

# MENTORSHIP IN A SAFE ENVIRONMENT

## KEY CONCEPTS

Here are ten elements which tend to create successful relationships between a mentor and a mentee in scientific research settings:

- Regular and effective communication;
- Aligned expectations;
- Individuals with personal integrity;
- A good "climate" for interpersonal work;
- Support for work / life balance;
- Acknowledged community norms and ethical standards;
- Support for and cultivation of scientific literacy and understanding;
- Frequent assessment of scientific skills and techniques;
- Acceptance of professional disagreement and diversity; and
- Fostered career-independence and promotion of professional development.

## TEXTBOOKS & REPORTS

- Introduction to the Responsible Conduct of Research* (Steneck 2007)
- Responsible Conduct of Research* (Shamoo & Resnik 2015, 3<sup>rd</sup> ed)
- The Science of Effective Mentorship in STEMM* (The National Academies Press 2019; free at [nap.edu](http://nap.edu))

## ASSOCIATED ARTICLES

- Lee, Dennis, and Campbell's (2007) "Nature's guide for mentors" *Nature* 447: 791–797.

## CASES IN THE NEWS

- David Baltimore, Thereza Imanishi-Kari, and Margot O'Toole—see Daniel J. Kevles (1996) writing for *The New Yorker*

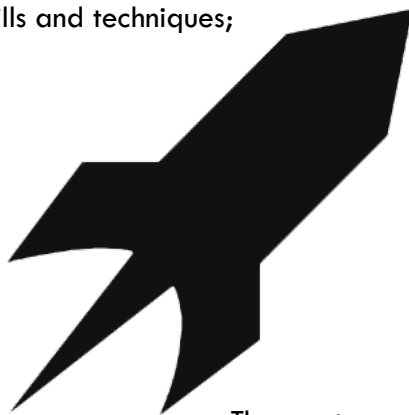
## DISCUSSION QUESTIONS

- How do issues with mentor-mentee relationships arise most commonly or significantly for scientific work in your laboratory or research setting?
- When is the best time to join the lab or research group of a prospective mentor: at the beginning, middle, or late stage of their career?
- What should your institution do to foster healthy mentor-mentee relationships among its researchers?
- What should your field's primary professional organizations or societies do to foster healthy mentor-mentee relationships in your field?
- In your current laboratory or research setting, are you a scientific mentor or a mentee? If you are a mentor, what mentor-mentee relationship skill do you most need your mentees to get better at deploying? If you are a mentee, what mentor-mentee relationship skill do you most need your mentor to get better at deploying?

## POLICY & REPORTING

The mentor-mentee relationship is a deeply important one in science. It represents a significant investment for all involved, as well as introduces significant vulnerability along with the great promise of a successful relationship.

In a partnership like this, if you see something going drastically and morally wrong, yet internal recourse fails, you should have some idea about other, external sources of redress; you should know how to seek outside aid. This might mean contacting your institution's Research Integrity Officer (or RIO) or its Ombuds Office. Note that all parties and institutions involved should have policies which delineate the boundaries of these relationships.



## FINE PRINT

In 1992–3, the National Academy of Sciences (NAS) published a pair of reports on *Responsible Science* (Vol. 1–2), and those reports ushered in an era of ethical oversight centered around the concept of the Responsible Conduct of Research (RCR) at federally-funded American research institutions across the nation. By 2009, the National Institutes of Health (NIH) had mandated that "all trainees, fellows, participants, and scholars receiving support through any NIH training, career development award (individual or institutional), research education grant, and dissertation research grant must receive instruction in responsible conduct of research" (NOT-OD-10-019). The National Science Foundation (NSF) recommends—though does not require—something similar. Both agencies suggest that satisfactory RCR instruction tends to cover: research misconduct; conflict of interest; human subjects research; animal subjects research; collaboration and interdisciplinarity; data acquisition and management; authorship, peer review, and publication; mentoring and being mentored; and the relationship between science and society.

This handout introduces the topic of **mentoring and being mentored**.