Fostering Transdisciplinary Research

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BINGHAMTON UNIVERSITY
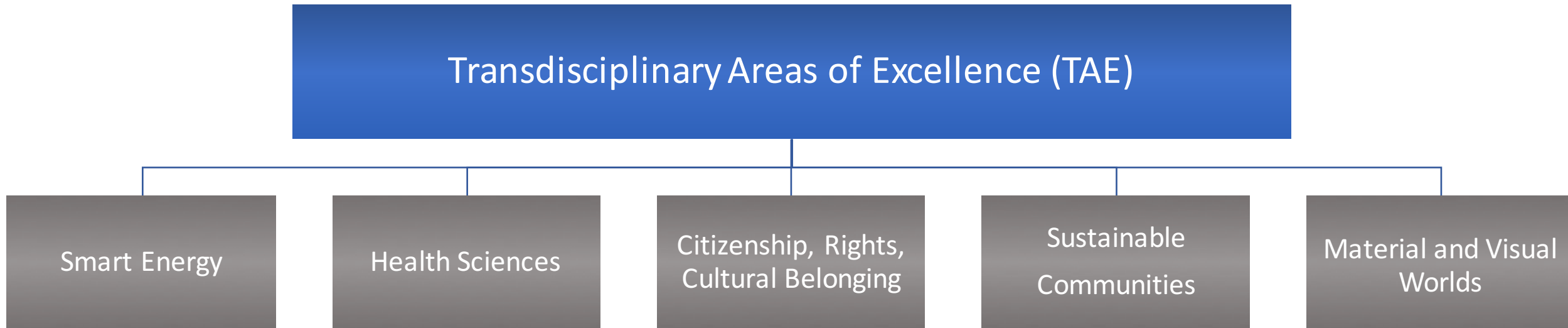
DIVISION OF RESEARCH

Questions that guide our research development goals and activities

1. How do we promote collaboration between people from different disciplines?

2. How do we support transdisciplinary teams in the development of new project ideas?

3. How do we work with teams to turn ideas into a defined project, pitched to a sponsor?

1. How do we promote collaboration between people from different disciplines?

Transdisciplinary Areas of Excellence (TAE)

| Smart Energy	Health Sciences	Citizenship, Rights, Cultural Belonging	Sustainable Communities	Material and Visual Worlds

We define **transdisciplinary** to be the **process of collaboration** between researchers from **different disciplines** or departments on **topics of societal importance.**

2. How do we support transdisciplinary teams in the development of new project ideas?

Knowledge boundaries and assumptions
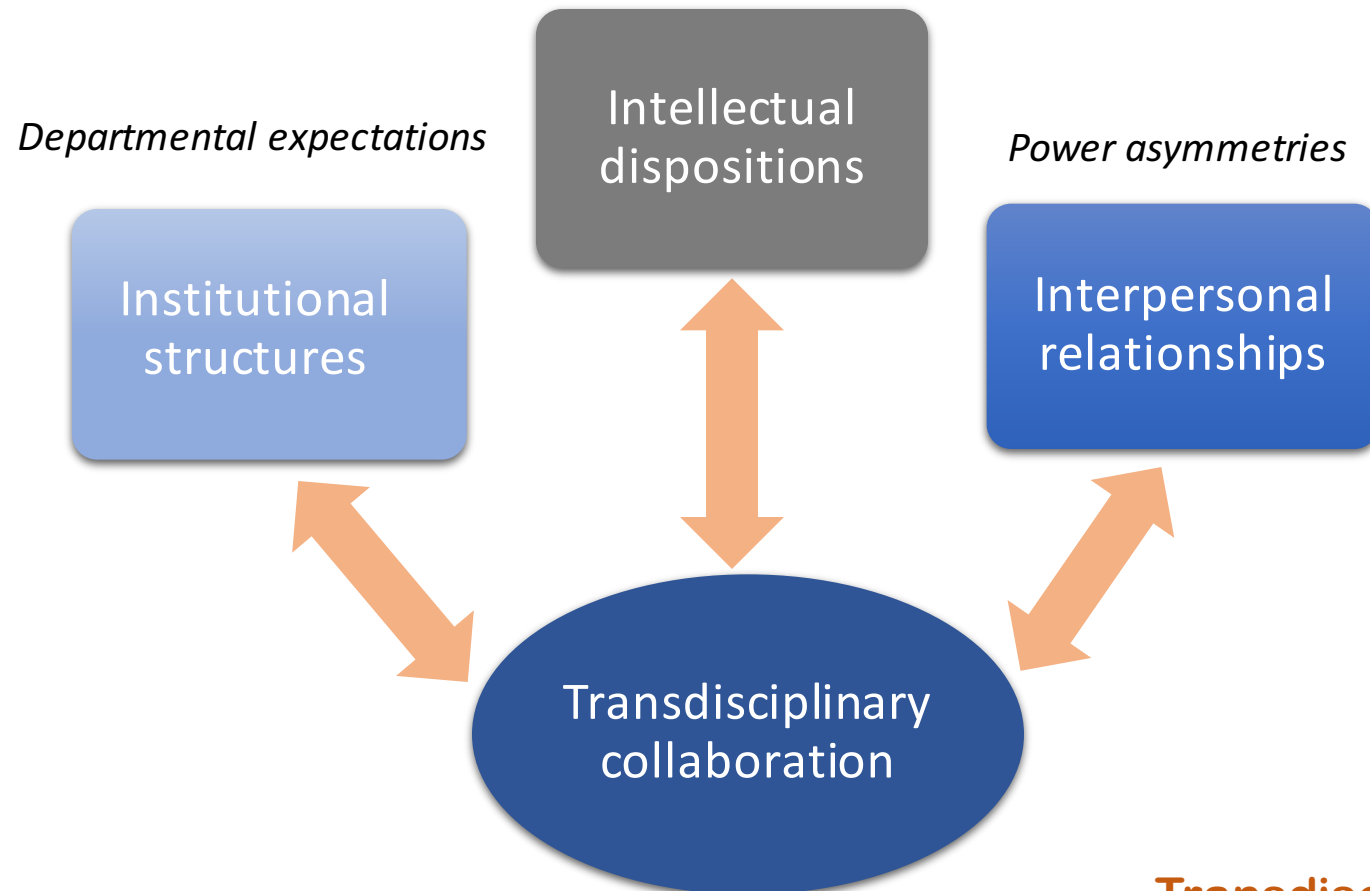
Understanding how theory meets practice

- Graduate student capstone project finds **time, trust, and tenure** to be most commonly discussed barriers

- Our experience, reading, and discussion with other practitioners leads us to this transdisciplinary collaboration model of influence

Departmental expectations

Power asymmetries

Intellectual dispositions

Institutional structures

Interpersonal relationships

Transdisciplinary collaboration

Transdisciplinary collaboration model of influence

3. How do we work with teams to turn ideas into a defined project, pitched to a sponsor?

1. Defining the Problem	2. Creating a solution	3. Turning goals into project activities
Time and space to meet	Communication and inclusion	Leadership and planning
Identifying shared interests and expertise	Fitting interests into sponsor's expectations	Understanding institutional opportunities and constraints

The process operates:

university wide

and

within teams

Framing the process of transdisciplinary team collaboration

3. How do we work with teams to turn ideas into a defined project, pitched to a sponsor?

Research Development Practices to Foster Transdisciplinary Team Collaboration

Build Trust

➢ Attend meetings and events, listen, ask questions, describe yourself
➢ Take on group assignments
  example wins: invited to serve on the initiating committee of a new Human Rights Center,
  co-writing a proposal for a new transdisciplinary school,
  asked to write the National Center Planning grant RFP

Develop and leverage expertise

➢ Employ staff to conduct literature reviews in new areas
➢ Consider your personal expertise and how to connect it to your current projects
➢ Identify common gaps in expertise on teams and consider how to fill them
➢ Define your role on every project
  example win: invited to serve as co-PI on three projects

Research Development Practices to Foster Transdisciplinary Team Collaboration

Develop a narrative about your work and document it

➤ Create opportunities to do benchmarking or self-studies
  example win: led a self-study of the TAE in response to a Faculty Senate request

Build bridges within and across teams

➤ Share successes of others in conversation
➤ Take time to meet or talk with team members individually
➤ Create spaces for researchers to talk about research
  example wins: designed a colloquium on sustainable communities;
  brought social scientists into engineering teams;

Research Development Practices to Foster Transdisciplinary Team Collaboration

Facilitative leadership

- ➢ Project management
- ➢ Convene group and start conversations
- ➢ Advise committee chairs or project PIs inside or outside of meetings
  example win: directed more funding to seed grants; convened coupled human and natural systems group

Active leadership in project development

- ➢ Note when there is a void and fill in
- ➢ Bring in necessary team members
- ➢ Delegate tasks
- ➢ Know when to make decisions alone or with the team
  example wins: NSF National Research Traineeship and S-STEM improved proposals;
  2.8M award from SUNY

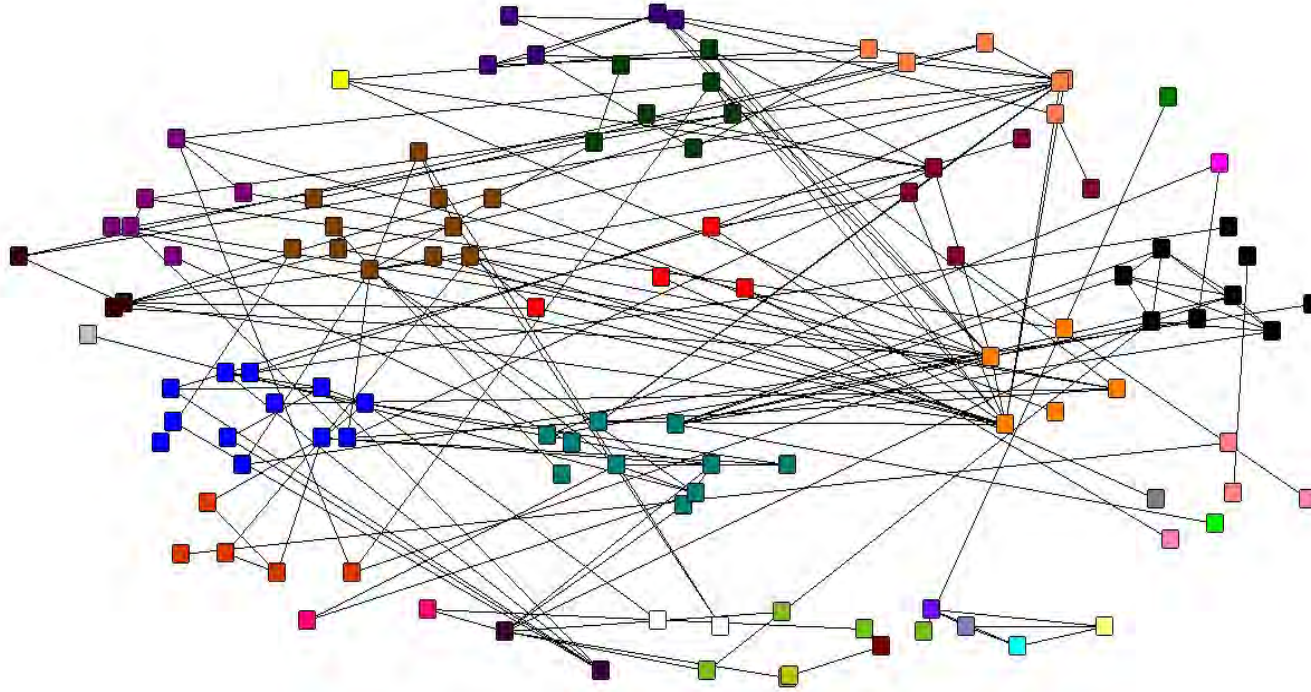1. How do we promote collaboration between people from different disciplines?

Figure A: Inter-departmental, collaborative faculty, colored by department: 67% of all departments are participating in collaborative research.

TAE Self Study Results, 2013-16

- The TAE helps to create and sustain collaborative relationships and intellectual stimulation

- 89% of inter-departmental collaborate groups at Binghamton have a TAE affiliate*

- 29% of faculty who are research active at Binghamton are involved in the TAE*

- $692,451 allocated to TAE seed grants have generated at least $2.6M; this is a low estimate

- TAE members have been involved in hiring 81 faculty, 60% of the net new faculty hired

* Reporting faculty: 412 are reporting research and creative activities, 460 report presentations, and 338 report publications, out of 568 tenured and tenure track faculty.

Moving Forward

A sixth TAE is convening, the Faculty Senate Evaluation is underway, and we have turnover in leadership …..

Recommendations for transdisciplinary research teams

- Develop communications, internally and externally

- Clarify expectations external to departments for affiliated hires

- Involve graduate students and curricular initiatives

- Maintain flexibility in research themes

- Strong and tailored incentives for participation

- Set clear goals and metrics for achieving them for each team

Thank you!

Questions? Email Valerie Imbruce:
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