Faculty Development Plan, 2018

Name
Department of Biology

Self-assessment of my strengths, skills, competencies, interests, opportunities, and areas in which I wish to develop

Strengths:
• Get things done early
• Work hard
• Good organizational skills
• Good writing skills
• Broad background helps me understand diverse perspectives and connections between topics
• Diverse research interests
• Strong interest in helping students develop and succeed
• Good at explaining complex topics to students
• Committed to BYU’s mission and aims
• Very happy to finally be here at BYU and love the environment

Skills:
• Strong laboratory experimental skills
• Good data analysis skills
• Have working knowledge of multiple types of mathematical and simulation modeling
• Good at integrating empirical and theoretical approaches to ecology
• Strong writing skills
• Good reviewing skills (ie, quickly catch problems and identify shortcomings)
• Ability to teach on a broad range of ecological topics

Competencies:
• Competent with modeling and data analysis software, including Netlogo and R
• Committed to working with undergraduate and graduate students frequently so they will have rich research experiences
• Committed to engaging with broader research community to advance the field more broadly than just my own research
• Engaged with the research community and thus understand top research priorities
• Experience and knowledge to bridge the related, but separate, fields of ecology, conservation, and resource management

Interests:
• Producing research that improves our understanding of the natural world and our effects on it, and that improves our ability to manage and protect nature
• Collaborating with others outside my own expertise to broaden my reach
• Integrating multiple research approaches (both empirical and theoretical) to address questions that cannot be adequately addressed using individual research tools in isolation
• Helping young students make connections between scientific concepts, their daily lives, the gospel, and the natural world
• Contributing to the success of the mission of BYU

Opportunities:
• Lots of research areas that could benefit from a more integrative research style or approach
• Colleagues, both in and out of BYU, who are interested in collaborating with me because of my research skills and tool set
• Large pool of students that want to participate in conservation-oriented research
• (Unfortunately) lots of ecological problems that need to be addressed

Development areas:
• Strengthen my teaching skills so that I can be a more effective teacher
• Improve my success at getting research funding
• Improve programming skills to make my modeling efforts more efficient
• Continue to broaden my ecological tool set by learning new types of modeling and data analysis
• Develop more collaborations, as I have a tendency to pursue research independently
• Develop knowledge and expertise in areas of new research interests (polar bears, elephant seals)
• Be more outgoing and less introverted

Citizenship goals
• Be contributing member of department and serve effectively in assigned roles
• Reach out to colleagues in my department and college so I can see how my research relates to their research and share teaching ideas with them
  • Leave my office door open for part of the day so others feel open to stop in
  • Schedule lunch once a month with a colleague
• Attend department and college seminars as often as I can, even if the topic doesn’t directly align with my research interests
• Contribute more in faculty meetings

Teaching goals
• Make classes more interactive in order to engage students more actively
• Develop new Behavioral Ecology course
• Find ways to involve more undergraduates in meaningful research
• Become integrated into the marine biology instruction here at BYU
  • Help students with marine biology career aspirations to be better prepared for grad school

Scholarship goals

• Develop expertise in dynamic state variable modeling
• Develop methods for integrating individual-based and dynamic state variable modeling approaches
• Develop my ability to mentor undergraduate students through research projects
  • Submit at least one publication per year with an undergraduate as the first author.
  • Have at least two students give presentations each year at conferences
  • Help students take more ownership over research projects
• Submit at least 5 papers per year for publication
  • Be corresponding author or first author on at least 2 of those papers.
• Present my research at 2 conferences per year
• Obtain at least two types of ongoing external grant support
  • Apply for at least 3 external funding opportunities per year
    ○ North Pacific Research Board
    ○ NSF: DEB, IOS, Polar Programs
  • Identify new potential funding sources
• Establish collaborations with faculty inside and outside of BYU
  • Continue or extend collaborations with John Whiteman (Univ of New Mexico), April Blakeslee (East Carolina Univ), Mark Bell (BYU)
  • Develop new collaborations
    ○ Invite one potential collaborator per year to speak in Department seminar series

Relationship between individual goals and department and university aspirations and needs

• The Biology department would like to offer a behavioral ecology course for graduate students and upper level undergrads. My teaching goals will fill this need.
• The Biology department and the Life Sciences in general have several undergraduates with interests in marine biology. I will help to facilitate the educational and research pursuits of this group of students through my research and course offerings.

Resources needed to accomplish these goals

• Undergraduate salary support (provided so far via my startup package)
• Travel money (startup so far)
• Departmental support of marine biology field courses in Spring terms
• Center for Teaching and Learning
• Publication charges covered
So far I have been very pleased with the resources available to me here at BYU. The key is integrating more students into my research program so that I can leverage the resources available to support undergraduate research here at BYU.

My activities and accomplishments so far in achieving these goals

- Teaching: Have prepped lectures for Bio 220 with a focus on actively engaging students
- Teaching: Have prepped Bio 350 course with focus on actively engaging students in each lecture (will teach Spring and Fall 2018)
- Teaching: Have begun working with 15 different undergraduates on various research projects in my lab, including both individual and collaborative projects
- Citizenship (university): Currently serving on Assessment committee, though I have not yet done anything associated with this committee; Currently serving on Scholarships and Awards committee; I also serve as the faculty advisor for the marine biology club (currently being developed); I also served as a reviewer for the graduate mentoring award proposals
- Citizenship (outside): I currently serve as Associate Editor for the Journal of Animal Ecology
- Scholarship: I have established collaborations with established polar bear researchers, and with colleagues here at BYU (Mark Belk) since arriving here
- Scholarship: 2017 was my best year so far, publishing 8 peer reviewed papers. I am optimistic about the prospects for continued success given the research in the pipeline
- Scholarship: I have submitted two external grant proposals since arriving here (NPRB, SeaWorld)