

The Art of Being a Scientist—A Guide for Graduate Students and their Mentors, by Roel Sneider and Ken Lerner, ISBN 978-0-521-74352-5, Cambridge, 2009, 286 pp., US \$32.99 (paperback).

A self-help manual such as this has a tendency to provoke mixed feelings in the reader (or in this reader at least). It is so full of useful, considered and well-balanced advice that, while an interesting and stimulating read for all scientists, the main thought provoked by it is “why wasn’t it around when I was a graduate student?” Clearly this is a book that has been waiting to be written, and it is entirely commendable that Roel Sneider and Ken Lerner have taken their Colorado Schools of Mines course (“The Art of Science”) and presented it in book form. The authors have also been ambitious in the scope of subjects they have attempted to cover in less than 300 pages. These range from the somewhat philosophical first chapter (“What is science?”) right through to the very practical (for example, the section on making a database of references).

Sneider and Lerner begin, logically, with the most difficult subject—what is science? This means that the book starts somewhat slowly and has a slight tendency to get bogged down in an extremely difficult subject. The useful content of the book really gets going in the next couple of chapters which discuss the problematic issues of choosing a research subject and consequently an advisor and, in some cases, a thesis committee. One of the fun things that can be done, even for those readers who have already graduated, is to plot where your advisor lies in the “style graph.” The real meat of the book lies in chapters 5 to 7, which cover the key techniques that should be used when actually going about a research project. The book in general is littered with relevant and interesting quotes from a wide range of sources—these chapters are particularly blessed with some of my favorites (from the likes of Niels Bohr, Isaac Asimov and Randy Pausch). It is these chapters, as well, that are the most relevant for any scientist—they basically show the art of good practice in the scientific method. After a detour into the ethics of research (which is desperately relevant given the recent events in the

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world of climate science), the authors get stuck into the world of scientific literature; they discuss how to filter the relevant information from the huge amount of published material, how to publish material itself and how to craft a research proposal. In the middle of this is a chapter on perhaps the most important scientific skill of all, communication. While some of this material has already been published (as articles in *The Leading Edge*) collected in context here, it stands as a reminder of how best to go about disseminating the results of all your hard work. Finally, the authors give some useful career advice and conclude with some more philosophical musings on how to get the best out of a scientific career.

In some ways, and this is not the first book to be guilty of this, the subtitle (although it is actually bigger on the cover)

does it a disservice. Although the authors explicitly state that the book is written for graduate students, it is arguable that the majority of the book is highly applicable to all scientists at any stage of their career, whether in academia or industry. Certainly, if you buy this book before you embark on being a graduate student, then you will be best placed to gain the most from it. This should not, however, put off purchasers for whom grad school is a distant memory—as a good example, the chapter on communication should be mandatory reading for all scientists, young or old.

—JOHN BRITTAN,
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