MUELLER 1910

Physical Review (Series I) 1893-1912

Published by Macmillan up to Volume XXX (1910)



Nature life science journals



1983





1994



1995









Nature physical science journals















What makes a *Nature* research journal?

- Highly selective
- High impact
- Full-time professional editorial staff
- No external editorial board or society affiliations
- Editorial independence
- A substantial 'front-half' of editorial, comment, news, and perspectives



Which one?

- As in the life sciences, there is undoubtedly overlap between the physical sciences journals
- The choice of journal depends on the audience you want to reach
- Rejection from one journal does not rule out consideration by another one
- But please, only one journal at a time!



Nature Physics

A monthly multi-disciplinary journal aimed at bringing together cutting-edge research across the entire spectrum of physics.

- Launched in 2005
- Based in London
- 2008 ISI Impact Factor: 16.821
- 870 site licenses, 1200+ personal subs, 45,000 eToC subscribers
 about 100,000 readers!
- "Nature Physics = Nature + equations"





Research areas covered













- Quantum physics
- Atomic and molecular physics
- Statistical physics, thermoand nonlinear dynamics
- Condensed-matter physics
- Fluid dynamics
- Optical physics
- Chemical physics











- Information theory and computation
- Electronics, photonics and device physics
- Nanotechnology
- Nuclear physics
- Plasma physics
- High-energy particle physics
- Astrophysics and cosmology
- Biophysics
- Geophysics



Number of submissions



Where do they come from?



Submissions 2005-2009 —Total: 4796

What gets published?



Published 2005-2009 — Total: 447

How to get published in Nature Physics

What are we looking for?

There is no definitive objective answer to this question.

But our goal is that every paper we publish has the potential to elicit either of the following response from any physicist that reads it:

"Wow! I didn't expect that!"

"Wow! That's clever (and useful!)"



Why publish in Nature Physics

- Exposure
 - Your paper will be seen not only by everyone in your field but well beyond.
- Prominence
 - Your paper will be one of a few it won't be lost in a sea of other papers in the one issue
 - Last year, Nature Physics published 138 papers (compared to 4169 published in PRL).
 - News and Views, press releases, the cover
- Care
 - Most of the papers we send out, we want to publish.
 - The editor handling your paper will be its champion.
 - Each editor publishes about 30 papers a year (for PRL, it's closer to 300).

Where to start

- Publishing starts with new experimental/theoretical results
- We only consider papers that represent substantial and conceptually novel advances in understanding or technological capability (an incremental advance is not enough, no matter how hot the topic)
- Resist temptation for quick publication and don't salami-slice
 - A solid paper based on comprehensive data has more chance of being published swiftly than one based on preliminary results



Writing the paper

- Explain! Don't hype!
- Context Not every reader will be able to understand the details but every reader should be able to appreciate why your work is significant
- Be descriptive not superlative.
 - 'femtosecond spectroscopy' not 'ultrafastspectroscopy'
 - only use 'nano-' if it's needed and/or convention
- Hyperbole will raise the suspicion of an editor that your claims are overblown
- The results should be able to speak for themselves

Format

- At the initial submission stage we don't care about how your paper is formatted.
- Spend your time on the clarity, concision and accessibility of the text and the figures!
- LaTeX is fine.
- If your paper is formatted for *PRL*, that's fine.
- If not that's fine too!
- The only formatting issue we do care about (a bit) is the references
 - Please include the titles of papers in the references



Cover letters

- Cover letters can be useful if a paper is poorly (or very technically) written, but are not mandatory
- Hyperbole won't work here either
- Referee suggestions
 - Can help speed up the process
 - Don't suggest former supervisor, students, or recent collaborators (we will check!)
- We try to honour referee exclusion requests, as long as they are reasonable (3-4 individuals)
- Identify *all* related papers in press or submitted elsewhere



The editorial process

- First decision within a week (as far as possible)
- At least one editor will read the paper, and often several editors; we also read relevant references and look at previous publications
- "How many people likely to be interested?"
- Decision based on editor's expertise we read about 400 new submissions a year.
- sometimes seek informal advice from 1-2 experts in the field
- when in doubt, send it out
- 2-4 referees per paper and aim for total turnover time of 4-6 weeks for a first decision after review



How we choose referees

- We take a lot of time and care to hand pick our referees, on a paper-by-paper basis
- We look for
 - Experience in the field
 - Broad overview of current trends and important issues
 - Efficient (we ask for a two week turnaround)
 - History of thorough and to-the-point reports
 - Fair-minded and constructive
- We try to use each referee no more than once or twice a year (no monopolies, no cliques)



Responding to referees

- If invited to resubmit, only do so after you have comprehensively addressed all comments.
- If further experiments are requested, don't try to argue your way around.
- Stay professional our referees are your peers and colleagues.
- If an expert in the field has failed to appreciate the significance of your work, or misunderstood what you're trying to say, that may not be their fault alone.
- Diplomacy and persuasion, backed by hard data.



How our decisions are made

- Editors make decision based on the substance of our referees' comments
 - We don't ask referees if they think a paper should be in *Nature Physics*
 - We don't count votes
- Most papers experience two rounds before publication
- For borderline decisions, the goal is to avoid multiple rounds of review
- Almost good enough isn't good enough
 - Revisions must make substantial progress towards justifying publication
- If we consider a work to be of interest, we can be patient and wait for additional experiments to be completed.



Unhappy?

- If we or our referees have failed to appreciate the fundamental significance of your work, we want to know about it!
- We will only overturn our decision if we are persuaded that we (or the referees) have fundamentally misunderstood your work.
- That two out of three referees liked paper is not sufficient grounds for appeal.
- We take appeals very seriously but they must take a lower priority to new submissions, so it may take a while to get an answer.



How to appeal

- Present new data to make your point!
- Point out possible factual errors in the decision process and argue scientifically.
- When appealing a rejection without review, explain the specific contribution of the work to the field as well as its possible immediate impact – do not just demand that it be reviewed.
 - Often authors will emphasis the 'sexy' but unsubstantiated implications of their work and forget to say anything about the substance.



How not to appeal

- "Do you know to I am!?!"
- "Celebrity" endorsements
- General statements on the importance of a field
- We don't care how many times the paper's been cited on the arXiv, nor how many times it's likely to be cited when it is published – we don't publish papers for citations
- Cosmetic rewriting of the paper
- "It would really help my career!"
- "It would really help my green-card application!"



After acceptance

- Typically about 4-6 weeks from acceptance to advance online publication
- This is when format becomes important
- Please read our instructions carefully
- If journalist wants to talk to you about the paper before publication, ask us first – you may only talk to journalists who agree to respect our embargo.
- The `*Nature* benefits':
 - Professional and thorough subediting and layout
 - Possibility of a News and Views piece on your work
 - Press Releases that go directly to the inboxes of most of the world's science writers
 - Wide dissemination 100,000 potential readers!



Embargo policy

- You may not talk to journalists about your work before publication, except for those who agree to honour our embargo (that is, not to break a story until the paper is published on our website).
- Why do we have a strict embargo policy?
 - By enabling many different news organizations to break your story at the same time, it will make a bigger splash.
 - Science stories do (and should) take longer to write than conventional news.
 - No respected news organization wants to run a story that their competitor broke a week ago.
- This does not preclude you from discussing your work with scientific colleagues, through conference presentations and via the arXiv before publication

Thank you!

• For more information see

www.nature.com/nphys

• For further questions or advice, email us at

naturephysics@nature.com

a.trabesinger@nature.com

