

Using Collaboration and Team Science to Increase Grant Success

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- A collaborative effort to address a scientific challenge that leverages the strengths and expertise of professionals trained in different fields.
- Coordinated teams of investigators with diverse skills and knowledge are especially helpful for studies of complex social problems with multiple causes.
- The last 20 years have seen a surge of interest and investment in team science due to an emerging emphasis on scientifically addressing multi-factorial problems, such as climate change, the rise of chronic disease, and the health impacts of social stratification.

Team Science Defined

- Current successful team-based research initiatives include:
 - small and large teams,
 - uni- and multi-disciplinary groups, and
 - efforts that engage multiple stakeholders such as scientists, community members, and policy makers.
- Academic institutions, industry, national governments, and other funders are investing in team science initiatives.
- A growing trend within team science is cross-disciplinary science that combine or integrate perspectives in a single research endeavor.
 - Seen as a promising approach to accelerate scientific innovation and the translation of scientific findings into effective policies and practices.

Trends in Team Science

- The success of team science is influenced by:
 - Funding trends
 - Institutional infrastructure and resources
 - Organizational policies—such as promotion and tenure policies—that impact team-based endeavors
 - Team processes, including agreements related to proprietary rights to data and discovery, as well as mechanisms for feedback and reflection
 - Interpersonal dynamics among team members

Success in Team Science

- Disis, M., and Slattery, J. (2010). The Road We Must Take: Multidisciplinary Team Science. *Science Translational Medicine* 2, 22cm29.
- Fiore, S.M. (2008). Interdisciplinarity as teamwork—How the science of teams can inform team science. *Small Group Research* 39, 251–277.
- Miller, K. (2008). Successful Collaborations: Social Scientists Who Study Science Have Noticed a Trend. In *Biomedical Computation Review* (Simbios at Stanford University, National NIH Center for Biomedical Computing), pp. 7-15.
- Whitfield, J. (2008). Group Theory. *Nature* 455, 720–723.
- Wuchty, S., Jones, B.F., and Uzzi, B. (2007). The Increasing Dominance of Teams in Production of Knowledge. *Science* 316, 1036–1038.

Key Publication on Team Science

- COALESCE is an online set of modules designed to help you acquire and apply a basic knowledge of team science to your work.
 - The modules contain 2-3 minute video vignettes that answer specific questions about core concepts, the practice of research, team building and management, and evaluation. Some questions are relevant to senior investigators, some to junior investigators, some to the practice of team science and some to the environment which supports it.

COALESCE can be accessed at
www.teamscience.net.

Team Science Resource

- MSU Internal Awards (Announcement by Provost in, or around, December)
 - Separately Budgeted Research (SBR) awards are for projects involving scholarly, creative, or research efforts
 - Pilot studies, presentations, publications as a team
 - Summer Grant Proposal Development (SGPD) awards enable faculty to develop and submit proposals for foundation or government agencies
 - \$6000 for 2 or more applicants
 - 12-month period to submit an external proposal

**Internal Seed Money for Team
Science**

- ORSP Resources
 - Connect faculty with people doing team science
 - Invite speakers and/or facilitators to assist fledgling teams
 - Allow for a split in IDCs
 - PIVOT subscription
- Provost Resources
 - Multidisciplinary research series
 - Grant Recognition award for multidisciplinary projects

Internal Support for Team Science

NIH Exploratory Center Grants (P20)

http://grants.nih.gov/grants/funding/ac_search_results.htm?text_curr=p20

To support planning for new programs, expansion or modification of existing resources, and feasibility studies to explore various approaches to the development of interdisciplinary programs that offer potential solutions to problems of special significance to the mission of the NIH.

NIH R13

<http://grants.nih.gov/grants/guide/pa-files/PA-10-106.html>

The purpose of the NIH Research Conference Grant (R13) and NIH Research Conference Cooperative Agreement (U13) Programs is to support high quality scientific conferences that are relevant to the NIH's mission and to the public health. A conference is defined as a symposium, seminar, workshop, or any other organized and formal meeting, whether conducted face-to-face or via the internet, where individuals assemble (or meet virtually) to exchange information and views or explore or clarify a defined subject, problem, or area of knowledge, whether or not a published report results from such meeting.

NORDP Collaborative Funding Opportunities

<http://www.nordp.org/funding-opportunities>

A comprehensive compilation of research grant mechanisms, types, and programs representing collaborative, cross-disciplinary (multi/inter/transdisciplinary) and team-based funding opportunities. As new opportunities become available or changes occur to existing programs, updates will be made to the information below.

NSF Research Coordination Networks (RCN)

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=11691

To advance a field or create new directions in research or education by supporting groups of investigators to communicate and coordinate their research, training and educational activities across disciplinary, organizational, geographic and international boundaries. RCN provides opportunities to foster new collaborations, including international partnerships, and address interdisciplinary topics.

External Funding to Build Interdisciplinary Science Teams

- Research Opportunities in Space and Earth Sciences (ROSES) - Earth Science Applications: Water Resources

**External Funding for
Interdisciplinary Team Science**