

Ethical Dimensions of Science:

Authorship and Mentoring

Francis L. Macrina
Edward Myers Professor of Dentistry and
Vice President for Research
Virginia Commonwealth University

ASM Kadner Institute



Overview

Ethics (moral philosophy) endeavors to study and evaluate morals; ethical analysis is aimed at establishing concepts such as "right", "wrong", "permissible", "ought", "good", and "evil"

Morals include principles or rules of conduct, values, and normative behavior

Ethical behavior and decision-making in scientific research has always been built on a foundation of core beliefs and accepted practices

Overview (cont'd.)

The past few decades have seen the growth of written codes, policies, and guidelines in many of aspects of scientific practice

Authorship and mentoring are two areas where this has occurred

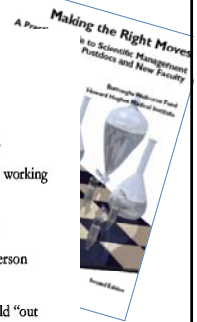
The establishment of professional research ethics is increasingly recognized and continues to evolve under the mantle of Responsible Conduct of Research (RCR)

Traits of a Good Mentor

Good mentors often share some of the following personal qualities:

- ◆ *Accessibility*: An open door and an approachable attitude.
- ◆ *Empathy*: Personal insight into what the trainee is experiencing.
- ◆ *Open-mindedness*: Respect for each trainee's individuality and for working styles and career goals different from your own.
- ◆ *Consistency*: Acting on your stated principles on a regular basis.
- ◆ *Patience*: Awareness that people make mistakes and that each person matures at his or her own rate.
- ◆ *Honesty*: Ability to communicate the hard truths about the world "out there" and about the trainee's chances.
- ◆ *Savvy*: Attention to the pragmatic aspects of career development.

http://www.hhmi.org/resources/labmanagement/mtrmoves_download.html



Guidelines recommend that mentors:

- Devote necessary time to trainee's development
- Be empathetic, open-minded, and consistent
- Assist in career counseling and job placement
- Schedule career planning sessions to monitor progress and avoid conflict
- Write candid letters of recommendation

Guidelines recommend that trainees:

- Conduct themselves in a mature manner
- Be mindful of mentor time constraints
- Avoid over-identification with the mentor
- Be proactive in terms of career direction

And...trainees should:

Contribute to the mentor's lab productivity

Assist others in the trainee's expertise

Assume responsibility for self-directed learning, while seeking the mentors

Guidelines recommend that mentor responsibilities include:

Holding regular meetings with trainees

Ensuring that trainees are familiar with academic and non-academic policies

Carefully supervising trainee work

Treating trainees with professional courtesy

Keeping trainees' best interests in mind

Guidelines recommend that mentor responsibilities also include:

Involving trainees in small group research unit meetings

Offering candid advice

Encouraging trainees to view job prospects realistically

Being alert to behavioral changes indicating trainee stress

The screenshot shows the AAMC website with a blue header. The main content area is titled "Compact Between Biomedical Graduate Students and Their Research Advisors". It includes a brief introduction: "These guiding principles are intended to support the development of a positive mentoring relationship between the postdoctoral student and their research advisor. A successful student-mentor relationship requires commitment from the student, mentor, graduate program, and institution. This document offers a set of broad guidelines which are meant to initiate discussions at the local and national levels about the student-mentor relationship." Below this, it states: "The Compact was prepared by the AAMC Group on Graduate Research, Education, and Training (GREAT) and is modeled on the AAMC Compact Between Postdoctoral Appointees and Their Mentors. Input on this document was received from the GREAT Group Representatives and the members of the AAMC governance." There is a link to "Download the Compact (PDF, 8 pages)". On the right side, there is a "Compact Documents" section with two links: "PDF (8 pages)" and "HTML (7 pages)". At the bottom of the page, there is a URL: <http://www.aamc.org/research/gradcompact/start.htm>

The cover features the AAMC logo at the top right, with the tagline "Tomorrow's Doctors, Tomorrow's Cures®". The title "Compact Between Postdoctoral Appointees and Their Mentors" is centered in a dark blue box. Below the title, it says "December 2006". At the bottom, there is a URL: <http://www.aamc.org>

NSF Postdoctoral Mentoring Plan Requirement

<http://www.nsf.gov/index.jsp>

Example of mentoring plan

<http://opd.tamu.edu/proposal-resources/resources-for-postdoc-requirement/Example%20Postdoctoral%20Researcher%20Mentoring%20Plan%20for%20an%20NSF%20Proposal.doc>

FASEB Individual Development Plan

<http://www.faseb.org/>

Resources

National Postdoctoral Association

<http://www.nationalpostdoc.org/>

Minoritypostdoc.org

<http://www.minoritypostdoc.org/>

Club Rules of Authorship

Publishers: Instructions to Authors

Societies and Organizations:
Guidelines for Authorship

Institutions: Guidelines for Responsible
Conduct



Accepted Good Practice

Authorship definition: significant intellectual contribution, not just technical one

Contributorship model encouraged

Guarantor model encouraged

Confirmation of engagement of all authors

Accepted Good Practice (cont'd.)

No submission of previously published material

No simultaneous submission of same work to different journals

No public disclosure prior to publication or in keeping with embargos

Subjects protection compliance met

Data sharing a condition of publication

Accepted Good Practice (cont'd)

Deposit of archival data for public access a condition of publication

Disclosure and management of conflicts

Transfer of copyright to publisher (or not)

Registration of Clinical Trials

Digital Image Processing

Option for review pertaining to biosecurity

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ICMJE INTERNATIONAL COMMITTEE OF MEDICAL JOURNAL EDITORS

Authorship credit should be based on

- 1) substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data;
- 2) drafting the article or revising it critically for important intellectual content; and
- 3) final approval of the version to be published. Authors should meet conditions 1, 2, and 3.

ICMJE INTERNATIONAL COMMITTEE OF MEDICAL JOURNAL EDITORS

- When a large, multicenter group has conducted the work, the group should identify the individuals who accept direct responsibility for the manuscript.
- These individuals should fully meet the criteria for authorship/contributorship defined above
- The editors will ask these individuals to complete journal-specific author and conflict-of-interest disclosure forms.

October 2009
ICMJE updated policy has specific requirement for COI disclosure

July 2010
Updated Editorial

<http://banderl.com.org/cgi-bin/g03G/126009052v1.pdf>

We encourage other journals to adopt this reporting format, and we are placing the form in the public domain

ICMJE INTERNATIONAL COMMITTEE OF MEDICAL JOURNAL EDITORS

- Acquisition of funding, collection of data, or general supervision of the research group alone does not constitute authorship.
- All persons designated as authors should qualify for authorship, and all those who qualify should be listed.
- Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content.

Club Rules of Authorship

Publishers: Instructions to Authors

Societies and Organizations: Guidelines for Authorship

Institutions: Guidelines for Responsible Conduct

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Home Research Education Facilities Administration

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NYU Protein Analysis Facility

Policies on User Fees, Authorship and Collaboration

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Dr. Thomas A. Neubert, Director

We at the NYU PAF follow the guidelines established by the International Committee of Medical Journal Editors and similar organizations as discussed by Huth (Huth, E. J. [1986] Guidelines on Authorship of Medical Papers, *Annals Int. Med.* 104 : 269-274) and Bailey (Bailey, B. J. [2001] What Is an Author? *Otolaryngol. Head Neck Surg.* 124 :2-3). In general, these guidelines suggest that if scientists from the PAF have helped to design or conceive the experiments, have done data analysis and interpretation of data, or both, they should be coauthors of papers that use data generated by the facility. In this case facility scientists should participate in drafting the paper or revising it for critically important content, and give final approval of the version to be published.

Characterization of posttranslational modifications on proteins, and in some cases, extensive de novo sequencing of peptides followed by multiple protein identifications by homology searching are not routine, generally require extensive data interpretation, and in most cases constitute contributions meriting co-authorship. Simple acquisitions of mass spectra or routine protein identifications alone normally do not merit co-authorship but should be acknowledged (see below). If you are uncertain about co-authorship or have any questions or concerns about this, please discuss this issue with the facility director (Thomas Neubert) before submitting your samples for analysis.

Parting Thoughts

Formality replacing folklore

Know where to find guidance on authorship, publication practices, and mentoring

Get involved

- be a good mentor and educate proactively
- be a good trainee: engage your mentor and colleagues
- be part of the process of developing policies and guidelines (e.g., your institution, your scientific society(s),