Collaboration in Science

Paul Zivick

Astro 8500 Spring 2016

Introduction

- Collaboration is a multi-faceted endeavor that requires care and consideration given to its many pieces.

Note: Almost all of the following information presented is drawn from the NIH's *Collaboration and Team Science: A Field Guide*

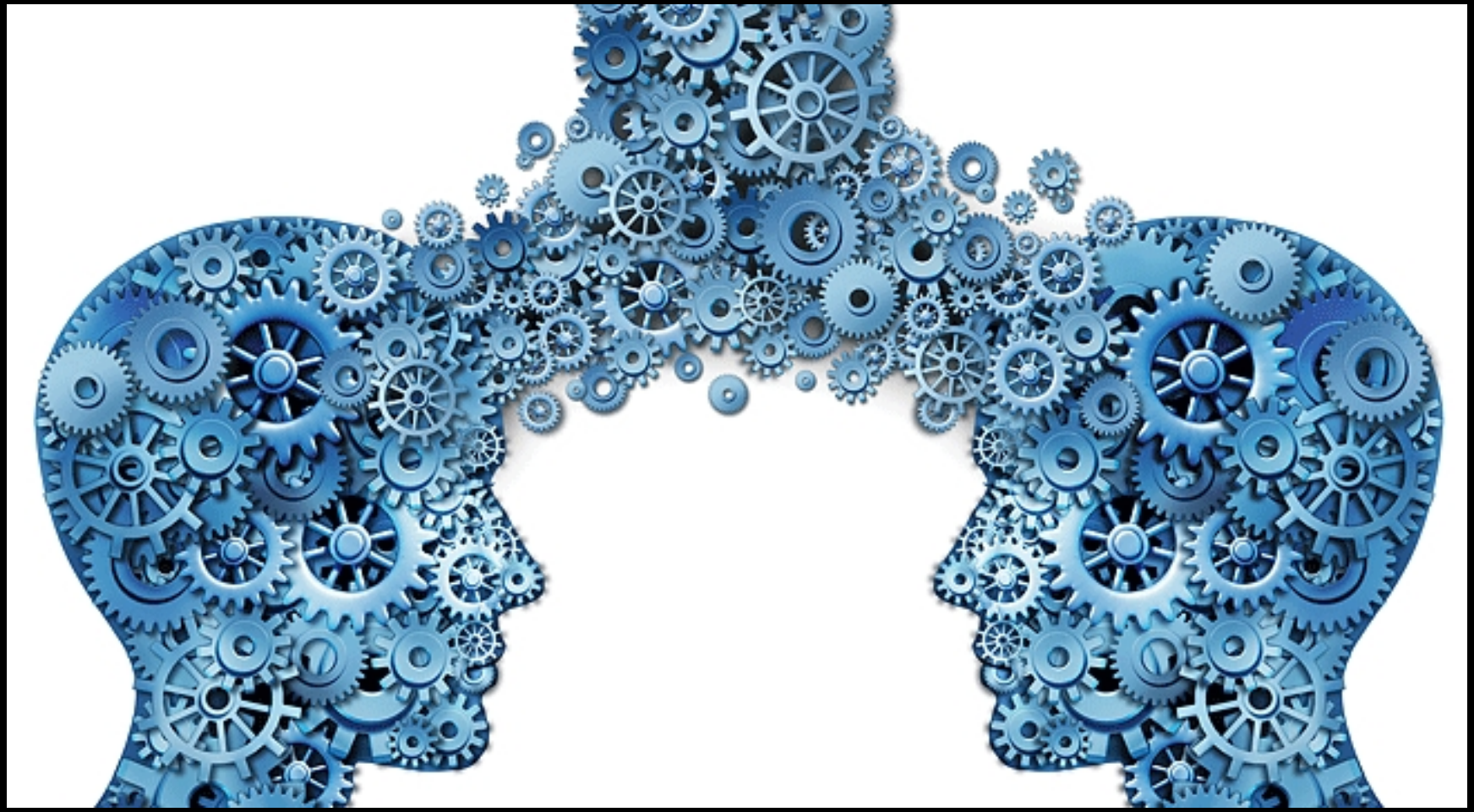
Building a Research Team

- How to:
  - Make sure each person understands his or her roles, responsibilities, and contributions to the team's goals.
  - Be prepared for disagreements and even conflicts, especially in the early stages of team formation.
  - Agree on processes for sharing data, establishing and sharing credit, and managing authorship immediately and over the course of the project.

Fostering Trust

- How to:
  - Hold regular meetings—be sure that all team members have the opportunity to present data and receive feedback, as well as to hear data and give feedback
    - Feedback should be both supportive as well as critical
  - Develop a process to handle disagreements
  - Ensure that team members follow through on their commitments

Developing a Shared Vision



Developing a Shared Vision

- How to:
  - Write a vision statement for your collaboration
  - Ensure that all team members can describe the team's goal, or the "big picture."
  - Instill in team members a sense of ownership of their contribution to the team's goals.
  - Credit team members for their contributions

Communication

Communicating Science

- How to:
  - Create an environment where all members feel comfortable participating in both science and general collaboration discussions
  - Help people translate when there are differences in concepts, methodologies, and frameworks.
  - When disagreeing, be sure to disagree with the idea, not the person.
  - Embrace the notion that differing opinions may hold the seeds to creativity and important new ideas.

An Aside

Dialogue versus Debate

- Dialogue is collaborative—two or more sides work together toward common understanding.
- In dialogue, because finding common ground is the goal, one searches to find or create a basis for agreement or consensus.
- Dialogue creates an open-minded attitude and an openness to being wrong and to change.

- Debate is oppositional—two sides oppose each other and attempt to prove each other wrong.
- In debate, winning is the goal and one searches for differences and weaknesses.
- Debate creates a closed-minded attitude and a determination to be right.

Conflict

- How to manage:
  - Understand the culture and the context of conflict—seek out the meaning of the conflict for yourself and/or the other parties
  - Acknowledge emotions—they will likely be part of the conflict, but expressing them and hearing them can help lift barriers to resolution
  - Look beneath the surface for hidden meaning—hidden fears, needs, histories, or goals may be the underlying source of the problem
  - Separate what matters from what is in the way—get away from discussing who is right or wrong and focus more on how to satisfy mutual needs

Conclusions

- Despite the challenges posed, collaborations can be a distinctly rewarding experience, both in terms of science and professional development.
- Ultimately, the success or failure of a collaboration will hinge on the ability of the people involved to communicate openly and honestly and be willing to actively listen to others.

Another puzzle metaphor!