Becoming a More Effective Research Mentor

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University of Wisconsin, Madison
Workshop Goals

- Learn the core elements of mentoring.
- Be able to more clearly define your role as a mentor.
- Share mentoring challenges and solutions with one another.
- Practice diverse communication strategies.
- Articulate expectations for your mentoring relationship.
- Develop practical tools and strategies that you can implement immediately to become a more effective mentor.
- Learn how to implement research mentor training at your current or future institution.
Workshop Agenda

I. Introductions and Overview of Workshop
II. Sharing Mentoring Stories with One Another
III. Overview of Mentoring and Research Mentor Training
IV. Case Study: Communication Skills
V. Drafting Mentor: Mentee Contracts
VI. Case Study: Authorship
VII. Mentoring Action Plan
VIII. Research Mentor Training Curricula and Resources
IX. Evaluation
Mentoring Challenges

Choose an image that represents a mentoring challenge you have faced as a research mentor (or mentee).

If you have not assumed the role of research mentor or mentee, choose a picture that represents a challenge you believe post-docs mentors often face.
The Importance of Good Mentoring

- Students being mentoring report fewer non-persistence decisions (Gloria & Robinson Kurpius, 2001)

- Most important factor in degree attainment was positive mentoring experience (Solorzano, 1993)

- The desire to pursue a Ph.D or M.D/ Ph.D is influenced by a strong mentee-mentor relationship (McGee and Keller, 2007)

- McNair scholars rated mentoring as a significant contributor to their academic core second only to research (Grimmit, Bliss, Davis and Ray, 1999)

- Mentoring and research training cannot be separated from scientific research for anyone in postdoctoral or graduate student positions and should not be considered as separate objectives (NAS 2005)

- NIGMS strongly encourages institutions and their faculty to seek available resources and time to help foster effective mentoring skills (NIGMS Strategic Plan, 2012).
How do we learn how to mentor?

What do experienced mentors say?

• Learning from making mistakes
• Learned from experience
• Learned from watching my own mentor make mistakes
• Learned from making mistakes
• .......and still learning from making mistakes
Can mentoring be taught?

- Can you teach someone to do research?
  - Can you teach someone to write?
  - Can you teach someone to teach?

Each of these skills is a combination of passion, intuition, experience, and knowledge.
Entering Mentoring Seminar

- Eight-week, process-based seminar developed using an iterative approach involving design, testing, evaluation, and revision

- Originally optimized for biologists engaged in mentoring undergraduate researchers, many of whom were graduate students and post-docs
Seminar Topics:

• Maintaining Effective Communication
• Establishing Expectations
• Assessing Understanding
• Addressing Diversity
• Discussing Ethics
• Fostering Independence
• Developing a Mentoring Philosophy
Changes in Behavior of the Mentors

- Discussed mentees' expectations of you, as the mentor
- Oriented to your building
- Considered issues of diversity in regards to mentoring
- Discussed an aspect of mentoring with your colleague
- Reflected upon or wrote your own mentoring philosophy

Nervis, a post-doc mentor was frustrated because her undergraduate student, Sam, was not running successful experiments. While Sam had great enthusiasm for the project, each experiment failed because of some sloppy error—forgetting to pH the gel buffer, forgetting to add a reagent to a reaction, or forgetting to turn down the voltage on a gel box.

After a month of discussions, and careful attempts to teach Sam habits that would compensate for his forgetfulness, Nervis was ready to give up. Nervis spoke with her adviser, Dr. Dortmund and asked for advice, hoping that she could fix the problem and start getting useful data from Sam. Dr. Dortmund offered to work with Sam. When Sam walked into his office, Dr. Dortmund said, “I hear you’re a slob in the lab. You gotta clean up your act if we’re going to get any data out of you.” Seeing the crushed and humiliated look on Sam’s face, he quickly added, “I’m a slob too—that’s why I’m in here pushing papers around and not in the lab doing the hard stuff like you guys!”
Case Study: Guiding questions

- If you were the mentee, how would you feel?
- If you were the mentor, how would you feel?
- If you were the faculty advisor, how would you feel?
- What can the post-doc mentor and faculty advisor do now to help remedy the situation?
- What could you do as a mentor to avoid this kind of situation?
MENTORING COMPACTS

Read through the example compacts in your workshop packet.

Circle items you think would be helpful to include on your own compact or the compacts of mentors with whom you work.
Who Gets Credit?

Kermin is a first-year graduate student and has been working on a new research project for the past six months. This particular project is part of a larger research study being led by a senior post-doc in the lab. Over the past four months, Kermin has attended weekly meetings for the project, read the background research, conducted some experiments under the mentorship of the post-doc, and even contributed fresh ideas for future experiments. Before one of the weekly lab meetings, Kermin overhears the PI tell the senior post-doc that he feels the manuscript is coming along nicely and should be ready to submit in the next few weeks. When Kermin inquires about the manuscript, the PI says that he and the senior post-doc are pushing the manuscript out the door as quickly as possible so the post-doc can include the submission on her resume when she begins applying for jobs next month. Kermin sees the manuscript lying on the desk and looks at the title page. Kermin is surprised that his name has not been included as an author. When the advisor sees Kermin looking at the title page, he quickly says, “Don’t worry, we included your name in the acknowledgements. We just don’t have the time to include you in the writing this time. You will be an author soon enough.”
Case Study: Guiding questions

• Whose responsibility is it to decide issues of authorship?

• When should issues of authorship be discussed?

• Who do you think should be an author on the paper described in this scenario?

• How should Kermin respond?

• If you were the senior post-doc in this case study, how would you resolve the situation?
Research Mentor Training Resources
Research Mentor Training Curricula

• Originally curriculum for graduate students and post-docs in biology (HHMI, PI: Handelsman)
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Welcome to Mentor Training

Your ability to mentor well can have huge impact on the overall experience and the productivity of both you and your mentee. While many efforts have focused on helping prospective and new faculty learn skills in grant writing, lab management, and classroom teaching, mentoring has been conspicuously absent. To address this need, we have developed this website which can help you to become a more effective mentor, and more importantly, can help you develop a seminar or workshop to train other research mentors.

We hope you find the materials on this website useful and easily adaptable as you and your colleagues work to become more efficient and effective mentors!

Case Study:

Independence

An experienced undergraduate researcher was constantly seeking input from the mentor on minor details regarding his project. Though he had regular meetings scheduled with the mentor, he would bombard her with several emails a day...

Quotes:

“Mentor training is a wonderful opportunity to formally learn and reflect on mentoring. The mentors in my group will no doubt mentor many other students in their careers. I believe this seminar will help them to do so more effectively.”
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• The curriculum has been adapted for use in a synchronous, online venue through the CIRTL Network (NSF, PI: Mathieu)
Center for the Integration of Research, Teaching and Learning (CIRTL)

Mission

To develop a national STEM faculty committed to implementing and advancing effective teaching and learning practices for diverse student audiences as part of their professional careers.
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CIRTL Cross-Network Programs

- Online CIRTL Network Courses
- Network Exchange Programs
- CIRTLCast webinars
- CIRTL Online Coffee Hours
- CIRTL Online Learning Communities topical discussions
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• Adapted for clinical and translational science (CTSA) award mentors (NIH, PI: Dresner)
## Research Mentor Training Schedule

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<td>Maintaining Effective Communication</td>
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<td>Fostering Independence</td>
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<td>Session 4</td>
<td>Promoting Professional Development</td>
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<td>Articulating a Mentoring Philosophy and Plan</td>
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### Clinical & Translational Research Mentor Training: A Guidebook

Part of the *Entering Mentoring* Series
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- Curricula has been developed for faculty mentors (NSF, PI: Pfund) Full curriculum is being generated for mentors of biomedical graduate students and post-docs (NIH, PI: Dresner)
Research Mentoring
Cultivating effective relationships

Watch testimonials from mentors, mentees, and training facilitators.

For Mentors
Find out how you can become an exceptionally effective mentor to the researchers of the future.

For Mentees
Discover effective communication strategies to get the most out of working with your mentor.

For Trainers
Learn more about approaches to training mentors and how to use our training materials.

www.ictr.wisc.edu
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- NIH has funded a study to develop better understanding of specific factors in mentoring relationships that account for positive student outcomes (NIH, PI: Byars-Winston, co-I: Pfund).
Mentoring Action Plans

Use worksheet provided to develop a short-term action plan for improving research mentoring

Front side:  For post-docs

Back side:  For post-doc office and association leaders
Thank you!

*CIRTL*

HHMI
NSF (TUES)
NIH (NCATS and NIGMS)

Partners across the country who have helped develop, adapt, implement and evaluate research mentor training curricula