Individual Development Plan for Postdoctoral Scholars

Name of Postdoctoral Scholar or Fellow: [redacted]

Start date of internship: May 9, 2016

Department: [redacted]

Signed by:

_____ _____

Postdoctoral scholar or fellow date

_____

Mentor (name in print)

_____ _____

Mentor (sign) date

_____ _____

Mentor (if more than one – print and sign) date

Approved by:

_____ _____

Office of Postdoctoral Programs date

Note: 15% of the Postdoctoral Scholar's time should be devoted to professional development activities that develop core competencies outside of regular research responsibilities.

A. Career Goals (to be filled out by the postdoc)

- What are your short-term career goals? Describe your time line for achieving them?
    - Continue to publish work from previous postdocs and ongoing collaborations, including 1.) a NOAA-funded project on coral nurseries with [redacted] [90% complete], 2.) a *Symbiodinium* taxonomy revision with [redacted] [40% complete], 3.) a *Symbiodinium* dN/dS ratio analysis with [redacted] [50% complete], and 4.) a zoanthid reciprocal transplant experiment with [redacted] [80% complete].
    - Learn techniques specific to functional cellular biology, which is a new field for me but the bread and butter of the [redacted] lab. Examples include confocal microscopy, FACS cell sorting, western blots, and in situ hybridization assays.
    - Introduce new techniques to the [redacted] lab, such as *Symbiodinium* genotyping and culture maintenance, as well as expand its capacity for cluster computing and bioinformatics.
    - Chair a session at an international meeting.
    - Mentor graduate and undergraduate students.
    - Help teach a symbiosis-related undergraduate class.
    - Collaborate with other researchers in the [redacted] Department.
    - Coordinate research across multiple labs at OSU.
    - Help select and purchase long-term resources for the [redacted] lab (e.g. microscope)
    - Write a small grant to complement ongoing work.
    - Publish results generated from the grant that funds my position.

- What are your long-term career goals? Describe your time line for achieving them?
    - Ultimately I'll be seeking a tenure-track faculty position at a college or university, though I've yet to decide what balance of research and teaching would be ideal.
    - I have a personal interest in science communication (specifically writing for nonscientific audiences), and I would like to continue to take advantage of opportunities to exercise these skills by penning articles for blogs and online magazines during my postdoc.

- When will you begin a job search? If you do not know, estimate. If you have already begun a search, briefly describe
    - My postdoc at OSU is funded for 2.5 years, so I will begin a job search in earnest after the first year with the hope of beginning at the new position after the completion of my postdoc.

B. Research Project(s) (to be filled out by the postdoc and validated by the mentor(s))

- Briefly describe the aims and experimental approaches of your current research project(s)
    - Aim 1: Characterize glycan recognition between host and invading *Symbiodinium* by glycan profiling and glycome manipulation of the algae (and potentially host receptor pull-down approaches).
    - Aim 2: Compare structural dynamics of phagocytosis and intracellular signaling when hosts are challenged with different *Symbiodinium* and other particles by analyzing phagocytic profiles (and in collaboration with other researchers, phagosomal markers, NF-dB activation, and the sphingosine rheostat).
    - Aim 3: Examine disruptions and changes in phagosomal dynamics and cell signaling in partnerships subjected to elevated temperatures that lead to bleaching.

C. Expectations for Contribution to Research Project(s) (to be filled out by the mentor(s) and validated by the postdoc)

- Please provide a detailed list. Examples: supervise 1 undergraduate student on independent research project that will produce a poster; complete experiment xx described on pages yy-zz of the proposal "my proposal", complete data analyses for experiments xx and xx and submit summary to mentor, etc.
    - Complete the project aims listed above.
    - Develop and maintain a robust *Symbiodinium* culture collection.
    - Participate in [redacted] lab development: attend lab meetings, coordinate research between [redacted] and [redacted] labs, train graduate and undergraduate students in molecular and culturing techniques, assist graduate and undergraduate students with their projects (design, data collection, analysis, writing, etc.), design new experiments, purchase equipment and reagents, host visiting scholars, travel to other labs to learn new techniques.
    - Participate in securing research funding: help generate preliminary data, contribute to major grant application drafts, write a minor (< $50k) grant application to expand the scope of my projects.
    - Communicate research findings: publish data in peer-reviewed journals, give oral presentations or posters at conferences, write about research for nonscientific audiences via blogs or online magazines.

D. Professional Development Plan (to be filled out by the postdoc and mentor(s) in collaboration)

For more information and links to resources, download the complete Core Competencies document.

Competency	***Goals*** (for each goal, think about how you will achieve it? By which mechanism?)	***Expectations of postdoc*** (what does the postdoc expect as outcomes?)	***Responsibilities of mentor(s)***
(1) Discipline specific conceptual knowledge (gain understanding of a new theory or concept, develop fluency with respect to a methodology/method of analysis, learn how to use of a new computational tool)	-Broaden knowledge of cellular biology symbiosis research, techniques, and findings (through reading) -Broaden knowledge of glycobiology research, techniques, and findings (through reading)	-Time to read literature relevant to ongoing cellular biology projects, as well as general background texts -Time to read literature relevant to ongoing glycobiology projects, as well as general background texts	-Suggest relevant and background cell biology literature -Enable meetings with glycobiology experts on campus -Help organizing a journal club
(2) Research skill development (includes experimental design, new measurement or analysis technique, data analysis, peer review process)	-Learn confocal microscopy and FACS sorting (through CGRB). -Learn western blots and in situ hybridizations (through graduate students). -Learn to analyze functional experiments (through graduate students).	-Time to complete CGRB training -Instruction from graduate students -Reciprocating by providing training in *Symbiodinium* taxonomy, molecular biology, and culturing techniques to graduate students	-Provide funding for CGRB training -Provide time for training with graduate students -Provide guidance with experimental design and interpretation
(3) Communication skills (includes writing publications and grants, CV, teaching portfolio, job interview skill, poster and oral presentations, teaching, networking)	-Develop a job talk (practice with mentor) -Network (through meetings) -Present research (through meetings) -Practice grant writing -Practice writing for nonscientific audiences	-Input from mentor on job talk -Opportunities to attend meetings -Introductions to key scientists in the field -Collaborative opportunities with other scientists -Guidance when writing grants -Time to write for blogs, etc.	-Provide input on job talks and grants, act as co-sponsor -Help defray cost of meetings -Arrange introductions and help coordinate collaborations with scientists in the field -Encourage nonacademic writing and pass along opportunities

(4) Professionalism (includes interpersonal relationships, multicultural competency, institutional obligations, service to institution and society)	-Expand academic reputation (through giving invited talks) -Increase service to OSU (by serving on an IB committee)	-Time to travel and present invited talks -Time to serve on an IB committee	-Provide advice on expanding my academic reputation -Provide advice on managing committee obligations
(5) Leadership and management skills (includes staff and project management, time management, budget preparation and management, strategic planning, serving as mentor and role model, running meetings, delegating responsibilities)	-Grow as a mentor (through advising undergraduate and graduate research in the lab) -Expand skills at strategic planning	-Time to plan and execute role as mentor on different graduate and undergraduate projects -Serve as a committee member on undergraduate theses -Meetings that focus on strategic planning (for grants, career, developing one's own lab, etc.)	-Provide opportunities to mentor and give advice on effective mentoring -Serve as a resource if management issues arise -Meet to discuss strategic planning periodically
(6) Responsible conduct of research (includes data sharing and ownership, authorship criteria, human subjects and animal research and IRB, scientific misconduct – identifying and reporting, conflicts of interest)	-Learn more about data sharing, data ownership, authorship, and ethics on large collaborative projects between multiple labs each with multiple postdocs and graduate students contributing to the work (through working with the *Aiptasia* model group)	-Have specific discussions on ensuring ethical science practices in large collaborative projects	-Facilitate such discussions and provide examples of how ethical challenges were met

E. Data access and publication agreement.

(The following statement is provided as a starting point. Postdoc and mentor(s) should read and discuss and revise as necessary to reflect their agreement**)**

All data collected by the postdoc during the internship are to be available and shared openly between the postdoc and mentor(s). The postdoc will have the right, and indeed the responsibility, to write research articles concerning the project(s) he/she is responsible for and submit for publication as first author. This right/responsibility will remain in place for three years after the end of the postdoctoral internship, at which point, if publications have not been submitted the mentor(s) may publish the results independently while including the postdoc as a coauthor if reasonable. In the case of long-term and collaborative projects, the mentor(s) will work with the postdoc to define sub-components of the project that can be published within a short timeframe appropriate to the internship. The postdoc will include mentor(s) and other collaborators as co-authors, as appropriate, and will provide drafts with ample time for review. Mentor(s) will provide feedback on drafts as quickly as possible and will do everything possible to ensure that by the end of the internship the postdoc has a record of publications and other products that helps the intern achieves the defined career goals.