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Resources for effective communication, career advancement, professional development, research integrity, and teaching in the (molecular life) sciences: a compilation of books, articles, and web links

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General Advice for Graduate Students:

Resources prepared for a teaching program in professional survival skills and ethics operated by Michael Zigmond and Beth Fischer:
http://www.skillsandethics.org/Site_2/Resources.html
overview: http://www.angelfire.com/la3/laprairie/FischerZigmond.pdf

Slightly cynical "guide" for grad careers:
http://www.eeb.yale.edu/stearns/advice.htm
More upbeat response to Stearns:http://faculty.washington.edu/hueyrb/pdfs/reply.pdf
Lots of links to info about grad studies:
http://www.anu.edu.au/BoZo/Scott/Studentresources.html
More links with lighter touch: http://www-personal.umich.edu/~danhorn/graduate.html

Seeking Letters of Recommendation:

Applications for most jobs, scholarships, and other awards require letters of recommendation, usually from relevant professionals. Graduate students should cultivate relationships with potential referees so that the letters can be based on true knowledge and then request letters appropriately. E.g.:
http://www.universityaffairs.ca/how-to-ask-for-a-reference-letter.aspx

General and Science Writing Guides:

Style: Ten Lessons in Clarity and Grace by Joseph M. Williams
The Elements of Style by W. Strunk, Jr., and E.B. White (3 rd edition; a classic, must read); online at http://www.bartleby.com/141/index.html

A Short Guide to Writing about Biology by Jan A. Pechenik (5 th edition, 2004)
Writing Papers in the Biological Sciences by Victoria E. McMillan (2 nd edition)
How to Write and Publish a Scientific Paper (5 th ed., 1998) by R.A. Day; Oryx Press.

Presenting Science to the Public. By B. Gastel (1983); ISI Press

Making effective graphs, tables and figures:
The Visual Display of Quantitative Information 2 nd ed. by E. R. Tufte (2001), Cheshire , CT :Graphics Press (ISBN: 9613921) (really enlightening and fun to read).

The Elements of Graphing Data by W.S. Cleaveland (1985), Wadsworth Advanced

Web Sites for Granting Agencies (most have scholarship and fellowship programs for students):
NSERC: www.nserc.ca
CIHR: www.cihr.ca
Common CV: www.commoncv.net
Michael Smith Foundation for Health Research: www.msfhr.org
Canada Foundation for Innovation: www.innovation.ca
British Columbia Knowledge Development Fund: www.aved.gov.bc.ca/bckdf/
To search for other funding (mostly Canadian) opportunities see: http://www.sfu.ca/ors/database.html
To search for American and international grants and fellowships: http://www.grantsnet.org

Getting a job in science and career development advice:
Virtually all continuing academic positions in Canada are advertised in *University Affairs* (http://www.universityaffairs.ca/) and the *CAUT Bulletin* (http://www.cautbulletin.ca/default.asp)

Link to "Landing an Academic Job. The process and pitfalls" by Jonathon Dantzig:
http://quattro.me.uiuc.edu/~jon/ACAJOB/academic_job.html

Candidate Tools: links to job and career development info from ASCB:
http://www.ascb.org/career/career-resources.html

Life Science Research and Teaching: Strategies for a Successful Job Hunt : a downloadable book from the ASCB: http://www.ascb.org/newsfiles/jobhunt.pdf *Career Advice for Life Scientists* , a downloadable book ASCB, with some focus on women's issues:
http://ascb.org/files/WICB_Pub_Vol_I_II.pdf

Career development and job seeking advice for graduate students, post-docs and junior faculty from the *Science* magazine (lots of useful information, opinion, and advice):
http://sciencecareers.sciencemag.org/tools_tips/how_to_series

Home page of *Science* Careers section for scientists: http://sciencecareers.sciencemag.org/

Online Tools for job searches via *Science*: http://scjobs.sciencemag.org/JobSeekerX/

The *Chronicle of Higher Education* has an online newsletter providing career news and advice as well as faculty and research job listing updated daily: http://chronicle.com/jobs

"A Dozen Sentences That Should Appear In Your (Academic) Job Application" P.N. Howard.
http://www.grad.washington.edu/mentoring/memos/dozen-sentences.shtml Other useful advice on this site as well.

Excellent resources for the development of early early-career scientists from the Howard Hughes Medical Institute including "making the right moves", lab management, mentoring skills, starting a research group, science management and training therein, including a free manual "Making the Right

Moves: A Practical Guide to Scientific Management for Postdocs and New Faculty" available from: http://www.hhmi.org/resources/labmanagement/

A Ph.D. is Not Enough by Peter Feibelman (1993), Addison Wesley (somewhat useful and witty career advice from a solid state physicist with a bias toward national labs rather than academia or industry). Gist: as a graduate student you should be planning for your career in science, not just the completion of your thesis. That includes generating an appropriate publication record, producing content for your CV that includes the skills that are sought in your likely chosen career, and cultivating effective referees.

"Excessive trust in authorities and its influence on experimental design" T-T. Sun. *Nature Reviews/Molecular Cell Biology* 5:577-581 http://www.nature.com/nrm/journal/v5/n7/full/nrm1429.html Useful advice on thinking and being responsible for your own research and career, being skeptical of authorities including kits, understanding all steps of a protocol, designing proper controls, keeping a good lab notebook, and troubleshooting.

Ethics and Integrity in the Scientific Workplace, Resources:

Singapore Statement of Research Integrity (2010). Nice 1 page summary of principles and responsibilities that should guide researchers. www.singaporestatement.org

"On Being a Scientist: A Guide to Responsible Conduct in Research". 3rd edition. National Academies of Sciences and Engineering, and Institute of Medicine. National Academies Press, 2009. Free download and podcast at:

Many useful links for scientists and professionals:
http://www.councilscienceeditors.org/i4a/pages/index.cfm?pageid=3291
Dictionaries:
An on-line dictionary that includes some science terms:
http://dictionary.reference.com/
Compendium of on-line dictionaries etc., in several languages:
http://www-math.uni-paderborn.de/dictionaries/Dictionaries.html