

Postdoc Workshop – January 13, 2015

“How to Publish in *Science Magazine*”

- Led by the associate editor for *Science Magazine*, Margaret Moerchen.
  - Moerchen has recently taken the position of Science Deputy at The Carnegie Institution for Science
  - B.A., University of Texas at Austin
  - M.S., Ph.D., 2008, University of Florida
    - Astronomy and planetary sciences

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### Scientific Publishing From the Inside Out

- *Science Magazine* has two halves:
  - Front → News
  - Back → Research
  - Focuses on wide variety of sciences
    - Interdisciplinary – accessible to those outside of your field
- *Science Magazine* was created in 1880 by Thomas Edison

→ In order to draw in readers and authors:

- Publish “the best” research papers
  - Cutting-edge science - relevant for several years
- Online presence
  - Podcast, Facebook, Twitter
- Track article usage
  - Number of times shared, downloaded, tweeted
    - Understand how and where people are getting the publication

→ Breakdown of readers and accepted publications

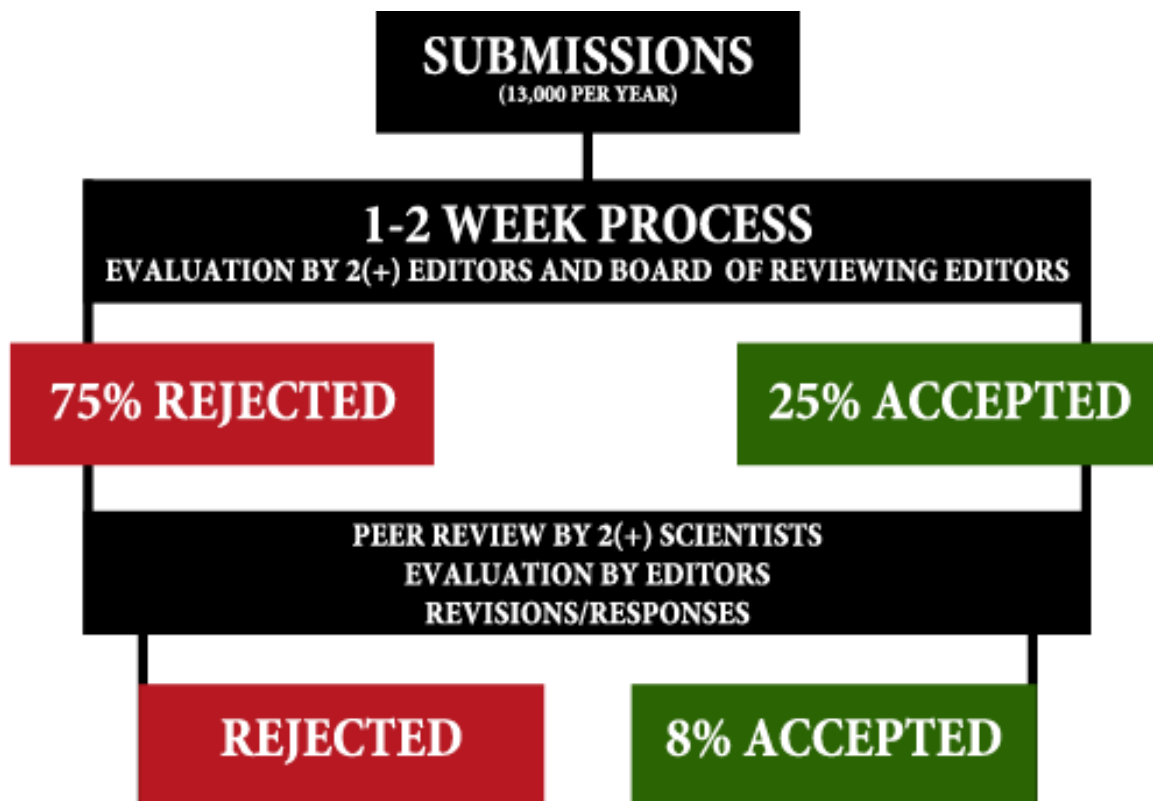
- 130,000 subscribers
- 500,000 reads
- 13,000 submissions/year
- 800 submissions published/year ← 7%
  - \*Accepting more international author submissions

→ Some choose to present their work on self-publishing or database only publishing sites.

- You can upload your papers to be critiqued by peers
  - Several access models: eLIFE, AAAS, etc
    - [Scienceadvances.org](http://Scienceadvances.org) – New *Science* publishing site launching February 2015
      - High-quality; only online; open access
        - Good for longer papers/supplemental data; publish quicker
        - [arXiv.org](http://arXiv.org)

→ Editing process:

## Paper Submission Process @ Science Magazine



→ Role of the Editor:

- Involved in all stages of the editing process
- Needs to know which scientists are experts in the paper's sub-focus
  - o You need to know where to look for experts

→ Board of Reviewing Editors:

- Top scientists in their field and focus
  - o Unpaid except free subscription to *Science*
- Suggest significances and relevance of the submissions
- Suggest qualified referee
  - o Referee can make or break paper
    - Must be unbiased and knowledgeable of the subject

- You can request not to have certain people referee, or say “no European referees”
    - No more than 2 exceptions
  - Critiques paper
    - Not grammar!
    - Focus on clarity/brevity/precision of paper
      - \*Paper cannot exceed 4 pages
  - Gives brief synopsis
  - Analyze quality of data and explanation
    - Less critique for interpretation
      - Some data can be unexpected but try to theorize or explain with data
  - Decide if it is different from prior research or recent publications
    - Why is it significant? Who benefits?
- Give long term strategic advice on what to publish

→ What makes a *Science* paper?

- Cutting-edge science
  - Confirms/rejects/predicts observational data
    - Harder to publish papers with theoretical data
  - Broad implications of papers and data → span disciplines
  - Self contained result/research
  - Avoid “field specific” info like acronyms
  - Can do online info or data to supplement paper ← link on website
    - Link to other authors’ publications for supplemental data

→ What to consider when presenting work:

- Technically rigorous research – can findings be easily reproduced?
- Broad and accessible?
- Will it remain relevant for several years?
- Is it written to graduate level understanding
- Did you get reviews from scientists in both your field and neighboring fields?
  - Peer review with colleagues and mentors FIRST
    - Then focus on anonymous reviews for better critiques

→ Suggested Referees:

- When choosing referees, *Science* avoids most prominent scientists in field
  - i.e. Nobel laureates
    - Too busy
- Avoid recent collaborators from the past 5 years
  - i.e. advisors, students, colleagues
- GOOD REFEREES:
  - Authors cited in your paper
  - Young professors/postdocs

- Newest science
  - Industry scientists
    - Especially for technical science)
  - Competitors or those with opposing views
- *Science* offers CROSS REVIEW:
  - Comments to editor and/or author → [cts.sciencemag.org](http://cts.sciencemag.org)
    - Find rules and regulations for submission
    - Ask if paper is relevant
- BEFORE SUBMISSION:
  - Think about content and presentation
    - Make it accessible, clear, and concise
  - Good writing
    - Every word counts, active voice, correct grammar, etc.
  - Allowed 4 figures/tables in paper
    - Are they useful/clear/to the point?
      - Accessible to other fields?
  - Run review process internally i.e. colleagues, advisors
  - Can you summarize the paper in one sentence?
    - Is the main message clear???
  - Additional info goes in cover letter
    - i.e. the significance, it's part of a series, alternate data online, associated manuscript data, etc.
  - READ INSTRUCTIONS CAREFULLY
- Pitch to editor first:
  - What angle to pitch?
    - What science is the most relevant and relatable?
    - How to get it to correct referees
    - What audience is this directed towards?