Organizational Structure and Administration

*Barriers and Impediments:* one-size-fits-all model of structure; discipline- and department-based silos; ambiguous status of crossdisciplinary (CD) projects and units; territoriality and turf battles

*Mechanisms and Strategies:*
- Create alternative (matrix) units: e.g., programs, centers and institutes; university-industry research partnerships.
- Provide project and unit-level control: administration, hiring, budget, and infrastructure.
- Insure central oversight: a dedicated body or position in top administrative offices, clear report lines to decision-making authorities, advisory board composed of representatives of all stakeholders, an annual forum for project and unit leaders.

Policies and Procedures

*Barriers and Impediments:* inflexible policies and procedures for new projects and units, hiring and rewards, workload allocation, grants management; rigid degree requirements; resistance to innovation and risk

*Strategies and Mechanisms:*
- Be inclusive in policies and procedures for new projects and units.
- Be inclusive in procedures for hiring and workload allocation, while also using targeted initiatives such as cluster hiring.
- Devise cross-department budgeting mechanisms and flexible use of resources.
- Create equitable credit allocations for workload in research and teaching.
- Rewrite tenure and promotion guidelines to give credit:
  - annotate dossier and CV to explain CD/TS work;
  - expand forms of evidence to include collaborators and external parties;
  - include guidelines for appropriate review of CD/TS work at both local level and pertinent professional societies;
  - use joint unit committees, secondary unit representation, ad hoc or dean review.

Resources and Infrastructure

*Barriers and Impediments:* inadequate funding, space, equipment, full-time lines; competition for funds between departments and CD/TS work; exclusion from incentives and seed funds, graduate assistantships and postdocs; weak or no faculty development system; insufficient time for planning and implementation, learning language of another discipline, and developing collaborative relationships; ignorance of pertinent literatures

*Strategies and Mechanisms*
- Provide dedicated space for CD/TS work.
- Build core instrument facilities and pool/share space and equipment.
- Follow CD/TS design principles for new buildings and remodeling projects.
- Provide release time for developing new programs and units.
- Be inclusive in incentives and seed funding, including access to indirect cost recovery.
- Provide dedicated professional development for graduate students, faculty, and staff.
• Coordinate with libraries on access to pertinent CD/TS literatures and resources.
• Coordinate with all pertinent offices on identification of external funding sources.

Recognition and Reward

**Barriers and Impediments:** invisibility and marginality; reliance on volunteerism and overload; weak networking channels and communication forums; lack of support at all levels; negative bias against CD/TS work

**Strategies and Mechanisms:**
• Provide top-down advocacy and stewardship at president-provost-and-dean levels.
• Insure visibility in public face of organization (print/web material, recruiting, advising).
• Recognize accomplishments regularly in publicity outlets and internal annual reports.
• Align CD/TS work with strategic plan themes and capital campaigns.

### Readiness Criteria for Funders

• Require proof applicants define their process and appropriate criteria for CD/TS work.
• Require proof the institution-at-large is supportive and working toward a systematic and sustainable culture change, not just ad hoc and piecemeal approaches.
• Examine own Calls for Proposal for clarity about nature of and expectations for CD/TS.


### Five Seminal Resources on Organizational and Institutional Factor


See esp. Chapter 8, “Institutional and Organizational Support for Team Science.”


See esp. Chapters 3 on organizational strategies and 5 on career life cycle.


**See Also:** searchable online databases using keywords “organization* and institution*  

**Selected Models:**

• **Universities:** Arizona State University’s School and Center design  
• **Institutes:** Koch Institute for Integrative Cancer Research at MIT, Bio-X at Stanford  
• **Oversight and Visibility:** Duke University’s Office of the Vice Provost for Interdisciplinary Studies [https://interdisciplinary.duke.edu/](https://interdisciplinary.duke.edu/)  
• **T&P/Authorship Guidelines:** University of Southern California; Case Western Reserve University, University of Chicago Academic Medical Center