Reward and Recognition for Team-based & Cross-disciplinary Research

INSciTS

Building the knowledge base
for effective team science

International Network for the Science of Team Science

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Presenters

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- "We will need to find **better ways to do team science and reward it** if we are to solve large overarching problems. **Everybody on the team** needs to get the same big gaudy championship ring…"
  - *AG Gilman. Silver Spoons and Other Personal Reflections. Annu. Rev. Pharmacol. Toxicol, 2012*

JOSTENS, INC

Redefining Success

- "…there is good evidence that counting publications is not sufficient …The challenge is to get the community to identify what data form the basis for decisions made by these [tenure] committees. In the past we relied on personal judgments and close networks of people in a certain field that knew each other and each other's work… with the boost in international collaborations and team science as well as the interdisciplinary nature of science, these types of personal evaluations are no longer sustainable."

  - *Quote by Julia Lane, PhD, Senior Managing Economist American Institutes for Research from "Scientific Evaluation and Metrics – an Interview with Julia Lane." Research Trends 27: 15-16. March, 2012*

Considering IDR and Collaboration

- NAS Facilitating Interdisciplinary Research Report, 2004
  - Academic survey respondents indicated that P&T criteria were the greatest impediment to interdisciplinary research in their campus
- Council of Environmental Deans and Directors Report, 2005
  - "Lured into the collaborative research needed for progress in an interdisciplinary field, scholars are later held to the standards of specific disciplines"
  - Need to develop new [recruitment, retention, promotion & tenure] procedures for handling interdisciplinary scholars
- University of Chicago Academic Medical Center Study, 2008
  - "Recognize all forms of scholarship as equally legitimate bases of academic tenure"
  - Subsequent change of P&T policy language that specifically addresses collaboration scholarship
- Creating interdisciplinary campus cultures: A model for strength and sustainability, J. T. Klein, 2010
  - Interdisciplinary career life cycle
  - Hiring, P&T
  - Ongoing faculty development

Team Science R&R Literature Library

- ## Science of Team Science (SciTS) Mendeley Group

  - o "Reward & Recognition for Team Science" folder

https://www.mendeley.com/community/science-of-team-science-(scits)/
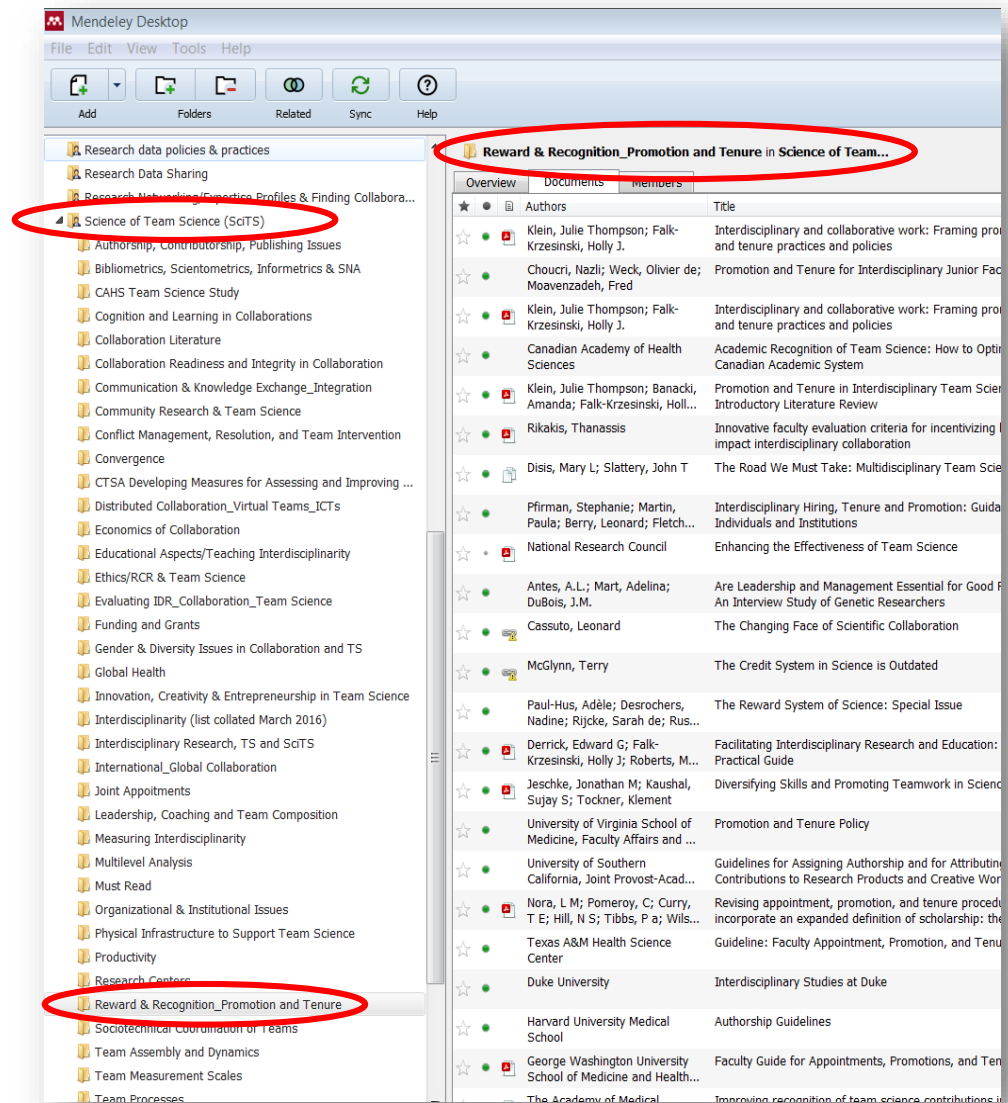
Initial Team Science APT Survey 2012

- "I am interested to know if your **institution's current APT policies or guidelines include any specific language regarding collaborations/collaborative activity, multi/interdisciplinary research and scholarship, and/or team science**."

- Use the policy information to guide the development of a **publishable analysis** aimed at understanding the relationship between codified policy relevant to collaboration, multi/interdisciplinary research and teaching, and team science and the implementation and **realization of policy through processes, practices, and perceptions**

Initial Findings

- ## Qualitative document analysis of the 33 policy excerpts received

  - ### Grounded theory approach, data marked with codes (open coding)

  - ### Codes were compared, contrasted, and sorted into larger themes (axial coding)

- ## Overarching Emergent Themes

  - ### Recognition of Team Science

  - ### Criteria for Evaluating Team Science

  - ### Process of Evaluating Team Science

NIH CTSA Requirements, 2014

National Center for Advancing Translational Sciences

- CTSA hubs **should advance team science** and **develop academic promotion criteria** that help create a viable career path for translational scientists.

- Applicants should **plan for ways to identify best practices in team science**, and to disseminate successful models

  - This should include consideration on how team scientists will be evaluated **in the academic promotion context.**

From NIH NCATS CTSA RFA-TR-14-009 (http://grants.nih.gov/grants/guide/pa-files/PAR-15-304.html)
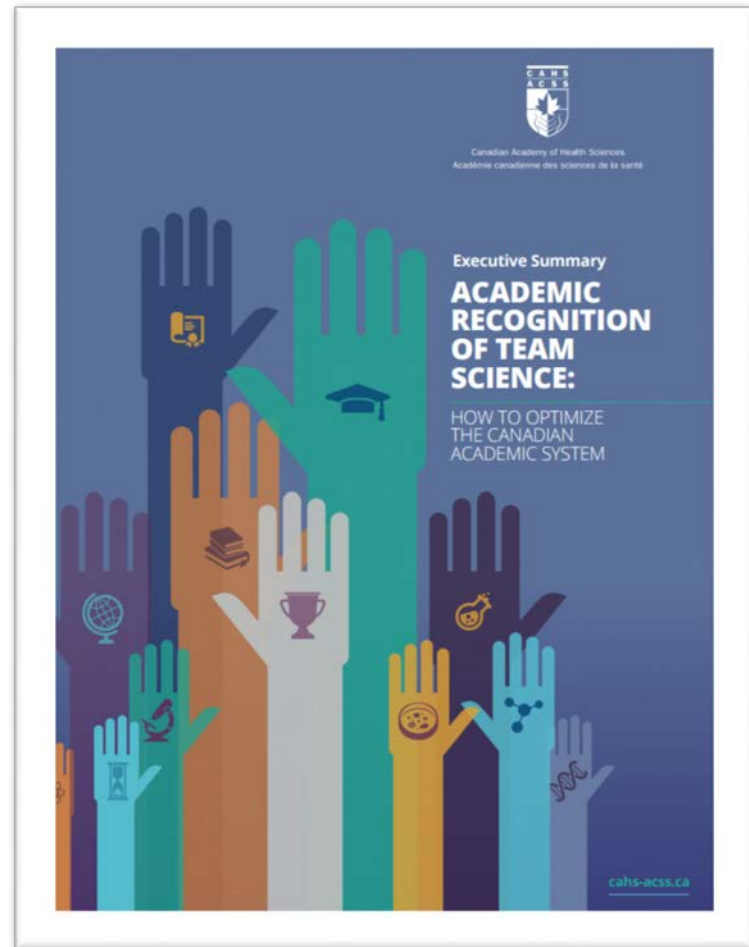
NIH CTSA Requirements, 2018

- CTSA Program hubs **must advance team science** and **develop academic promotion criteria** that help create a viable career path for translational scientists.

- The [CTSA] program focuses on widely appreciated **systematic barriers** including but not limited to:

  - **Incentives/credit for team science**

- Applicants should devise ways to identify best practices in team science, and to implement successful models.

  - A **major obstacle** to team science in academic health centers is the **traditional promotion and tenure process**, which is focused on individual accomplishment.

  - Therefore, applicants should describe **how team scientists will be evaluated in the academic promotion process**, as well as consideration of how such individuals will be **professionally recognized and thus incentivized** to engage in collaborations.

From NIH NCATS CTSA PAR-18-940 (https://grants.nih.gov/grants/guide/pa-files/PAR-18-940.html)

UK AMS Report 2016
http://www.acmedsci.ac.uk/policy/policy-projects/team-science/

CAHS Report 2017
http://www.cahs-acss.ca/academic-recognition-of-team-science-how-to-optimize-the-canadian-academic-system/

P&T Policy Recommendations

AMS Report 2016 Recommendation 8

- Researchers should drive change through their crucial roles as team members, peer reviewers and participants on **recruitment, promotion and funding panels**.

- Ensure that credit is allocated fairly and transparently.

- Define clear areas of responsibility for all individuals involved at the outset in team science projects, and review these throughout.

CAHS Recommendations ~ Help Review Committees Measure Team Science Contributions

7. Ensure that **advancement, promotion, and tenure (APT)** and funding criteria include **explicit recognition of contributions to team science and collaborative activities**.

8. Compose review committees that can knowledgeably and fairly assess team science contributions.

9. Train reviewers in the evaluation of individual contributions to research teams.

Contributorship Recommendations

AMS Report 2016 Recommendation 1

- All research outputs and grants should include **open, transparent, standardised and structured contribution** information.

- Publishers should work with relevant initiatives, such as **Project CRediT**, and the research community to develop, pilot and evolve a **standardised contribution information framework for publications**.

- Funders should phase out any requirement for a 'lead' or 'principal' investigator, and list all applicants as 'co-applicants'.

- Researchers should be required to provide a statement describing the contribution of each co-applicant to the grant.

Project CRediT

- A high-level classification of the diverse roles performed in the work leading to a published research output in the sciences.

- 14 unique Contributor roles

- Purpose to provide **transparency in contributions** to scholarly published work, to enable **improved systems of attribution, credit**, and accountability, **especially for team science**

http://casrai.org/CRediT

Team Science Careers Recommendations

NIH CTSA Requirement, 2014

- Consideration of enhancing the professional experience for all members of a multi-disciplinary translational team, **not only the lead researcher**.

AMS Report Recommendation 10

- Clear career paths and development opportunities should be provided **for researchers outside of the 'PI track'** who play key roles in (and provide key competencies to) team science, **such as skills specialists**.

CAHS Report Recommendations ~ Adapt Culture and Behaviour to Team Science

- Promote a broader concept of scholarship and a more inclusive understanding of the complexity of team science.
- Acknowledge **the critical contributions of "skills specialists"** to team science and establish career paths for specialists to facilitate their advancement.