

# **Connections and Disconnections in Interdisciplinary Graduate Studies**

**Northeastern Association of Graduate  
Schools**

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*The study of nature requires thinking, intellectual discourse, and investigative approaches that cross traditional disciplines and explore new and different ways of looking at the world. This goes hand-in-hand with our mission of education as a transformative experience.*

Interdisciplinary education is that which *integrates* knowledge from two or more disciplines (including theories, terminologies, and methodologies) in order to achieve a cognitive approach to problem solving that transcends the discipline-specific approach.

Interdisciplinary education is thus inherently transformative, promoting critical thinking “outside the box” to find approaches impossible or unlikely within a single discipline.

In spanning multiple disciplines, interdisciplinary programs by their very nature reach across the traditional boundaries of colleges and departments, while at the same time recognizing the value and contribution of each disciplinary partner. Many issues are too complex in nature to be handled by a single discipline and benefit from an interdisciplinary approach. Interdisciplinary thinking may lead to increased innovation in problem solving.

# **BARRIERS AND DISINCENTIVES TO INTERDISCIPLINARITY**



# Organizational Structure & Administration

- ▶ Rigid one-size-fits all model of organizational structure
- ▶ Discipline and department-based silos of budgetary and administrative categories
- ▶ Territoriality and turf battles over budget, ownership of curriculum, and research
- ▶ Ambiguous status of ID programs, centers, and institutes
- ▶ Resistance to innovation and risk
- ▶ No clear and authoritative report lines for ID units

# Procedures and Policies

- ▶ Inflexible guidelines that inhibit approval of new programs and courses
- ▶ Lack of guidelines for ID hiring, tenure and promotion, and salary
- ▶ Unfavorable policies for allocation of workload credits
- ▶ Unfavorable policies for sharing indirect cost recovery from external grants and allocating intellectual property

# Resources and Infrastructure

- ▶ Inadequate funding
- ▶ Inadequate number of faculty lines
- ▶ Inadequate space and equipment
- ▶ Ignorance of ID literature and resources in national network
- ▶ Insufficient time to learn the language and culture of another discipline
- ▶ Insufficient time to develop collaborative relationships
- ▶ Restricted access to internal incentives and seed funds for research and curriculum development

# Recognition, Reward, and Incentives

- ▶ Invisibility and marginality of ID research, teaching, service, advising, and mentoring
- ▶ Reliance on volunteerism and overload
- ▶ Weak networking channels and communication forums
- ▶ Ineligibility of ID work for award, honors, incentives, and faculty development programs
- ▶ Negative bias against ID work
- ▶ Lack of support at department, college, or university levels



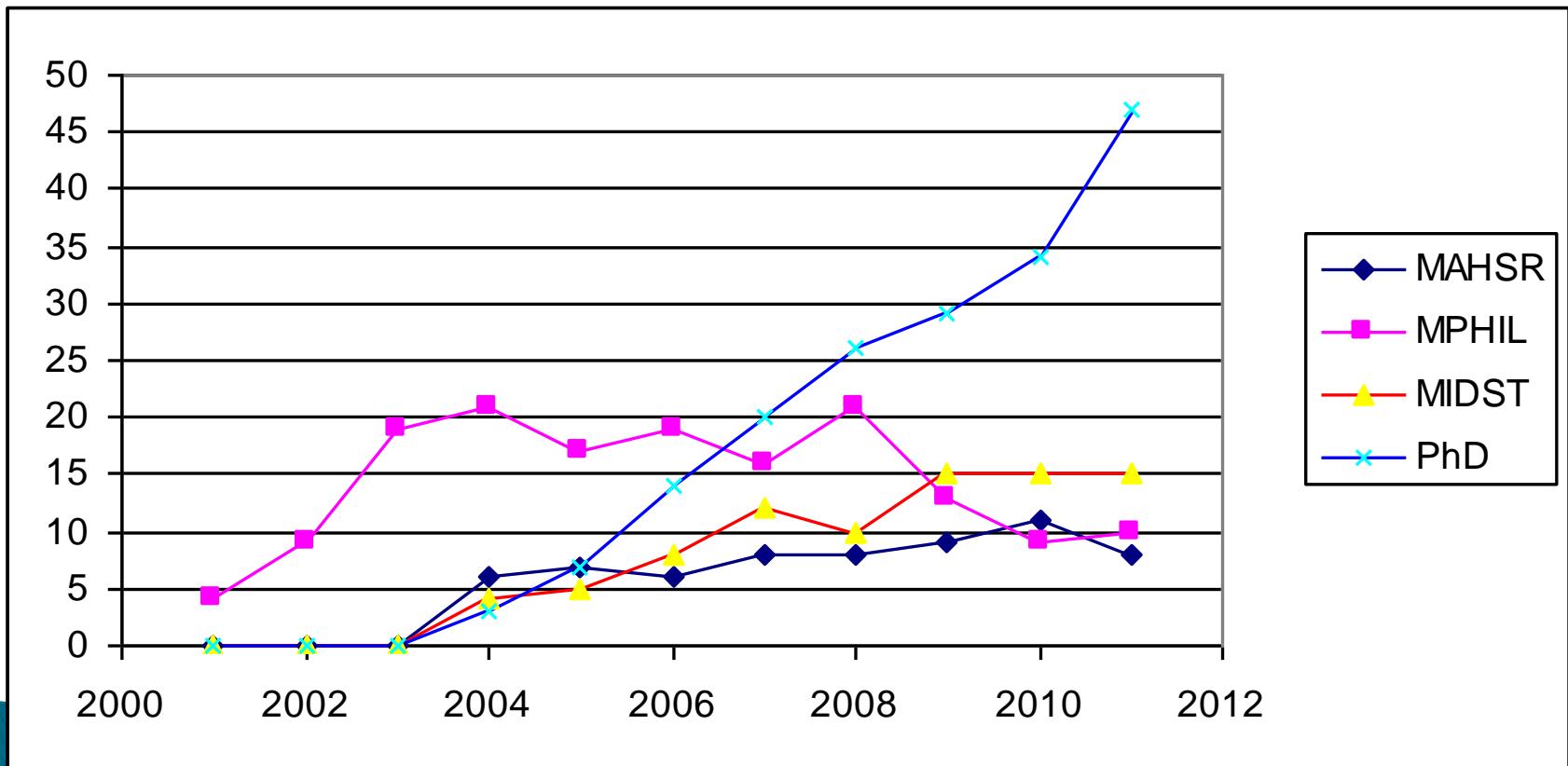
# The University of New Brunswick Interdisciplinary Experience

Ed Blaen  
Dean, School of Graduate Studies

# UNB Background

- ▶ Provincial University
- ▶ 2 main campuses: Fredericton, Saint John
- ▶ 10,000 Students
- ▶ 1800 Graduate Students
- ▶ 30 Plus Graduate Units
- ▶ Interdisciplinary (administered by Graduate Studies)
  - MPhil
  - MAHSR
  - MIDST
  - PhD IDST

# UNB Graduate Numbers



Overall numbers have grown from 4 in 2001 to 80 in 2011.

# Organizational Structure and Administration.

- ▶ School of Graduate Studies is “Home” to ID.
- ▶ ID has four programs:
  - MAHSR – Highly structured, collaborative regionally, cohort model, has its own courses.
  - MPHIL – Structured with electives.
  - MIDST and PhD IDST
    - Micro Unit developed for each student.
    - Dedicated Asst Dean.
    - Courses mostly from disciplinary units.
    - Supervision popular in non-PhD areas

# Procedures and Policies

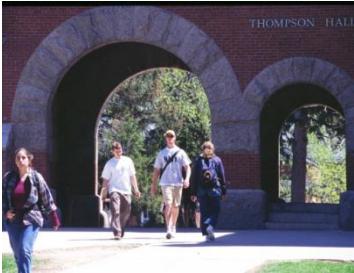
- ▶ Similar in requirements to disciplinary programs.
- ▶ Faculty are “volunteers” with a few stipends. Sometimes hard to find volunteers.
- ▶ Research assessment procedures allow faculty to “claim” their ID students.
- ▶ IP agreements up front wherever possible.
- ▶ Funding is a challenge.

# Resources and Infrastructure

- ▶ Some dedicated funding through Graduate Studies.
- ▶ Students have been very successful in provincial and national scholarship competitions.
- ▶ Space is a challenge.
- ▶ Time to completion is similar to others.
- ▶ Small size of UNB facilitates collaboration.

# Recognition Rewards and Incentives

- ▶ ID supervision included in research assessments.
- ▶ Asst. Dean organizes periodic events, and ID students are active in Annual Grad Conference.
- ▶ ID is viewed quite positively.
- ▶ ID struggles for funds along with the rest of the university



# UNIVERSITY OF NEW HAMPSHIRE GRADUATE SCHOOL

Cari Moorhead, Associate Dean  
Dovev Levine, Academic Counselor



UNIVERSITY *of* NEW HAMPSHIRE

# UNH Graduate School

- ▶ Enrolled 2300 students last fall
  - 49 countries, 44 states
  - 60% women
  - 10% International
- ▶ 20 Doctoral programs & 60 master's degrees
- ▶ One of nine universities in the nation to hold top-tier status as a land-, sea-, and space-grant institution
- ▶ 70 faculty have held Fulbright Fellowships



# NRESS

- ▶ Both the global environment and our understanding of that environment are changing at rates that are unprecedented in the history of the Earth. Predicting and preparing for our future in this different world requires that we train a generation of scientists with a foundation in traditional disciplines and an ability to understand the challenge of interfacing among them.
- ▶ The NRESS Program draws on the University's strengths in environmental and earth sciences, life sciences, social sciences, and ethical and policy studies.

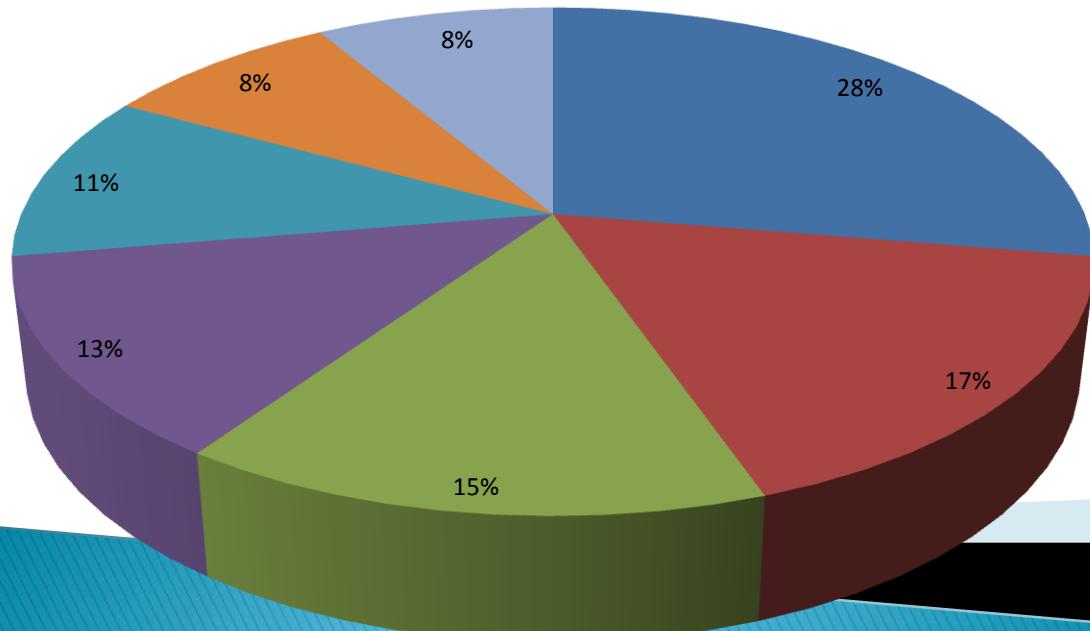
# NRESS

- ▶ 90 active faculty representing 16 Departments (Natural Resources, Earth Sciences, Resource Economics, Civil Engineering, Electrical Engineering, Whittemore School of Business and Economics, Animal and Nutritional Sciences, Plant Biology, Political Science, Geography, Philosophy, Sociology, Biochemistry, Education, History)
- ▶ 79 active students (44 are funded)

# NRESS: Where Are They Now?

**NRESS Alumni Since 2003 (N = 47)**

■ Higher Ed Faculty (13) ■ Higher ED Research (8) ■ Government (7) ■ Post-Doc (6) ■ NGO (5) ■ Higher Ed Admin (4) ■ Private (4)



# Organization and Management

- ▶ The interdisciplinary graduate program is housed in and administered by the College of Graduate and Continuing Education at the University of Scranton. The Program Director and the Executive Committee, manage the graduate program. The Executive Committee is comprised of at least one tenured representative from each discipline with faculty in the program

- ▶ The Executive Committee is selected by the CGCE Dean in consultation with the Program Director. Executive Committee members are selected on a staggered basis and serve two-year terms. The Executive Committee is chaired by the Program Director.

The Executive Committee is responsible for the:

- ▶ annual assessment of student learning;
- ▶ regular review and evaluation of the program's goals and objectives;
- ▶ review of both new and existing courses to insure that all courses offered in the program meet the program's goals and objectives;
- ▶ periodic review of the program's admissions criteria, insuring that students admitted to the program are meeting the pre-requisites for program courses; and,
- ▶ development and review of faculty qualifications for teaching in the program.

- ▶ Every five-year, the Executive Committee will engage in a systematic review of the program. Following the review, the Executive Committee will make a recommendation to the Dean of CGCE for the continuance or abolishment of the program.

The Program Director is responsible for:

- ▶ communicating relevant course information and scheduling needs with associated academic departments as well as communicating any scheduling concerns with the CGCE Dean;
- ▶ reviewing course substitution proposals (only the Dean of CGCE can approve a graduate course substitution);
- ▶ promoting faculty development initiatives;
- ▶ chairing the Executive Committee; and,
- ▶ carrying out other duties normally performed by graduate program directors.

# Alternative Curricular Review

- ▶ Curricular changes that originate from the Provost or any other division, that division would be responsible for sending the proposal and signature sheet to the appropriate “sponsoring” Academic Department to start the process.
- ▶ If there is no appropriate “sponsoring” Department, the proposal and signature sheet should be sent to an appropriate “sponsoring” Program Director.

- ▶ In the case that a “sponsoring” Department or Program Director do not approve a proposal, the word “Approval” should be crossed out on the signature sheet before it is sent to the Dean. Issues can be noted at the bottom of the signature sheet.
- ▶ If there is no appropriate “sponsoring” Department or Program Director the originator of the change should fill out the top block of the signature sheet and forward the proposal to the appropriate Dean.

- ▶ For curricular changes not originating from Academic Departments, the originator of the change must obtain the appropriate “Additional Signatures” from affected Academic Departments.
- ▶ The signature of the chairs of the Affected Departments does not imply endorsement, it acknowledges notification.

# INTD Frameworks

- ▶ Programs offered primarily within a single department
- ▶ Programs offered primarily between two or three departments
- ▶ Programs administered within a disciplinary department
- ▶ Programs that involve faculty in more than four departments that are not linked to any department
- ▶ Programs that involved faculty in more than four departments that are in an INTD department

## ▶ Independent INTD Programmatic Unit

- Programs that focus on the multi-disciplinary or interdisciplinary nature of an instructional field or issue and involve some combination of existing faculty and/or faculty hired specifically for the program
- Permits piloting new INTD programs
- After an appropriate experimental period, may continue independent programmatic status or seek recognition as a department

- ▶ Center: a multidisciplinary approach to instruction or to public service.
  - Provides a means by which inter-department and intercollegiate boundaries may be bridged in the development of instructional programs or community service.
  - Promotes a synthesis of knowledge drawn from more than one discipline and the dissemination of that knowledge to a suitable student population or to the community outside the University.

# Platforming Interdisciplinarity

“The key to a strong platform for interdisciplinary change is crafting a robust portfolio of strategies rather than adopting a single initiative or model....A robust portfolio will take into account both structure and behavior in a systemic approach. Transformative and incremental approaches should be combined.”

Klein, *Creating Interdisciplinary Campus Cultures*