

Collaboration & Team Science: A *Field Guide*

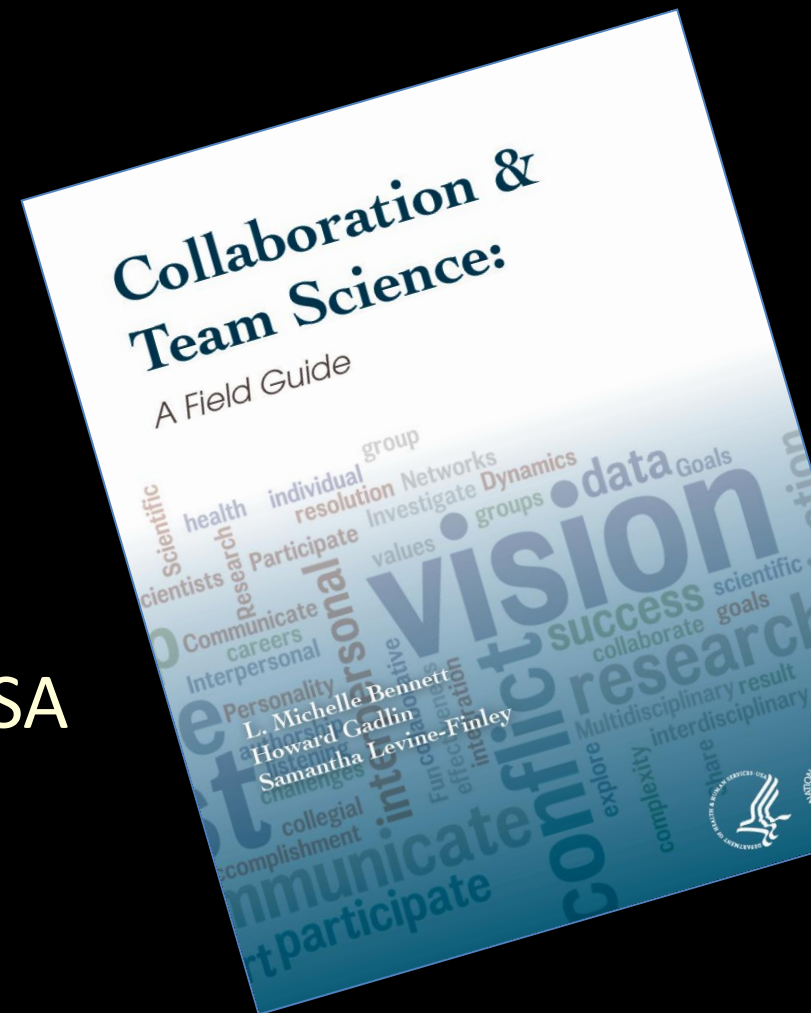
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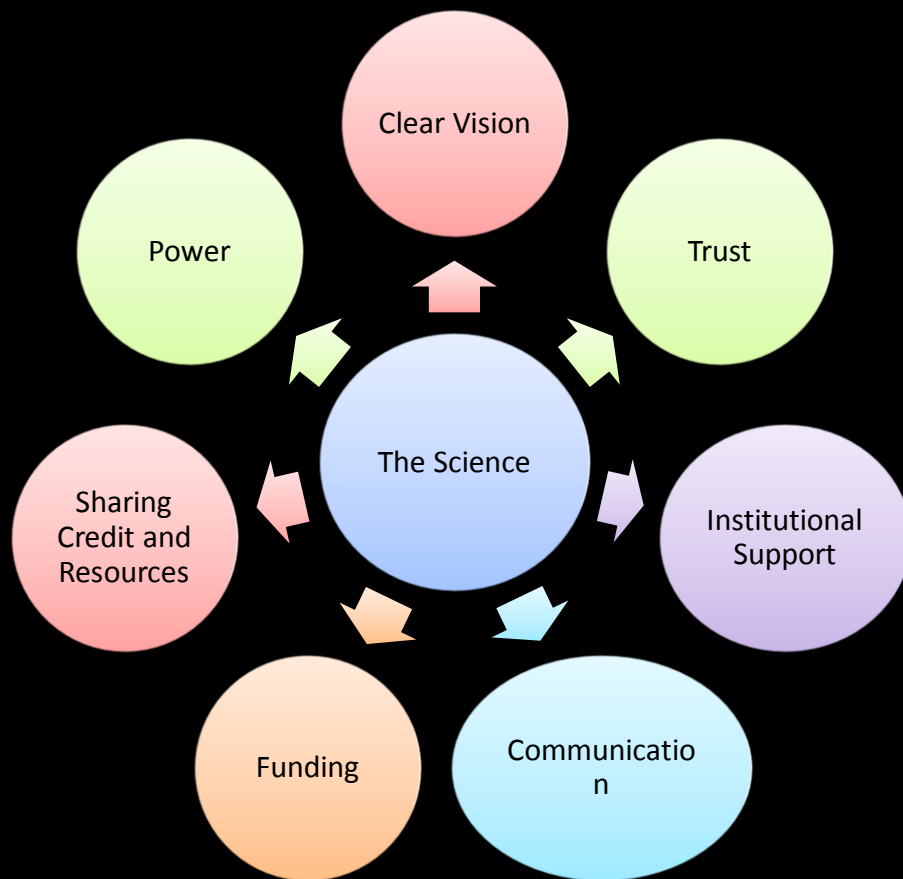
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September, 2013



Science is at the center of the interdisciplinary collaboration. The challenge to be solved provides the basis for bringing a group together with varied backgrounds and expertise to address the problem. If the dynamics of the collaboration are not tended to, the team can derail and end up focusing more time on managing issues like data sharing or miscommunications.

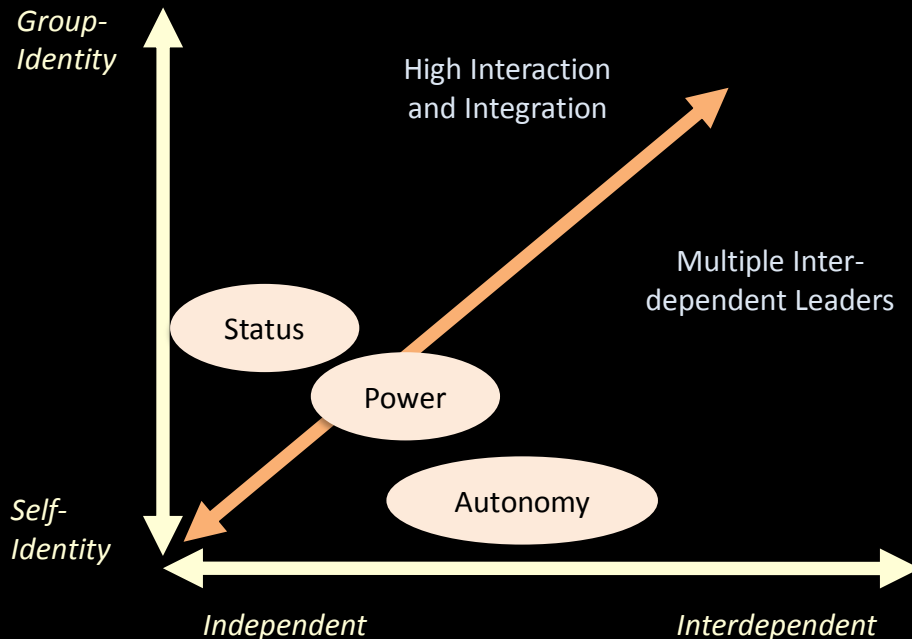


In order to keep the project in focus and at the center, we have learned that there are things the team leader(s) and participants can actively do to tend to the needs of the team. We have selected some of the most important and feature them on the following slides. For more information see our Field Guide at:

teamscience.nih.gov

Collaboration Introduces Threats

As a leader, co-leader, or participant of a team science effort, it is useful to know and to understand that collaboration can introduce threats. Among them are threats to individual power, autonomy and status. If you think about how scientists are trained, recognized and rewarded, it is all based on individual accomplishment. When collaborating, a person is now in a position where power needs to be shared, decision-making becomes joint, and one is no longer acting alone. Collaborators are interdependent.



Understanding that these threats exist can help a leader understand the importance of developing trust, creating a vision, defining roles and responsibilities, how to build a team, communicating clearly, not to mention setting expectations.

Several of these topics will be discussed on the following slides.

Trust is Important to Build

Types of Trust

- *Calculus based trust* – built on calculations of the relative rewards for trusting or losses for not trusting
- *Competence based trust* – built on the confidence in people's skills and abilities, allowing them to make decisions and train others
- *Identity based trust* – built on an assumption of perceived compatibility of values, common goals, emotional/intellectual connection

Putting Together a Team

- Teams can be formed top down or bottom up – Top down support is critical.
- Seek members who are interested in being part of a research team
- Leaders should help guide the professional growth and development of the team members
- During interviews, make candidates and potential collaborators aware of:
 - the team's culture
 - the expectations for working together
 - sharing data, etc...
- If a person joins the team and there is a bad fit, the individual either leaves of his/her own accord or is encouraged to find another project.

How to Create a Shared Vision

- Write a vision statement for your collaboration or team
- Ensure that all team members can describe the “big picture”
- Encourage all team members to articulate their own research goals and how they relate to the “big picture”
- Discuss as a group each team member’s accomplishments and challenges and how these relate to the team’s overall mission
- Instill in team members a sense of ownership of their contributions to the team’s goals
- Encourage team members to accept responsibility and be accountable for their accomplishments and failures—without blaming
- Credit team members for their contributions
- Encourage sharing

Setting Expectations

- Provides a scaffold for building deeper trust
- There are no secrets or surprises and there is a strong platform for discussion

Some Questions to Consider and to Discuss with the Team

Leading - *Who is Leading? Co-Leading?*

Meetings - *When are we meeting? How frequently? Format? Expectations for participation?*

Accountability – *what if someone doesn't deliver?*

Logistics – *who is responsible?*

Decision making – *How? Who is involved?*

Sharing – *How will information be shared throughout the team?*

Speaking up – *How will we be sure we are getting input from all team members?*

Managing – *Who will manage the Project? Science? Mentoring? ??*

Getting and Sharing Credit

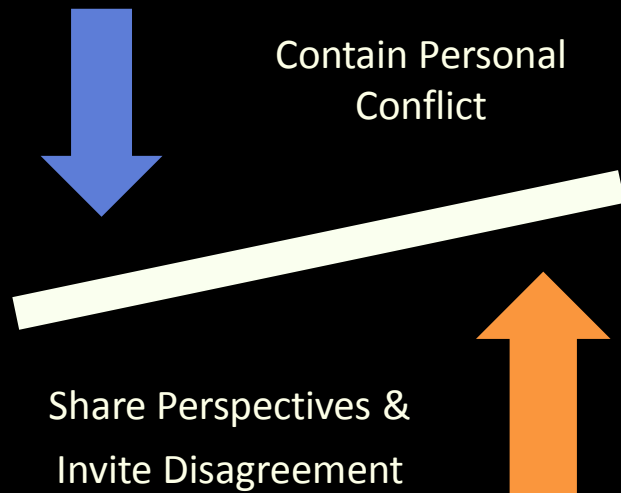
What is the #1 issue that causes problems in a collaborative research effort?

Authorship!

- Develop authorship criteria early on in the collaboration
- Discuss papers regularly – What will the papers be? Who will be authors? What will the order be?
- If it looks like there needs to be a change, discuss it immediately!
- Make these discussions a part of the group meeting every month.

Productive Collision

The ultimate goal is to create an environment in which people can disagree about the science, the results, the interpretation(s), the next steps, and the spin-off projects. To get the best science done, it is absolutely necessary that people engage in these openly and honestly. All members need to believe that the questions and challenges are substantive and focused on the work being done, not on the person. An environment must be created where these discussions can take place productively. For science to move forward, there must be discussion and sometimes it can get impassioned.



Encouraging People to Speak Up:

- Acknowledge input
- Ask those who have not spoken yet for thoughts
- Dispel myths that reinforce silence
 - Open exchange of ideas is valued
 - Respectful challenges to ideas, assertions are expected
 - Reward people for speaking up

Conflict Management

What will happen if there is a disagreement?

There will be disagreements.....

- Don't wait until there is conflict to talk about how the team will deal with conflict – discuss it as soon as you realize you are collaborating
- Do a check in with the group to determine if there are any tensions that need to be aired –
- Develop the basic skills to have a “difficult conversation”
 - Plan and invite the other person to talk
 - Engage by listening to their side first
 - Share your side
 - See if you can figure out how the disagreement occurred
 - Develop a plan for next steps
 - If needed, ask someone to help mediate the conversation

Team Dynamics

“It’s not the science
you need to worry
about, it’s the team
dynamics”

Take a Preemptive Approach

- Develop scaffolds (ie. written documents, processes and procedures) to establish mutual understanding and trust
- Develop policies that support collaboration at all levels of the organization (review, reward, recognition)
- Enhance collaborative skills through training, brown bag lunches, etc..
- Step back and reflect at regular intervals to ask:
 - What is working?
 - Not working?
 - How can it work better?

For more, see companion poster :
Tools for Preempting Discord

Fun!

People often describe their collaborations as aligning with their passions. The work is meaningful. And most of all, it is fun to work as a team to solve a complex problem.

For more information

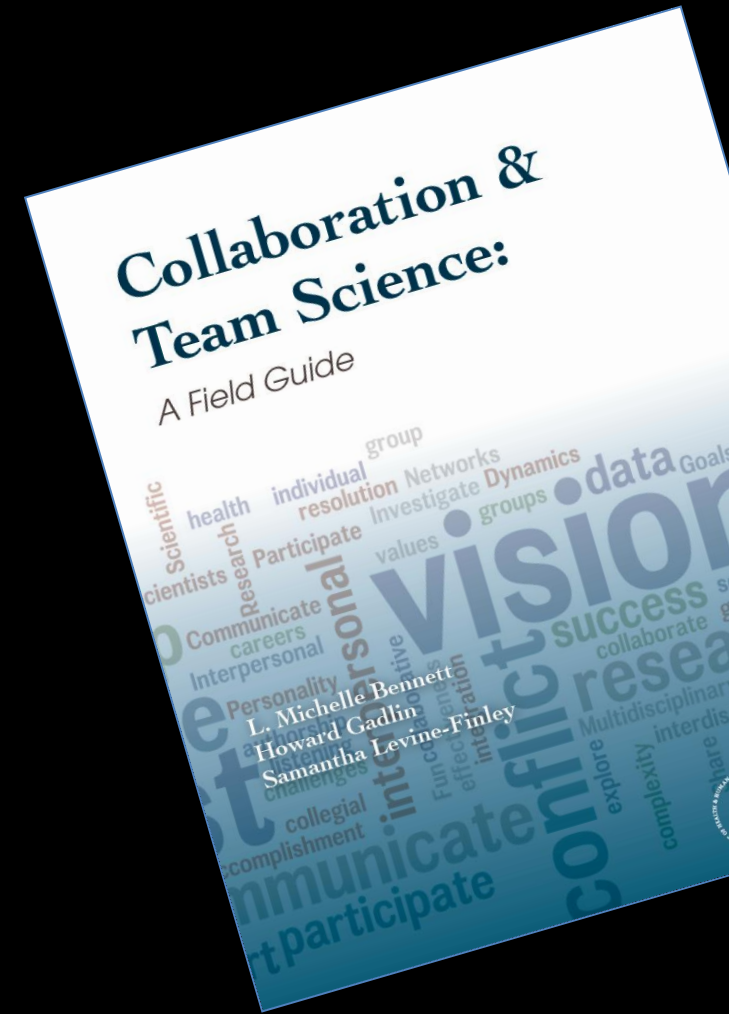
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- Poster Information

This poster was first presented at The First Global Conference on Research Integration and Implementation, <http://www.I2Sconference.org/>