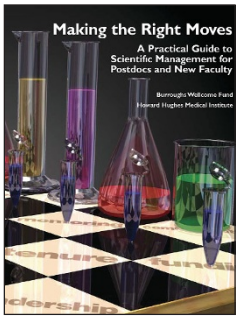
# Free advice on lab management




**Making the Right Moves: A Practical Guide to Scientific Management for Postdocs and New Faculty**

**edited by Laura Bonetta**

Burroughs Wellcome Fund and Howard Hughes Medical Institute, 2004
233 pp. softcover, free
Available at http://www.hhmi.org/grants/office/graduate/labmanagement.html

**Reviewed by Anne E West and Michael E Greenberg**

Modern biomedical science is a team sport—few scientists work alone. For example, the average *Nature Neuroscience* paper published this year has five authors, and a quarter have seven or more. Medical schools expect a new faculty member to quickly assemble a diverse group of researchers and be responsible for guiding their careers. However, postdoctoral fellows are trained to do research, not to train others. When suddenly faced with a student who becomes disenchanted with a project, a technician who spends all day surfing the net, or an aggressive collaborator, many young principal investigators find themselves unprepared.

*Making the Right Moves: A Practical Guide to Scientific Management for Postdocs and New Faculty* is one of several recent publications designed to teach principles of laboratory management to young investigators. The book grew out of a 2002 course on scientific management held by the Burroughs Wellcome Fund (BWF) and the Howard Hughes Medical Institute (HHMI), with the goals of helping starting investigators avoid common pitfalls in setting up a lab and increasing the success of the early lab years. The contents were developed in consultation with a focus group of junior and senior HHMI/BWF grantees. A wide range of practical topics are covered, with an emphasis on the management of people (staffing the lab, mentoring and being mentored), projects (keeping lab notebooks and dealing with technology transfer) and career (finding a job, getting funded, publishing and achieving tenure). Anecdotes from senior scientists, who share their personal thoughts and experiences, bring to life the ideas raised in the text.

Both starting and seasoned investigators will find useful information in this book. If the experience in our laboratory is any indication, senior postdoctoral fellows will avidly devour the chapter about obtaining a faculty position, which provides especially useful details on the politics of negotiating. Although the importance of personal advancement is intuitively obvious to most successful postdocs, the greater challenge is learning how to organize and motivate others on your team. The editors could have done better at balancing the content between career management and scientific mentorship; for example, getting tenure is discussed before dealing with students and teaching and perhaps is given too much emphasis. Nonetheless, the book does offer much practical advice on personnel issues such as hiring and firing, communicating expectations about working hours, and deciding who should be an author on papers.

The wisdom in this book is too extensive to review exhaustively, but a few points deserve special mention. The chapter on data management encourages new investigators to plan in advance how they expect data to be stored and how lab notebooks will be standardized. (There are few quests so futile as attempting to get an exiting postdoc to generate maps of plasmids constructed years before.) The chapter on publication is also worthwhile and discusses, among other things, how to pick an appropriate journal for your paper. Making the correct decision can be difficult for inexperienced researchers, but can save valuable time. The book rapidly, although somewhat dryly, dispenses advice, making it a quick read. A more thorough, engaging and humanistic guide to laboratory management can be found in Kathy Barker's excellent *At the Helm: A Laboratory Navigator* (Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY, 2002), which the editors of the current book suggest be read as a complement to this manual.

At times, this laboratory management guide falls into the trap of encouraging unnecessarily complex approaches that may actually impede the progress of research. For example, the chapter on project management describes how to develop a 'work breakdown structure' for lab projects, complete with flow diagrams and a detailed timetable for specific tasks. Although it is crucial to visualize the overall goals and objectives of a project before its initiation, there is fine line between good management and overplanning. As HHMI president Thomas Cech points out, the presence of a new investigator in the lab is strongly correlated with the success of that lab's science. You cannot be in your office drawing flow charts and in the lab doing experiments at the same time. As is true for work and family, or mentoring and personal career advancement, striking a balance between structured management and the creative flow of ideas is key to laboratory success.

Good science happens when talented investigators successfully implement creative ideas. It might not take a village to publish a paper, but it does take a department, a laboratory or a project team led by an effective principal investigator who knows how to instigate, motivate and negotiate. Of course, in science it is the quality of the ideas that matters most, as a really good idea will find its way into the canon one way or another, regardless of the management skills of the principal investigator. But if this new book is widely read, it has the chance of raising the overall quality of science by giving newly minted laboratory leaders the tools they need to bring their best ideas to fruition efficiently. ■

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