INDIVIDUAL DEVELOPMENT PLAN FOR POSTDOCTORAL RESEARCHERS

Prepared by

Larissa Belova, Ph.D. and Tuba Sural, Ph.D.

Content:

The University of Chicago BSD Postdoctoral Association

2011

What is an Individual Development Plan?

An Individual Development Plan (IDP) is an effective career-planning tool. An IDP is an individually tailored document written by a postdoctoral researcher, reviewed by his/her mentor and/or faculty advisor, and periodically revised according to mutually accepted suggestions.

The IDP defines a postdoc's short- and long-term career goals, as well as outlining the steps to achieve them. It should be emphasized that the career development goals should cover a broad range of activities and training, not just research even if the postdoc plans a career in academia. Other potential career paths, including but not limited to careers in consulting, teaching, patent law, science writing, science policy, and industry. Even though these career paths differ greatly each of them requires skill in writing, presenting and communicating, to name a few. With this objective in mind, The IDP will help define the necessary steps a postdoc needs to take in order to achieve effective professional development.

The IDP will help postdocs to:

- determine the knowledge, skills, and competencies needed to be successful in his/her current lab and academic field
- learn to translate his/her knowledge, skills, and competencies to other careers
- determine career objectives (academic and beyond)
- set priorities for short- and long-term career goals
- establish a constructive dialogue with mentors and faculty advisors (PI) regarding the postdoc's career development

When to create an IDP?

- The PDA recommends that every newly hired postdoc should create an IDP within six months of employment.
- If a postdoc does not have an IDP, he/she can create one concurrently with the annual review/re-appointment.
- Postdocs, who have a mentor other than their PI, can create an IDP at any time as part of a mentoring program.
- The IDP should be revised annually concurrently with the annual review process.

Why create an IDP?

The 2005 Sigma Xi 'Doctors without orders' survey conducted among US postdocs (http://postdoc.sigmaxi.org/results/) shows the following benefits of having an IDP:

1. An IDP makes you more successful in your current lab because you will

- identify skills required for your current job
- improve your performance in your current lab

The report shows that postdocs with a written plan

- submitted papers to peer-reviewed journals at a 23% higher rate
- published first-authored papers at a 30% higher rate
- submitted grant proposals at a 25% higher rate than those without a written plan.

2. An IDP will help your professional development by

- placing an emphasis on career objectives and professional development both within and outside your research laboratory
- identifying the necessary resources to achieve career objectives

The Sigma Xi report shows that postdocs who gained teaching experience and received exposure to non-academic careers as well as training in proposal writing, project management and ethics, were more likely to achieve greater levels of subjective success. For example, postdocs who obtained grant writing training submitted proposals at a 138% higher rate than those who did not. Training in negotiation skills was associated with a 19% increase in the rate of paper submissions.

3. An IDP will improve your work satisfaction by

- improving communication with your PI
- creating mutual responsibilities/expectations between you and your PI
- increasing self-confidence by mediating your mentor's support and encouragement

The report also shows that, "When postdocs and their advisors craft a plan together, they are making an explicit commitment to each other. Studies have shown that even when promises are non-binding, people who make them in writing are more likely to follow through. Thus, well-crafted plans can promote success by helping to ensure that both the advisor and postdoc live up to their obligations."

How to create an IDP?

The postdoc and his/her PI/mentor should collaboratively identify the job requirements and the appropriate training associated with the postdoc's current job. In addition, the postdoc and the PI/mentor may identify future directions of professional development within the research field or beyond it if necessary. Refer to "Step by step instructions" for more details.

What is a mentor and his/her role in your career development and the IDP preparation?

A mentor is an individual, usually older and always more experienced, who guides another individual's career development. A mentor can serve as a trusted counselor, a wise, loyal advisor or a coach. A mentor can help with addressing a postdoc's concerns at his/her current career stage. Topics that can be discussed with a mentor include but are not limited to:

- Career opportunities
- Skills required for a desired career and ways to achieve them
- Work-life balance
- Developing a sense of one's career direction and timing

A mentor does not have to be your faculty advisor or PI: having a third-party opinion often gives unexpected but very important perspective on one's career development. A mentor can help with shaping your IDP and put more emphasis on the areas that are important for your career development. The IDP can serve as a foundation or starting point for mentoring, and gradually develop into a more customized document that correlates with the postdoc's interests and progression through his/her career stages.

How to find a mentor?

1. The best place to look for a mentor is within your working environment itself. Is there an individual whom you admire and respect? Someone who has always impressed you with his/her insight and perceptiveness? It may be your PI's mentor or a collaborator, the next door lab's PI or another faculty member. It could even be an individual who isn't a faculty member, but whom you know has lots of experience and could give you valuable advice.

Once you identify such an individual, approach him/her and ask if they would consider being your mentor. Depending on the individual, and your current relationship, your proposal will vary in the amount of detail and how it is delivered. At the very least, let them know why you selected them and what you hope to learn from the relationship. It is smart to discuss how and when you would communicate and what topics you would like to cover. Don't put it off. What can you lose? Even if they decline to be your mentor, and few will, they will be flattered that you asked.

2. Do not underestimate the power of peer mentoring.

Peer mentoring can offer postdocs a valuable source of support and information. If you know other postdocs whose opinions you value or who seem a step ahead in the game than you are, consult them about your concerns/questions. For example, if you're looking for advice on work-life balance issues, talk to postdocs who seem to have achieved that balance and learn from them.

3. Find mentor(s) within the professional areas you are interested in.

No advice is more valuable than an insider's point of view. If you are interested in a specific career, try to find mentors in that field who, ideally, have similar backgrounds to yours and who can guide you through the process. Then set up an informational interview and ask them about their career path and what skills/steps are necessary to get into the field. But remember, a mentor's responsibility is not to find you a job; it is to give you advice and point you in the right direction so you can figure things on your own.

4. See *the Additional resources* page for national mentoring programs available.

Step-by-step instructions

Step 1: *Conduct a self-assessment*

Use the attached self-assessment sheet as a template. Be honest; there is only one person you are communicating with: YOU. Keep your self-assessment for your reference only. You can also refer to the National Postdoctoral Association (NPA) core competencies self-assessment checklist that is enclosed.

Step 2: *Survey career opportunities with a PI/mentor*

Set up an appointment with either your advisor (PI), or other senior faculty member who could serve as your mentor, or both. Remember, your mentor and PI do not have to be the same person. Find a mentor who has experience in the field you are interested in (for example, teaching, marketing, writing, etc.) and get their advice.

Step 3: *Analyze what your interests are, focusing on 2 tor 3- year and 10-year periods.*

Formulate short- and long-term goals. Reflect on what you discussed with your mentor. How do his/her recommendations fit into your goals? How can you incorporate those recommendations into your goals?

Step 4: *Reflect on what skills you need to develop to pursue your interests and goals.*

How can you develop the skills you are lacking? Can you take formal courses/workshops? Is volunteering a possibility? Can you participate in leadership organizations such as the PDA, the NPA, the Association for Women in Sciences (AWIS), etc.? Ask your mentor, the PDA steering committee, the Office of Postdoctoral Affairs, or CAPS for help. See the *Additional resources* page for ideas.

Step 5: *Write The IDP using the suggested form*

Share your IDP with your PI/mentor, get feedback, ask PI/mentor for help in implementing your plan.

Step 6: *Sign and date your IDP, ask your PI/mentor to sign it too. Post it by your desk!*

Step 7: *Implement the plan for a designated time period (suggested 1 year or until annual review)*

Step 8: *Revise your IDP on regular basis and modify if necessary.*

Remember: The IDP is not a bound contract. If your goals change (for example, you learn that teaching is not for you) revise your IDP as described in Step 4, share the revisions with your PI/mentor, sign your revised IDP, and put it into action once again.

Postdocs who do not wish to remain in academia are encouraged to create a separate optional IDP, focusing on how to achieve their desired alternative goals. This IDP could be shared with an outside mentor for feedback. Templates for both IDPs are included at the end of this document.

SELF-ASSESSMENT

N/A: not applicable, 4 is the highest grade and 1 is the lowest.

Research Skills

Creativity/developing new research directions	NA	1	2	3	4
Experimental design and critical evaluation of data	NA	1	2	3	4
Review and evaluation of scientific literature	NA	1	2	3	4
Problem solving/troubleshooting	NA	1	2	3	4
Statistical analysis	NA	1	2	3	4

Computer skills

General (Office, Adobe etc.)	NA	1	2	3	4
Data analysis software (FlowJo, Graph Pad Prism, Sigma Plot etc.)	NA	1	2	3	4
Skills specific to your field (e.g. cell culture, spectroscopy, Mol. Bio. methods)	NA	1	2	3	4
Lab records and data management	NA	1	2	3	4

Professional Skills

Oral presentation skills	NA	1	2	3	4
Manuscript writing skills	NA	1	2	3	4
Grant/fellowship writing skills	NA	1	2	3	4
Teaching skills (in a classroom)	NA	1	2	3	4
Teaching skills (one-on-one)	NA	1	2	3	4
Identifying mentors and utilizing them effectively	NA	1	2	3	4
Mentoring others	NA	1	2	3	4

Time Management

Meeting deadlines	NA	1	2	3	4
Establishing priorities within your schedule	NA	1	2	3	4
Working efficiently	NA	1	2	3	4
Organizational skills	NA	1	2	3	4
Flexibility and multitasking	NA	1	2	3	4

Communication skills:

Communicating effectively in conversation	NA	1	2	3	4
English proficiency – spoken and/or written	NA	1	2	3	4
Cross-cultural considerations	NA	1	2	3	4

Job search skills

CV/resume building and formatting	NA	1	2	3	4
Writing cover letters	NA	1	2	3	4
Interviewing skills	NA	1	2	3	4
Job talk skills	NA	1	2	3	4
Developing questions for the interviewer	NA	1	2	3	4
Following up after the interview	NA	1	2	3	4
Networking	NA	1	2	3	4
Conveying self confidence	NA	1	2	3	4

Interpersonal Skills

Reliability (following through on commitments)	NA	1	2	3	4
Communicating effectively in written correspondence	NA	1	2	3	4
Communicating effectively in conversation	NA	1	2	3	4
English proficiency – spoken and/or written	NA	1	2	3	4
Ability to give and receive constructive feedback	NA	1	2	3	4
Networking/meeting new colleagues	NA	1	2	3	4
Collaboration/ ability to work in a team	NA	1	2	3	4
Collegiality/helpfulness towards others	NA	1	2	3	4

Management and Leadership Skills

Independent management of own research project	NA	1	2	3	4
Developing/managing budgets	NA	1	2	3	4
Chairing a meeting	NA	1	2	3	4
Establishing priorities for a team	NA	1	2	3	4

Delegating responsibility	NA	1	2	3	4
Leading and motivating others	NA	1	2	3	4
Supervising/managing people	NA	1	2	3	4
Working within an organization	NA	1	2	3	4

N/A: not applicable, 4 is the highest grade and 1 is the lowest.

List some **specific laboratory/research techniques** that you are highly **proficient** at, which could be valuable in a future career path.

_____
_____
_____
_____
_____
_____

List some **specific laboratory/research techniques** that you **need to improve** in order to be successful in your current position or future career path.

_____
_____
_____
_____
_____
_____

List some **specific knowledge areas** that you **already specialize in** that could be valuable in a future career path.

_____
_____
_____
_____
_____

List some **specific knowledge areas** where you **need to improve** your understanding in order to be successful in your current position or future career path.

_____

_____

_____

_____

_____

IDP TEMPLATE

Name of Postdoctoral Researcher:

Department:

PI:

Mentor:

Today's date:

IDP implementation period:

Research and other training plans:

1. Research project goals (brief paragraph):

2. Anticipated publications (indicate projected titles):

3. Anticipated meeting or workshop attendance (indicate names of meetings and workshops, i.e. grant writing workshop):

4. Fellowship or other funding applications planned (indicate name of award and its deadline):

5. Other professional training (indicate time of completion):

- course work (indicate title, department), indicate starting quarter and duration of the course

- teaching activity:
  Oversight of graduate, undergraduate or summer student (name, academic level, project title):

  Course lectures (department, course name):

- presentations (indicate anticipated titles of oral or poster presentations and meetings or seminars you plan to present them)

- clinical or translational activity (indicate clinical trials, classes/training)

6. Other professional training related to your career goals not listed above:

Career Goals:

Short-term career goals (2-3 years):

1)

2)

Long-term career goals (10-15 years):

1)

2)

Leadership experience:

List leadership organizations that you are planning to participate in. Indicate the level of participation, i.e. board member, a project organized or involved in, etc. See the *Additional resources* page for suggestions.

Job search:

What further research activity or other training is needed before it is appropriate to start a job search?

When do you anticipate beginning a job search?

Please indicate if there are other issues that affect your job search.

POSTDOCTORAL RESEARCHER

_____	_____	_____
Name *(please print)*	Signature	Date

COMMENTS:

ADVISOR/PI

_____	_____	_____
Name *(please print)*	Signature	Date

COMMENTS:

OPTIONAL IDP TEMPLATE

Name of Postdoctoral Researcher:

Department:

PI:

Mentor:

Today's date:

IDP implementation period:

Career and other training plans:

1. Career goals (brief paragraph):

2. Skills acquired at current job that map to desired career goals:

3. Specific skills that need to be further developed to reach career goals (e.g. business skills):

4. Where/how can you develop these skills? List possible resources for each skill development (books, workshops, finding a mentor in the desired area etc.):

5. Anticipated meeting or workshop attendance (indicate names of meetings and workshops, be specific): i.e. Biotechnology Industry Organization annual meeting, negotiation workshop etc. :

6. Other professional training (e.g., conflict management, time management, professional writing skills etc.):

7. Other professional training related to your career goals not listed above:

Career Goals:

Short-term career goals (2-3 years):

1)

2)

Long-term career goals (10-15 years):

1)

2)

Leadership experience:

List leadership organizations that you are planning to participate in. Indicate the level of participation, i.e. board member, a project organized or involved in, etc. See the *Additional Resources* page for suggestions.

Job search:

What further research activity or other training is needed before it is appropriate to start a job search?

When do you anticipate beginning a job search?

Please indicate if there are other issues that affect your job search.

Goals to be accomplished by this time next year:

POSTDOCTORAL RESEARCHER

_____ _____

Name *(please print)* Date

COMMENTS:

MENTOR

_____ _____

Name *(please print)* Date

COMMENTS:

IDP EVALUATION

At the end of the designated implementation period (ideally 1 year), IDP should be evaluated and revised if necessary. This would form the basis of a reality check as to whether you have accomplished your goals in the past year and what you need to do further in the upcoming year. If you realize that your goals have changed within the past year, revise your IDP with the new career objectives in mind.

Progress Review: Research and Professional Training in the Past Year

- Progress of research project and major accomplishments in the past year:

- How effectively did the PI/mentor support your IDP?

- Publications in the past year:

- Honors/Awards (e.g. fellowships, grants written/applied for/received, professional society presentation awards or travel awards, patents etc.):

- National or other professional meetings attended (indicate meeting title, oral or poster presentation):

- Seminar presentations (title, department):

- New areas of research or technical expertise acquired in past year:

- Teaching:

Oversight of graduate, undergraduate or summer student (name, academic level, project title):

Course lectures (department, course name):

- What needs to be followed up for the next year's IDP?

National Postdoctoral Association (NPA) Core Competencies Self-Assessment Checklist											
Rate your current level of development in each of the following, with 1 being "Needs attention" and 9 being "extremely competent." For more information on these competencies, please visit www.nationalpostdoc.org/competencies.											
		1	2	3	4	5	6	7	8	9	n/a
1	**Discipline-Specific Conceptual Knowledge**										
	Analytical Approach to Defining Scientific Questions										
	Design of Scientifically Testable Hypotheses										
	Broad-Based Knowledge Acquisition										
	Interpretation and Analysis of Data										
2	**Professional/Research Skill Development**										
	Literature Search Strategies and Effective Interpretation										
	Experimental Design										
	Statistical Analysis										
	Data Analysis and Interpretation										
	Laboratory Techniques and Safety										
	Principles of the Peer Review Process										
3	**Communication Skills**										
	Writing										
	Speaking										
	Teaching										
	Interpersonal										
	Special Situations										
4	**Professionalism**										
	Workplace										
	Institutional										
	Collegial										
	Universal										
5	**Leadership & Management Skills**										
	Leadership-Strategic Vision										
	Leadership-Motivating and Inspiring Others										
	Management-Project Management										
	Management-Data and Resource Management										
	Management-Research Staff Management										
6	**Responsible Conduct of Research**										
	Conflicts of Interest										
	Data Ownership and Sharing										
	Publication Practices and Responsible Authorship										
	Identifying and Mitigating Research Misconduct										
	Research with Human Subjects (when applicable)										
	Research Involving Animals (when applicable)										

ADDITIONAL RESOURCES

Local resources:

1. Office of Career Advancement: https://careeradvancement.uchicago.edu/ The University of Chicago career development resources are also available for posdocs and alumni. It is FREE. Career Advancement offers coaching on resume, cover letter, and CV writing, interviewing skills and career exploration. There is also a vast selection of materials both on-line and at their library for career development.

2. Office of Graduate and Postdoctoral Affairs. http://gradprograms.bsd.uchicago.edu/

3. BSD Postdoctoral Affairs Administrator
   Laurie Risner, PhD **e-mail**: lrisner@bsd.uchicago.edu

4. BSD Postdoctoral Association – your voice to The University of Chicago faculty and administration. http://www.bsdpostdoc.uchicago.edu/

5. Local and national leadership associations for women and beyond:

   a. Association for Women in Science (AWIS), Chicago chapter www.awis-chicago.org

   b. Women in BIO, Chicago chapter http://www.womeninbio.org/chapters.shtml

   c. Society of Women Engineers, Chicago Chapter http://www.swe.org/chicago/

6. Chicago Biotechnology Networking – Biologue http://www.biologuechicago.com/

On-line and national resources:

1. MyIDP – new interactive online career assessment and planning website for postdocs. http://myidp.sciencecareers.org/

2. American Physiological Society. Careers, mentoring, positions available
   http://www.the-aps.org/careers/

3. American Chemical Society, careers portal. One of the most comprehensive collections of job-search tools.
   http://portal.acs.org/portal/acs/corg/content?_nfpb=true&_pageLabel=PP_CAREERS&node_id=87&use_sec=false&sec_url_var=region1&__uuid=e23948bf-6c4c-44cb-8ab7-4f1cd6733c3e

4. Association for Women in Science, a national organization promoting equality of women in STEM. Career library is free at
   http://www.awis.affiniscape.com/displaycommon.cfm?an=1&subarticlenbr=249

5. For more resources including webinars on career development and online mentoring, membership is required.

6. National Postdoctoral Association: Contains great resources for postdocs. Affiliate membership is FREE for the University of Chicago postdocs.
   http://www.nationalpostdoc.org/careers/career-planning-resources

7. National Postdoctoral Association core competencies toolkit
   http://www.nationalpostdoc.org/competencies

8. BioSpace, a free portal for Biotech and Pharmaceutical News and Jobs, has a great career section. Sign up for their newsletter including Career Insider at http://www.biospace.com/enewsletter.aspx
9. Medical college of Wisconsin Office of Postdoctoral Education Virtual Career Center: http://www.mcw.edu/postdoc/vcc/htm
10. http://www.sciencecareers.org

Mentoring:

1. Department of Defense (DOD) has a Mentor-Protege Program, http://www.acq.osd.mil/osbp/mentor_protege/participate/dfars21971.htm
2. Association for Women in Science has an email-based mentoring program through MentorNet, which is free for its members.
3. Getting the Most out of Your Mentoring Relationships: A Handbook for Women in STEM (Mentoring in Academia and Industry) by Donna J. Dean
4. AAMC compact between Postdoctoral Appointees and Their Mentors http://www.aamc.org/postdoccompact
5. Mentoring International Postdocs: Working to advance science and careers, a video guidebook developed by the Children's Hospital of Philadelphia http://ori.hhs.gov/education/products/chop_mentoring
6. Advisor, teacher, role model, friend: On being a mentor to students in science and engineering, a handbook from the National Academies
7. Mentee's guide: How to have a successful relationship with a mentor- Linda Phillips-Jones, PhD
8. Intelligent Mentoring- Audrey Murrell, Sheila Forte-Trammell, Diana A. Bing

Books:

1. Put your science to work- Peter Fiske
2. What color is your parachute? Richard Bolles
3. A PhD Is Not Enough: A Guide To Survival In Science- Peter J. Feibelman
4. Do what you are- Paul Tieger and Barbara Barron
5. The Pathfinder- How to choose or change your career…Nicholas Lore
6. Decision Time: A guide to career enhancement- Michael Shahnasarian
7. "So what are you going to do with that?" Finding careers outside academia- Sucan Basalla and Maggie Debelius
8. Alternative careers in science- Cynthia Robbins-Roth
9. The career coward's guide to interviewing- Katy Piotrowski
10. The 250 job interview questions you'll most likely be asked- Peter Veruki