

ACSF Topical Lunch Summary
Strengthening interdisciplinary graduate education for biodiversity sciences at
Cornell University
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Interdisciplinarity is a broadly recognized goal within academia and at Cornell to best address the complex socio-cultural and environmental problems of today. Because the PhD degree is first and foremost about building disciplinary expertise, a practical model for interdisciplinary training is to broaden fluency across disciplines while building collaborative skills. Within the existing structure of graduate fields at Cornell, we were interested in exploring ideas for building capacity to facilitate, incentivize and succeed at interdisciplinary training of graduate students, particularly in the case of programs like IGERT that involve multiple graduate fields. The timing of this discussion was motivated by an NSF IGERT proposal on “Integrating Genomics and Science Communication for Biodiversity Research and Conservation” being prepared for the July 2 2012 deadline, but the issues are not new and any potential for improvements at Cornell will be realized gradually.

Participants (15)

Kelly Zamudio, EEB	Genomics & Communic. IGERT proposal PI
Andy Bass, NBB	Associate Vice Provost for Research
Cliff Kraft, NTRES	DGS, Natural Resources grad field
Shorna Brussard, NTRES	DGS elect, Natural Resources
Monica Geber, EEB	DGS, EEB grad field
Paul Soloway, MBG	DGS, Genetics & Development grad. Field
Bryan Danforth, ENT	Entomology grad. field
Katherine McComas, Comm	Comm graduate field & IGERT prop. participant
Ned Place, CVM	DGS, Grad. Field of Zool. & Wildlife Conservation
Christie Goodale, EEB	PI Biogeochemistry IGERT
Steven Wolf, NTRES	Natural Resources
Kerry Shaw, NBB	DGS, Grad Field of Neurobiology & Behavior
Lauren Chambliss	ACSF
David Dieterich	ACSF
Drew Harvell, EEB	ACSF

Discussion was launched with two premises:

1. Interdisciplinary collaborations are a desirable avenue of investigation and scholarship to address the complex environmental and biodiversity problems of today.
2. For graduate students motivated to do applied or problem-oriented biodiversity research, it can be valuable for graduate training to include interdisciplinary studies and building of collaborative skills.

The second premise was put into the important context of career development with the fact that many academic positions are still disciplinary with promotion criteria rewarding disciplinary more than interdisciplinary work.

Discussion revolved around two primary questions:

1. What are the benefits of having dissertation research be interdisciplinary and/or collaborative, and how do we best incentivize these interactions?

- priming grants were advocated as productive incentives, but it is not clear how best to incentivize “interdisciplinary” research specifically.
- graduate field minors help graduate students broaden their program in an interdisciplinary way, but not all fields have formal minor options (e.g. EEB).
 - flexible graduate school and field rules regarding special comm. It was noted (but not confirmed) that current regulations forbid special committee co-chairs from different fields and this has constrained innovative programs like the Smithsonian fellowship in CVM.
- composition of the dissertation – there was a diversity of opinions about the desirability of co-authored dissertation chapters. Some believed this was already a reality while others considered the ambiguities about contributions to be undesirable for a dissertation that is supposed to represent original work by the student. The simplest case may be two non-advisor authors who have equal contributions.
- serendipity and exposure is important with respect to seeding collaborations. Therefore, seminar series and other community functions should strive to include Cornell faculty from diverse departments as well as invite non-academic speakers.

2. What are the costs of and impediments to interdisciplinary dissertation research?

- graduate fields primarily centered within departments
- few team-taught interdisciplinary courses
- tension between importance of disciplinary depth (specialization) and interdisciplinary experience/skills for dissertation research. Career development may dictate an emphasis on disciplinary training.
- ‘messiness’ of sorting out contributions to collaborative dissertation research.

It was noted that some current Graduate School regulations allow for collaborative, multi-authored dissertation chapters and that the details of deciding what is acceptable are primarily up to the special committee:

Code of Legislation of the graduate faculty (page 34 excerpts):

2. Papers Option

In fields that have so authorized, the special committee may permit a student to submit a thesis or dissertation consisting of publishable papers that are not necessarily related. In such cases, it is important that the special committee and the student determine, early in the student's program, if the papers option is acceptable

to the committee. Papers may include multiple authors, but the work of the student must be substantive. A special committee decision to allow this option must be unanimous.

3. Partnership Option

Theses and dissertations written in partnership for the overall document may be accepted only when authorized by the General Committee at the request of the special committee. Such requests are to be made before work is undertaken.