**How to Advance from Poster to Paper-Challenges of Publishing in Peer Reviewed Journals**

**For Minorities in Cancer Research (MICR) Professional Advancement Reception and Roundtable**

**April 4, 2011**

**By Ann D. Thor, M.D., Professor and Todd Chair of Pathology**

**University of Colorado Anschutz Medical Campus School of Medicine**

**Aurora, CO**

1. **Plan your presentation and publication strategy before you start your experiments**
* Determine the focus of your investigation. *Write out your hypothesis.*
* Plan experiments to logically test the hypothesis. Be sure all include appropriate controls and that you prove key findings with at least 2 methods.
* Come up with a short list of journals that you want to target. Review their instructions for authors.
* Outline key data, determine order and mock up figures and tables.
* Do an updated literature review, identify key references.

1. **Create your poster and scientific manuscript simultaneously. Try to use same figures/tables so you get best feedback and are most efficient.**
* Choose a meeting for poster presentation based on scientific content and desired visibility.
* Design your poster ahead of schedule. Ask mentors for their feedback.
* Prepare for your poster presentation as if it were a talk. Develop talking points and answers for expected questions. Know your scientific rationale and the literature.
* Personally present your poster. Ask questions of those who look at it. Seek to define any weaknesses from feedback.
* Based on questions and current literature, what are the top five points of your study. Do your figures/tables hit those points? Do you need to do additional experiments before submitting the paper.
* Study other posters at the meeting...focus on data presentation and content. Have you used the most up to date methods? Have you shown your data in the most current way?

**3. Know the basic rules of scientific writing**

* Must be precise and objective.
* Beware of verbosity.
* Clarity in concepts and methods is critical. If complex, consider a figure to simplify.
* Avoid figurative language.
* Triple check for spelling and grammatical errors.
* Develop conclusions based only on data. Avoid sweeping conclusions.
* Acknowledge collaborators, references, consultant sources.
* Avoid "I" or "we". Everything you say should be derived from logic not personal bias or subjectivity.
* Follow exactly the guidelines by the journal, or you risk rejection without review.

**4. Avoid plagiarism and copyright breach**

* Plagiarism is the use of another persons words without putting them in quotation marks and referencing the source.
* Plagiarism also includes the use of others ideas without citing the source.
* In order to reprint tables, illustrations, charts or figures must get permission.
* If you take text from others, you are ultimately responsible to be sure they do not plagiarize.
* Double check reference citations. Be sure they are accurate and facts/text are appropriately cited.
* Common knowledge, information available in at least 4 sources does not need citation.

**5. Follow standard scientific article format unless journal instructions say otherwise**

* **Title**-target essential finding
* **Abstract**-write this last
* **Introduction**-puts data in context. Must state hypothesis.
* **Methods**-use enough detail others could reproduce your work.
* **Results/Discussion**-use subheadings to organize. Should follow logically. Develop tables and figures and write this section first.
* **Conclusion**-address most significant findings, short and long term implications.

**6. Authorship**

* Determine author order before the poster abstract and manuscript are written.
* Author list for poster and manuscript do not have to agree.
* Institutions and journals often have authorship policies. Do not include those who have not contributed.
* Most important author positions are first, second and last. First author should typically write draft and have contributed most.
* Consider intellectual property issues before you submit. Once in the public domain, the clock is ticking.
* Journals and institutions have conflict of interest (COI) policies. Must declare all potential COI up front and typically in writing.

**7. Set High Expectations**

* Aim high! If you do not try, it cannot be published in a top tier journal. Do not fear rejection!
* Have a trusted colleague or mentor proof the paper before it is submitted. Use spell and grammar checker.
* Submit to the best/top journal first. Have a back up list ready incase the article is rejected.
* Put in the time and energy to get the paper published first time it is submitted. Don't be sloppy first, then have to put in the time later.
1. **Write cover letter to accompany paper**
* State why the manuscript is important and put it in context of the literature.
* Include editorial board members names who might be most appropriate to handle review.
* Include names of individuals to whom you don't want paper sent.

**Useful references:**

Google scientific writing....alot of helpful sites.

www.unc.edu/depts/wcweb/handouts/sciences.html.

www.fairfieldschools.org/wardehs/cwardehs03/sciwriting.html.

http://abacus.bates.edu/-ganderso/biologyt/resources/writing/HTWgene...

|  |  |
| --- | --- |
|  | Ann Thor, M.D. is board certified in anatomic and clinical pathology and has an active breast cancer research program. She completed fellowships in tumor immunology and biology at the NIH, surgical and cytopathology at the University of California San Francisco and gynecologic pathology at the Massachusetts General Hospital, Harvard University. She has held faculty positions at Harvard University (Instructor to Associate Professor), the University of Vermont (Associate Professor, Division Director of Cytopathology), Northwestern University (Professor, Division Director of Cytopathology) and the University of Oklahoma (Lloyd Rader Professor and Chair from 2001-2005). She is currently the Todd Professor and Chair of Pathology, University of Colorado Denver. Dr. Thor is the current Council Chair of Women in Cancer Research (WICR) of the AACR.  |

**American Association for Cancer Research**

615 Chestnut Street, 17th Floor

Philadelphia, PA 19106-4404

Phone: (215) 440-9300

Fax: (215) 440-9372