

Developing and Incorporating an Individual Development Plan

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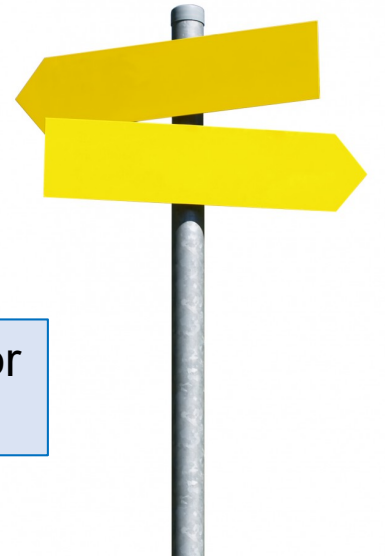
What is an Individual Development Plan

Generally speaking, your IDP is a tool to help you identify and follow through with goals for the future.

What can it do?

- Help create and reach short, intermediate, and long term goals.
- Focus your activities and opportunities.
- Organize your ideas and interests.

In 2014, the NIH instated a policy requiring annual individual development plans for sponsored graduate and postdoctoral awardees (NOT-OD-14-113).



What should an IDP contain?

- **Career and vocational aspirations** – e.g. Become an R1 research professor.
- **Skills and competencies** you need to get there – e.g. Build public speaking skills by presenting at _____.
- As researchers, we can also include **landmark goals** – e.g. Synthesize _____.

Your IDP in Applications

Even though you don't submit your IDP to funding agencies directly, their use must be reported on in your *RPPR: Research Performance Progress Report*.

- Describe **1.)** How IDPs are used institutionally and **2.)** How the individual IDP is used for training and management purposes.
- Especially important for 'mentored' awards (e.g. K01, K22, and K99).

You can use an IDP to create more than career goals! Integrate your IDP with research goals from your grants to streamline work flow (work smarter, not harder):

- Write down your specific aims.
- Identify the essential questions you're trying to answer.
- Build a list of goals (compounds to synthesize, experiments to run) that will directly help you answer those questions.



What Does an IDP Look Like?

Individual Development Plan: 2019-2020

Current Position

Position	Postdoctoral Research Associate – Barrios Lab
Project(s)	1.) Cu(II) Binding in KCa3.1 2.) Split Fluorescence Detectors

Short Summary

Key Interests:	Metal homeostasis and thermo, mechanisms, learning about working in biological systems
Vocational Requirements:	Practical applications, lab time, creative outlet, positive environment, service opportunities
Career Goal(s):	1.) PUI – Bioinorganic Chemistry 2.) Idea to Explore: Gates Foundation? 3.) Idea to Explore: Bioinorganic in Utah?

Section I: Short Term Goals Supplement (0-6 months)

November – Adjust to new lab; literature, best practices for aqueous systems; preliminary $K_{d,5}$

December – Equilibria for Tpy, Dpa, Im, Nalm, His; $K_{d,5}$ in various buffers & pH

January – Outer sphere counterions (synthesis, characterization); Im, Nalm, His $K_{d,5}$; preliminary synthesis of scaffold; mentor rotation student Daniel – plasmids & peptides

February – Scale synthesis; couple peptides (homo), free tetramer Cu $K_{d,5}$; express GFP/ FAST/ Cherry; peptides + PTPs with Daniel

March – couple peptides (hetero) – troubleshooting likely on scaffold synthesis or coupling of helix #4; characterization; scaffold system $K_{d,5}$ (homo) best conditions and practices (pH? Buffer? Stability?); effect of phosphorylation fluorescence with Daniel

April – $K_{d,5}$ homo & hetero scaffold of KCa3.1; $\Delta G/\Delta S/\Delta H$ for Cu(II) with and w/o phosphorylation; flooding kinetics (?); fluorescence as a PTP assay with Daniel

Section II: Intermediate Term Goals (6 months – 1 year)

- Grant Writing
 - (3): ADA (Due TBD), AHA (Aug. 2020), NIH (Aug. 2020)
- Publications
 - MRI (resubmitted January)
 - Catalyst Panel (Caroline's Problem – submit manuscript no later than March)
 - KCa3.1 role of phosphorylation on Cu(II) binding – submit no later than July
 - Split fluorophores to assay PTP activity (Daniel's rotation project) - TBD

'Cu(II) Binding Behavior in the 4-Helix Bundle Domain of KCa3.1: Implications in Binding Site Phosphorylation and Activity'

Desired Figure	Necessary Literature/ Experiments
KCa3.1 homotetrameric helix domain w/ Cu	Hubbard xtal structure (Background)
Proposed effect of mono phosphorylation	Computational model w/ Rodrigo
$K_{d,5}$ Imidazole or His binding to Tpy or Dpa	Make & characterize [CuDpa][X] ₂ and [CuTpy][X] ₂ ; UV-vis $K_{d,5}$ – RT, best buffer, best pH
Synthesis of divergent scaffold (4 vs. 3:1)	Functional syntheses with: ¹ H NMR, ¹³ C NMR, Mass Spec.
Preparation of functional scaffolds	Functional syntheses with Mass Spec., CD, one more method...
Effect of phosphorylation on Cu(II) binding to bundles	$K_{d,5}$ of Cu(II) with 4 and 3:1 bundle
Rate of Cu(II) binding for 4 and 3:1 bundles	Cu(II) flooding by UV-vis, k_{obs}
Thermo of Cu(II) binding for 4 and 3:1	VT Cu(II) binding $K_{d,5}$ – van't Hoff analysis
TBD?	

Section III: Long Term Goals (1-5 years)

- Continue as Barrios Lab Postdoctoral Research Associate (November 2019 – November 2021/2022?). No more than 4 years – NIH appointment would be 3 years.

Section IV: Professional Development

- Mentoring & Teaching
 - Work with rotation student Daniel on split fluorophores → publication
- Conferences & Scientific Presentations
 - If KCa3.1 is accepted in the summer, apply for Winter/ Spring 2020/2021 conferences
 - PacificChem 2020? ICBC 2021?
 - 'Research in Progress' seminar 2020
 - IDP workshops for Curie Club, UPDA
- Professional Affiliations
 - Join UPDA board

Section V: Personal Development

- Travel
 - Paris, August 2020
- House
 - Reconnaissance for market to buy in Winter 2020 or 2021
 - Savings: 15k/ 70k, build at least 10k in 2020.
- Creative
 - New painting medium: acrylic to oils
 - One new work per month
 - Read one new leisure book per month
- Philanthropy

- Sets up time-bound goals.
- Includes personal development – you have a life outside of the lab!

Your IDP Should Grow with You

- Your IDP is basically just a written record of your learning, career, and personal aspirations.
- Your IDP does *not* have to follow a formal or official format.
- <https://myidp.sciencecareers.org/> - Interests & Values Inventory
 - Helps identify the skills you have, what you personally need in a career to be fulfilled, and suggestions if you don't already know what you want to do next!

1 <i>I would like to never do this in my career</i>	5 <i>I would like to do this often in my career</i>
<ul style="list-style-type: none"> • Using quantitative methods in understanding science (e.g., statistics, mathematical modeling) • Performing research with human subjects • Negotiating agreements • Analyzing financial data or budgets • Assessing business trends and strategies, entrepreneurial ideas 	<ul style="list-style-type: none"> • Performing experiments • Creating presentations • Giving presentations about science • Learning about other fields • Thinking about science • Keeping up with current events in science • Attending conferences or scientific meetings • Teaching in a classroom setting • Developing curricula • Developing collaborations • Serving on committees • Work-related travel • Planning or organizing events

1 <i>Unimportant</i>	5 <i>Essential</i>
<ul style="list-style-type: none"> • Friendships: Develop close personal relationships with people at work • Variety: have job duties that change frequently • Location: live in a place which is conducive to my lifestyle • Physically Challenging: have a job that requires high physical demands • Family Friendly: have a job with policies supportive of families, including day care, flexible work schedules, etc. 	<ul style="list-style-type: none"> • Help Society: contribute to betterment of world • Make Decisions: have authority to decide courses of action, policies, etc. • Influence People: be in a position to change attitudes or opinions of other people • Independence: work with little direction from others • Expert Status: be acknowledged as an expert in a given field • Recognition: be recognized or appreciated for the quality of my work • Earning Potential: have a salary which allows me to purchase essentials as well as some luxuries of life • Professional Development: have a job with opportunities for growth or promotions • High Demand: develop a desirable knowledge base or skill set to facilitate finding my next job

A Living Document

A 'living document' changes over time to reflect new information – your IDP should do the same.

- Set goals for the life you want. How do you want to spend your time? What do you want to learn?
- Accept that changing goals are a normal part of life, it reflects personal growth and reflection.



IDP Formats to Get You Started

IDPs for humanities and social science fields:

- [Imagine Ph.D.](#) (all fields in the humanities and social sciences)
- [University of Wisconsin-Madison](#) (all fields)
- [American Psychological Association](#)
- [University of Southern California Postdoctoral Office](#) (for postdocs in all fields but could be used for graduate students)

IDPs for science, technology, engineering, and math (STEM) fields:

- [ScienceCareers myIDP](#) (all STEM fields)
- [University of Wisconsin-Madison](#) (all fields)
- [University of Southern California Postdoctoral Office](#) (for postdocs in all fields but could be used for graduate students)
- [American Chemical Society](#) (for chemical scientists)
- [Stanford University Biosciences](#) (for bioscience fields)

IDP Formats to Get You Started

Stanford University
- Biosciences

SCIENTIFIC/RESEARCH GOALS AND OBJECTIVES

Do you have a clear/defined plan and endpoint for your project?

How confident are you in your ability to complete it by Year 5?

How firm a grasp do you feel you have of the field in which you work? If insufficient, what help do you need in identifying relevant readings or other means to be a true expert in your field?

What are your near-term research goals? For each goal, specify any areas where you feel you need specific improvement or additional training (e.g., the need to learn high-throughput sequencing). Include any techniques you want to learn, scientific collaborations, etc.

CHALLENGES

Describe any unusual or unanticipated challenges you experienced this year in trying to accomplish the goals you set out last year with your advisor.

What actions have you taken to meet these challenges?

How can your advisor help you?

RESEARCH

DEVELOPMENT

MENTORING

GOALS

ACTION PLAN

IDP Formats to Get You Started

UCSD

Name:		Current Position:		
1. State your development goal using the SMARTER style. (From IDP Worksheet Part One)				
2. Select the skill, knowledge or competency to be developed. (From IDP Worksheet Part Two)				
Development Activities List 2-3 learning activities (From IDP Worksheet Part Two)	Outcomes/Results State what the successful completion of the development activities looks like	Support List those that will support you with your development activities Who else will be involved?	Target Dates State when each development activity will be completed or major milestones	Status Note completion, potential road blocks and strategies
Date discussed with supervisor or mentor:		Date of follow-up meeting (at least once every three months):		

IDP Formats to Get You Started

American Psychological Association - Humanities and Social Sciences



Self-assessment

What motivates you? What are your skills and interests?



Explore Careers

Research the myriad career and job options.



Compare & Contrast

What is missing in your experience and training?



Set Goals

Make concrete plans to improve your skills.



Implement Your Plan

Use specific milestones with clear deadlines and outcomes.

Science Careers - myIDP - All STEM Fields

Overview

Overview Summary

Personal Information

Assessment

Skills Assessment

Interests Assessment

Values Assessment

Career Exploration

Consider Career Fit

Read About Careers

Attend Events

Talk to People

Choose a Career Path

Set Goals

Career Advancement
Goals

Skill Goals

Project Goals

Implement Plan

Mentoring Team

myIDP Summary

Completion Certificate

Consider Your Values!

"What is most important to me? What rewards or outcomes do I want from my work?"

Impact on Society	Job Security
Contact with People	High Demand
Teamwork Vs. Individual Work	Earning Potential
Independence	Benefits
Developing Friendships	Recognition
Congenial Work Atmosphere	Risk Taking
Competition With Peers	Location
Pace of Work	Physically Challenging Vs. Not
Interest in Supervising	Flexibility in Schedule
Degree of Influence over people	Status & Prestige
Intellectual Challenge	Professional Development
Showcase Competence	Work/Life Balance
Learn New Things	Family Friendly
Creativity	Predictability Vs. Variety

Activity: Setting SMART Goals

Example: I want to apply for postdoctoral research fellowships.



SPECIFIC: Apply for NIH, AHA and ADA postdoctoral fellowships in the 2020 cycle



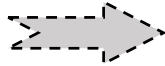

MEASURABLE: Write one page per week

ATTAINABLE: I have 8 months to write all necessary documents

RELEVANT: Looks great on my CV, ensures funding for research I love

TIME-BOUND: Deadlines are August 9th - 15th

What Next?

-  Invest time and thought on drafting your IDP.
-  Discuss it with your advisor annually, lead the discussion.
-  Develop and discuss your action plan, set milestones, and make a plan for following up.
-  Make an appointment with yourself at least annually to **E**valuate and **R**eadjust your goals and IDP.