

Individual Development Plan for

American Physiological Society
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NOTES

SCIENTIFIC SKILLS ASSESSMENT

Assess your strengths and weaknesses on a scale of 1-5 where
1 = drastic improvement needed and 5 = highly proficient.

Scientific Knowledge

Broad based knowledge of science	1	2	3	4	5
Knowledge of specific research area _____	1	2	3	4	5
Critical evaluation of scientific literature	1	2	3	4	5

Research Skills

Specific research technique _____	1	2	3	4	5
Specific research technique _____	1	2	3	4	5
Specific research technique _____	1	2	3	4	5
Experimental design	1	2	3	4	5
Statistical analysis	1	2	3	4	5
Interpretation of data	1	2	3	4	5
Creativity/innovative thinking	1	2	3	4	5
Navigating the peer review process	1	2	3	4	5

Communication

Basic writing and editing	1	2	3	4	5
Writing scientific publications	1	2	3	4	5
Writing grant proposals	1	2	3	4	5
Writing for nonscientists	1	2	3	4	5
Speaking clearly and effectively	1	2	3	4	5
Presenting research to scientists	1	2	3	4	5
Presenting to nonscientists	1	2	3	4	5
Teaching in a classroom setting	1	2	3	4	5
Training and mentoring individuals	1	2	3	4	5
Seeking advice from advisors and mentors	1	2	3	4	5
Negotiating difficult conversations	1	2	3	4	5

Professionalism

Demonstrating workplace etiquette	1	2	3	4	5
Complying with rules and regulations	1	2	3	4	5
Upholding commitments and meet deadlines	1	2	3	4	5
Maintaining positive relationships with colleagues	1	2	3	4	5
Contributing to discipline (e.g. member of professional society)	1	2	3	4	5
Contributing to institution (e.g. participate on committees)	1	2	3	4	5

Management and Leadership Skills

Providing instruction and guidance	1	2	3	4	5
Providing constructive feedback	1	2	3	4	5
Dealing with conflict	1	2	3	4	5
Planning and organizing projects	1	2	3	4	5
Time management	1	2	3	4	5
Developing/managing budgets	1	2	3	4	5

Managing data and resources	1	2	3	4	5
Delegating responsibilities	1	2	3	4	5
Leading and motivating others	1	2	3	4	5
Creating vision and goals	1	2	3	4	5
Serving as a role model	1	2	3	4	5

Responsible Conduct of Research

Careful recordkeeping practices	1	2	3	4	5
Understanding of data ownership/sharing issues	1	2	3	4	5
Demonstrating responsible authorship and publication practices	1	2	3	4	5
Demonstrating responsible conduct in human research	1	2	3	4	5
Demonstrating responsible conduct in animal research	1	2	3	4	5
Can identify and address research misconduct	1	2	3	4	5
Can identify and manage conflict of interest	1	2	3	4	5

Career Advancement

Maintaining a professional network	1	2	3	4	5
Identifying career options	1	2	3	4	5
Preparing application materials	1	2	3	4	5
Interviewing	1	2	3	4	5
Negotiating	1	2	3	4	5

VALUES CLARIFICATION

Grade the importance of the following items in your career by giving each a value ranging from 1 (unimportant) to 5 (essential).

A.	High Earnings Potential (be able to purchase luxuries of life you want)	1 2 3 4 5
B.	Job Security (be assured of keeping your job and salary)	1 2 3 4 5
C.	Benefits Available (health, tuition, reimbursements, discount services)	1 2 3 4 5
D.	Rapid Advancement (opportunities for growth / promotions from work well done)	1 2 3 4 5
E.	Creativity (artistic or intellectual expression)	1 2 3 4 5
F.	Public Contact (day-to-day contact with clients or colleagues)	1 2 3 4 5
G.	Status and Prestige (derive status and prestige from work)	1 2 3 4 5
H.	Teamwork (collaborate with others)	1 2 3 4 5
I.	Friendships (develop close personal relationships with people from work)	1 2 3 4 5
J.	Regular Work (establish a routine with structured assignments)	1 2 3 4 5
K.	Predictable Hours (maintain same daily work schedule)	1 2 3 4 5
L.	Time Freedom (free time in your daily or weekly schedule)	1 2 3 4 5
M.	Job Tranquility (avoid pressures and "the rat race")	1 2 3 4 5
N.	Family Friendly (balance family and work without threatening advancement)	1 2 3 4 5
O.	Autonomy/Independence (work with little direction from others)	1 2 3 4 5
P.	Self-Employment (own / run a business)	1 2 3 4 5
Q.	Variety (change work responsibilities frequently)	1 2 3 4 5
R.	Travel (travel 20 percent or more each week or month)	1 2 3 4 5
S.	Congenial Atmosphere (have pleasant, relaxed environment with friendly colleagues)	1 2 3 4 5
T.	Aesthetics (work in a visually pleasing environment)	1 2 3 4 5
U.	Intellectual Challenge (perform work that is intellectually stimulating)	1 2 3 4 5

V.	Work on Frontiers of Knowledge (generating information and new ideas in the academic, scientific, or business communities)	1	2	3	4	5
W.	Fast Pace and Pressure (work in a busy atmosphere with frequent deadlines)	1	2	3	4	5
X.	Competition (engage in activities that test your abilities against others' abilities)	1	2	3	4	5
Y.	Risk Taking (work in an environment of adventure, excitement, or high stakes)	1	2	3	4	5
Z.	Geographic Preference (be able to live in the city or region of your choice)	1	2	3	4	5
AA.	Location (work close to your home to keep daily commute short)	1	2	3	4	5
BB.	Supervision (be directly responsible for work done by others)	1	2	3	4	5
CC.	Making Decisions (use judgment, have power to decide courses of action, policies)	1	2	3	4	5
DD.	Influence People (be in a position to change attitudes or opinions of others)	1	2	3	4	5
EE.	Socially Useful Work (contribute to betterment of world)	1	2	3	4	5
FF.	Help Others (be involved directly with helping individuals or small groups)	1	2	3	4	5
GG.	Affiliation (be recognized as a member of a particular organization)	1	2	3	4	5
HH.	Moral Fulfillment (feel that your work is contributing to ideals you feel are important)	1	2	3	4	5
II.	Other Values (add anything you wish)	1	2	3	4	5

LIST THE TOP 3 VALUES THAT YOU RANKED AS ESSENTIAL:

INTERESTS INVENTORY

If you had the **ideal job**, rate how frequently you would be engaged in the following activities where 1= never and 5 = often.

Designing experiments	1	2	3	4	5
Performing experiments	1	2	3	4	5
Analyzing experimental results	1	2	3	4	5
Planning new scientific projects or developing new research directions	1	2	3	4	5
Writing grant proposals	1	2	3	4	5
Writing scientific manuscripts	1	2	3	4	5
Writing project reports or other business-related correspondence	1	2	3	4	5
Writing position papers or policy papers	1	2	3	4	5
Creating presentations	1	2	3	4	5
Representing data in figures/illustrations	1	2	3	4	5
Giving presentations about science	1	2	3	4	5
Reading papers in your field	1	2	3	4	5
Learning about other fields	1	2	3	4	5
Thinking about science	1	2	3	4	5
Keeping up with current events in science	1	2	3	4	5
Discussing science with others	1	2	3	4	5
Attending conferences or scientific meetings	1	2	3	4	5
Learning how to use new equipment or techniques	1	2	3	4	5
Building new devices or developing/refining techniques	1	2	3	4	5
Using mathematical modelling in understanding science	1	2	3	4	5
Using qualitative approaches in understanding science	1	2	3	4	5
Performing research with animal subjects	1	2	3	4	5
Performing research with human subjects	1	2	3	4	5
Teaching in a classroom setting	1	2	3	4	5
Developing curricula	1	2	3	4	5
Writing about science to non-scientists	1	2	3	4	5
Speaking about science to non-scientists	1	2	3	4	5
Mentoring or teaching one-on-one	1	2	3	4	5
Responding to work-related email	1	2	3	4	5
Developing collaborations	1	2	3	4	5
Negotiating agreements	1	2	3	4	5
Analyzing financial data or budgets	1	2	3	4	5
Assessing business trends and strategies, entrepreneurial ideas	1	2	3	4	5
Serving on committees	1	2	3	4	5
Working in a team	1	2	3	4	5
Networking with others	1	2	3	4	5
Work-related travel	1	2	3	4	5
Organizing things, creating systems in the workplace	1	2	3	4	5
Programming/scripting, working with computers	1	2	3	4	5
Planning or organizing events	1	2	3	4	5
Leading or supervising others	1	2	3	4	5
Volunteering in the community	1	2	3	4	5
Other professional interests (describe)					
LIST YOUR TOP 3 INTERESTS:					

LIST 3 ACTIVITIES YOU WANT TO AVOID:

MATCHING SKILLS, VALUES, AND INTERESTS

For each career path category, score how well the path matches your skills, values, and interests on a scale of 1-5 where 1 = this category matches poorly with my skills, values, and interests and 5 = this category matches very well with my skills, values, and interests. If you don't know enough about a category, insert a ?

Skills	Values	Interests	Scientific Career Paths
			Principal investigator of a lab in a major research-intensive institution
			Other research-intensive careers in academia: staff scientist or lab manager in a larger lab, director of a multi-user research facility in an academic institution
			Careers in academia with heavy emphasis on teaching along with research: faculty at a selective 4-year college, masters-granting university, or doctoral-granting university whose job includes both research and major teaching responsibilities.
			Teaching-intensive careers in academia: faculty in liberal arts college, community college, university lecturer, course director
			Science education for the general public: working at a science museum, public outreach for science-based organizations, training and development with groups in business or industry settings
			Science education for schools/universities: curriculum development, science education researcher, K-12 teacher or science specialist, education program administration or leadership
			Healthcare-related careers: public health agency, genetics counseling, medical informatics/biostatistics
			Writing careers: science writing, medical writing, technical writing, editing, science journalism, publishing, other communications
			Careers in government: research administration (e.g., at NIH, EPA, DOE, USDA), or forensic science (intelligence agencies, federal/state dept. of justice)
			Policy careers: science policy in public sector, science policy in private sector (think tanks, etc.), educational policy, management of science services or societies, working at a foundation or research-funding agency
			Intellectual property careers: patent agent, patent attorney, technology transfer
			Careers related to the business of science: management consulting, business development in a biotech company, venture capital, biotech entrepreneurship, market

			research, investment banking, technical sales, technical support
			Careers in sales, marketing and support of science-related products: medical science liaison, technical sales, technical support
			Research-intensive career paths in biotech/pharma: bench researcher, managing research teams or research facilities
			Administrative careers in biotech/pharma: regulatory, clinical research/trials management, quality control
			Other career: _____

Are there one or more career path categories that provide an excellent match for your skills **and** your values **and** your interests? If so, circle or highlight these career categories on the table. These are the career path categories that you need to learn more about.

Are there any career paths where you have a high score for two areas (skills or interests or values), but a moderate or low score in one of the other areas? If so, you may want to learn more about these career paths before discounting them.

CAREER EXPLORATION RESOURCES

Websites:

www.ScienceCareers.org
www.biocareercenter.com

Books:

Career Planning and Job Search

Put Your Science to Work: The Take-Charge Career Guide for Scientists

Peter S. Fiske, Ph.D.

Washington, D.C.: American Geophysical Union 2001

Roughly the equivalent of *What Color is Your Parachute?* for scientists. This is also a very practical guide on career planning starting with the process of self-assessment. The chapters on CVs and resumes are thorough and helpful.

What Color is Your Parachute?: A Practical Manual for Job-Hunters and Career-Changers

Richard Nelson Bolles

Berkeley: Ten Speed Press, 2009

This book is billed as the best selling job-hunting book in the world. Although not directed specifically toward scientists, it provides practical advice on analyzing your own strengths, interests, and goals. The author coined the phrase "informational interviewing" to describe a process for gathering information on career opportunities. Tips on interviewing should prove useful, as well.

The Academic Job Search Handbook

Mary Morris Heiberger and Julia Miller Vick

Philadelphia, PA: University Of Pennsylvania Press 2001

This is a comprehensive resource which starts with information on the structure of academic careers, the hiring process, and planning your job search. It deals extensively with vitae including a discerning gem of advice to tailor your vita to each position for which you apply. There are also chapters on interviewing, accepting/rejecting job offers, and additional guidance for special situations such as dual career couples, foreign nationals, etc.

Academic Careers

Academic Scientists at Work: Navigating the Biomedical Research Career

Jeremy M. Boss and Susan H. Eckert

New York: Kluwer Academic/Plenum Publishers 2003

This book provides advice on landing a position in academic research and how to get organized once you've started. The most valuable part of the book may be the Job Comparison Worksheets found in the appendices. These provide a great starting point to stimulate your thoughts about issues that should be the basis of comparison of different positions. Once you find a position, the chapter entitled "Gettin' Money" has some very helpful information on grantsmanship.

Tomorrow's Professor: Preparing for Academic Careers in Science and Engineering

Richard M. Reis

New York: Wiley Interscience 1997

This is a well-written book on how to prepare, compete, and succeed in an academic career. It provides some perspective with an overview of the modern academic enterprise. The author walks systematically through the stages of a scientific career including preparation, applying for positions, first years on the job, and achieving tenure.

Nonacademic Careers

Alternative Careers in Science: Leaving the Ivory Tower

Cynthia Robbins-Roth

San Diego: Academic Press 1993

This is a multi-authored text, providing a perspective on 22 nonacademic career tracks. Although the term alternative careers is a misnomer, the descriptions of these career possibilities along with the attendant qualifications and expectations is very useful.

Career Opportunities in Biotechnology and Drug Development

Toby Freedman

Cold Spring Harbor, NY: Cold Spring Harbor Laboratory Press 2008

This is a valuable compendium of information regarding careers for life scientists in Pharma or biotech. Explanations of job requirements, essential skills, and day to day responsibilities were distilled from interviews with hundreds of key players in industry. Although not an easy read because of its encyclopedic detail, this book is an essential reference.

Lab Management

Making the Right Moves

Research Triangle Park, NC: Burroughs Wellcome Fund 2004

Chevy Chase, MD: Howard Hughes Medical Institute 2004

A practical guide to scientific management for Postdocs and new faculty.

Available free at www.hhmi.org/labmanagement

At the Helm: A Laboratory Navigator

Kathy Barker

Cold Spring Harbor, NY: Cold Spring Harbor Laboratory Press 2002

Running a laboratory requires the use of skills which are not often emphasized in graduate or postdoctoral training. Time management, hiring and retaining lab personnel, development of lab policies, communication, and group dynamics are among the issues confronting new principal investigators. Although "perfect" solutions to these issues are not identified, the approaches used in a variety of laboratories are described.

INFORMATIONAL INTERVIEWS

Informational interviews are an important tool to help you explore the wide range of career opportunities available with your training, skills, and interests. **This is clearly distinct from a job interview since the purpose is to ask for information, not a job.** An informational interview can be done in person, via telephone, or through email, but the first two modes are preferable since they allow more give and take. A typical informational interview should last 30 to 60 minutes. By the end of the conversation, you should:

1. Understand that person's job responsibilities.
2. Know what skills are required to succeed in such a position.
3. Be aware of future career opportunities for that position.
4. If possible, get contact information for 1-2 other individuals who you can contact for further information.

At the end of the interview, be sure to thank the person for their time and advice. In addition, it is very important to send a thank you note soon afterwards. Although this can be a very simple note, be specific about some aspect that you found valuable.

Example questions:

1. Can you tell me a little bit about your current responsibilities?
2. Could you describe a typical day?
3. How did you get into this field?
4. What types of skills are essential for succeeding in your position?
5. How would you describe the culture, management style, and organization of the company?
6. Would you talk about typical compensation packages including vacation, salary range, etc /work-life balance?
7. What advice would you give someone in my position who wants to be successful in the field?
8. Can you tell me anything about other firms involved in this activity? Do you know of any companies that might be expanding or hiring in the next year?
9. Are there professional organizations that I should consider joining or websites that I should be looking at to get additional information?
10. Would you recommend anyone else to speak with in this field? May I have permission to use your name when I contact them?

SETTING PERSONAL GOALS

Looking back at your summary worksheet, identify the skills that need your attention. Then indicate what approach would be best for acquiring that skill. Finally, commit to a time that you will devote to working on it.

SKILL

APPROACH

TIMELINE

Scientific Knowledge

Research Skills

Communication

Professionalism

Management/Leadership

Career Advancement

📌 **Post this list** next to your desk as a reminder of your goals and timeline.

📌 **Put these deadlines on your calendar** to integrate these goals with your deadlines for abstracts, grants, meetings, vacation.

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