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 – New Science publishing site launching February 2015
      - High-quality; only online; open access
        - Good for longer papers/supplemental data; publish quicker
        - 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
  - You need to know where to look for experts

Board of Reviewing Editors:
- Top scientists in their field and focus
  - Unpaid except free subscription to Science
- Suggest significances and relevance of the submissions
- Suggest qualified referee
  - 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”
  o 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
        o 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
        o Why is it significant? Who benefits?

  - Give long term strategic advice on what to publish

→ What makes a *Science* paper?
  - Cutting-edge science
    o Confirms/rejects/predicts observational data
      ▪ Harder to publish papers with theoretical data
    o Broad implications of papers and data → span disciplines
    o Self contained result/research
    o Avoid “field specific” info like acronyms
    o 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?
    o 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
    o i.e. Nobel laureates
      ▪ Too busy
  - Avoid recent collaborators from the past 5 years
    o i.e. advisors, students, colleagues
  - GOOD REFEREES:
    o Authors cited in your paper
    o Young professors/postdocs
- Newest science
  o Industry scientists
    - Especially for technical science)
  o Competitors or those with opposing views

→ *Science* offers CROSS REVIEW:
  - Comments to editor and/or author → cts.sciencemag.org
    o Find rules and regulations for submission
    o Ask if paper is relevant

→ BEFORE SUBMISSION:
  - Think about content and presentation
    o Make it accessible, clear, and concise
  - Good writing
    o Every word counts, active voice, correct grammar, etc.
  - Allowed 4 figures/tables in paper
    o 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?
    o Is the main message clear???
  - Additional info goes in cover letter
    o 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?
    o What science is the most relevant and relatable?
    o How to get it to correct referees
    o What audience is this directed towards?