Collaboration and Team Science: The Good, The Bad and The Ugly

L. Michelle Bennett, PhD
NHLBI, NIH

January 11, 2013

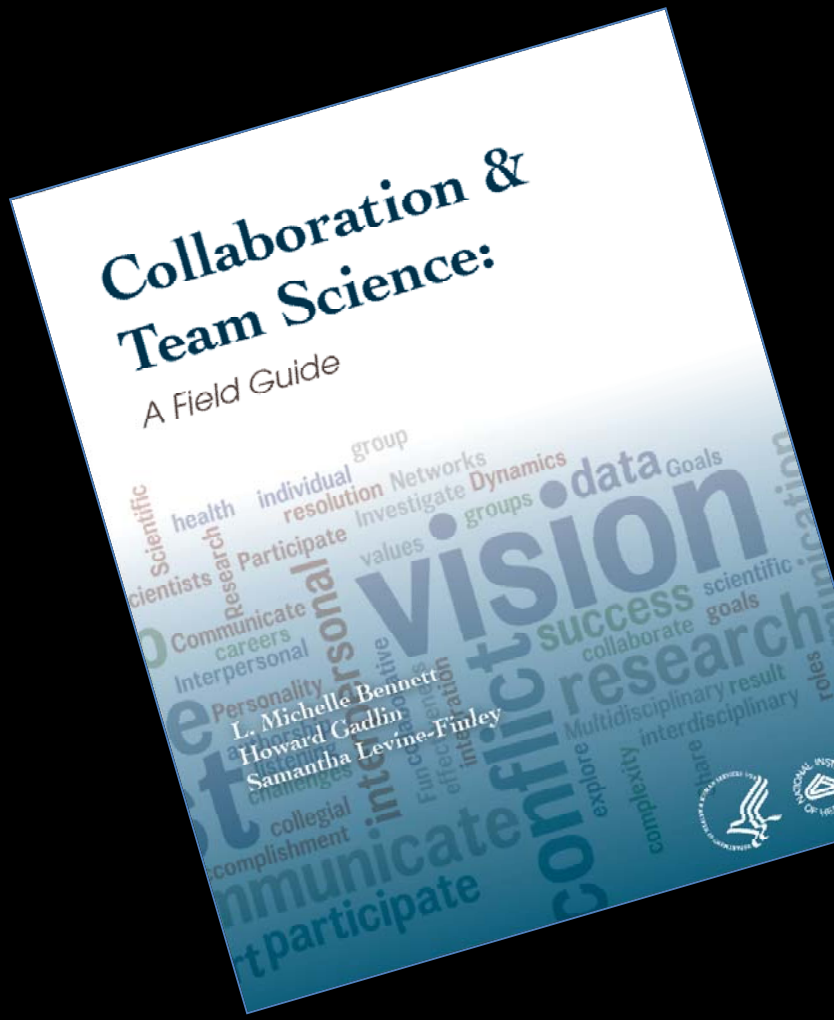
Setting Scientific Teams Up For Success

L. Michelle Bennett, PhD
NHLBI, NIH

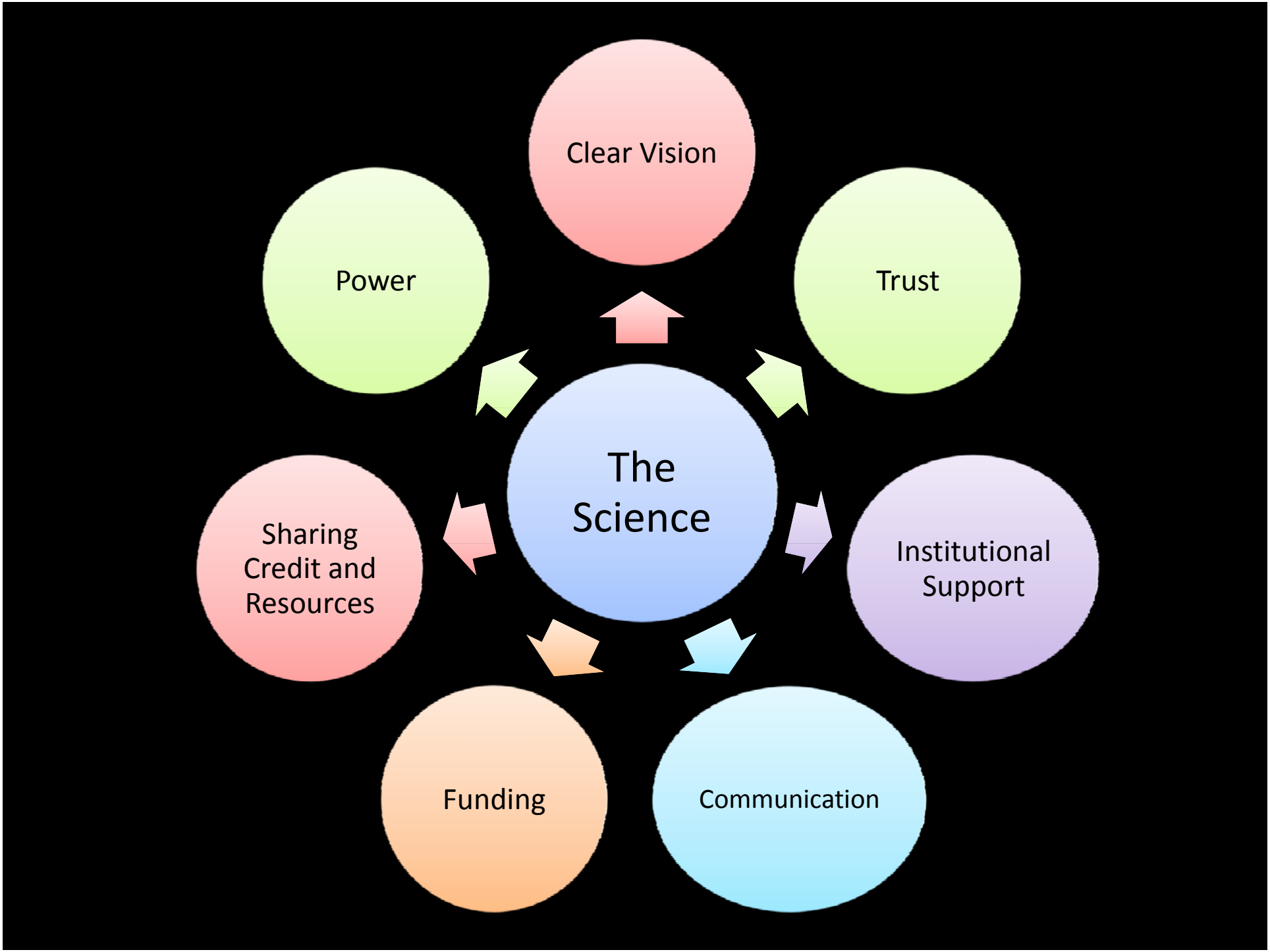
January 11, 2013

Collaboration and Team Science

- *Interested in:*
  - Understanding what makes great collaborations and teams successful
  - Sharing those elements that contribute to successful participation in and leadership of collaborations and multidisciplinary research teams
  - Conflict and how to resolve it
  - Implementing strategies for avoiding conflict



teamscience.nih.gov


Clear Vision
Trust
Power
The Science
Sharing Credit and Resources
Institutional Support
Funding
Communication

Model of Team Development

Adjourning and Transforming

Forming

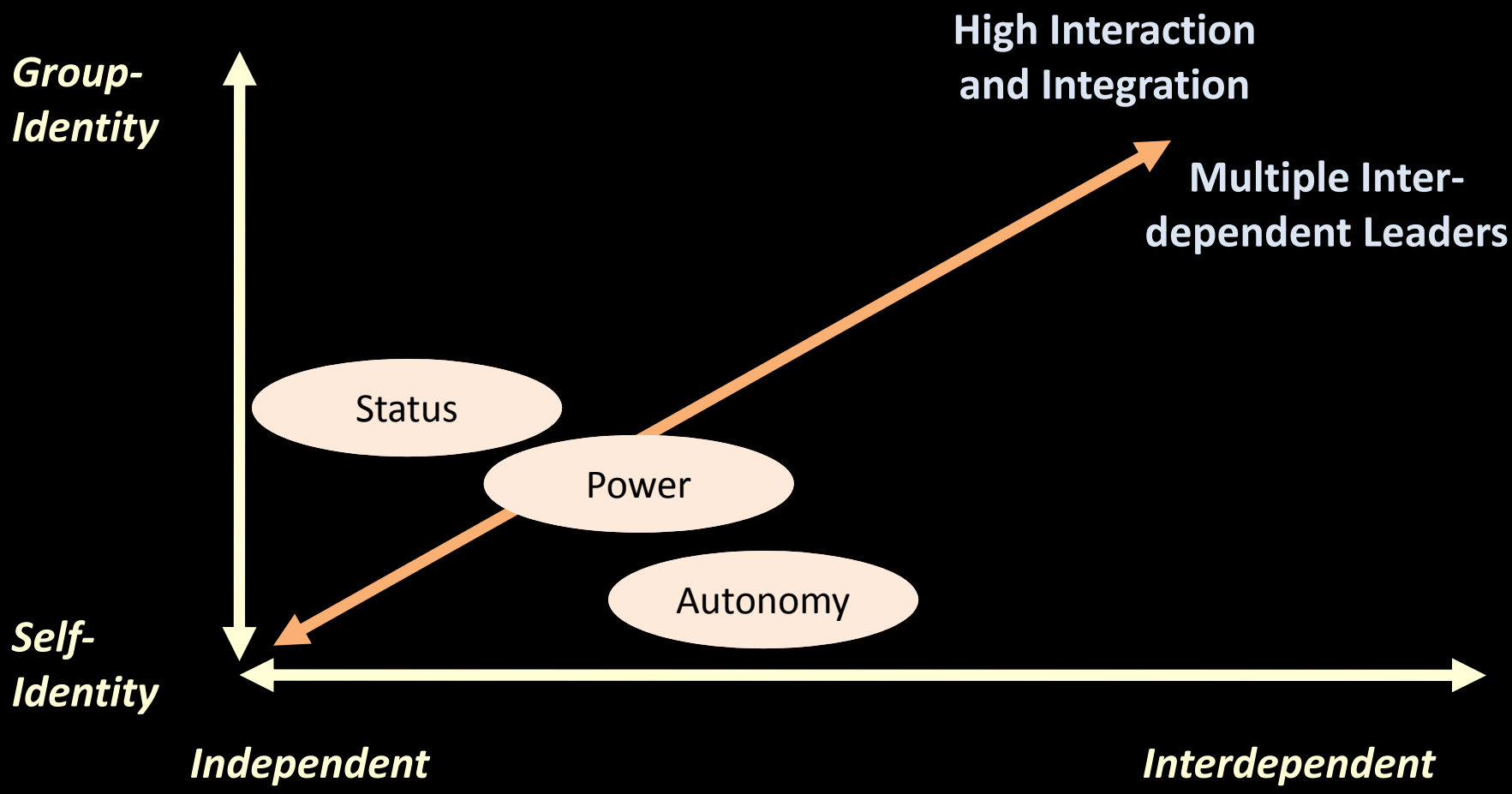
Performing

Storming

Norming

Bruce Tuckman, 1965, 1977

Collaboration Introduces Threats



Managing the Threats

- Sharing Reagents, Data, Resources
- Sharing Credit (papers, media, presentations,…)
- Communicating (logistics, meetings, ….)
- Team Dynamics
- Recognition and Reward (esp. tenure track)
- Power (status, ego, …)

Trust

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

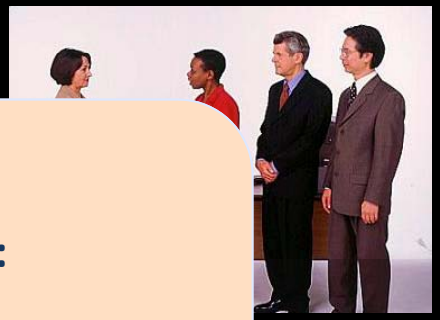
Building a Team

- Teams can be formed:
  - Top down
  - Bottom up
- Key to success?
  - Top-Down Support

Storming is Important

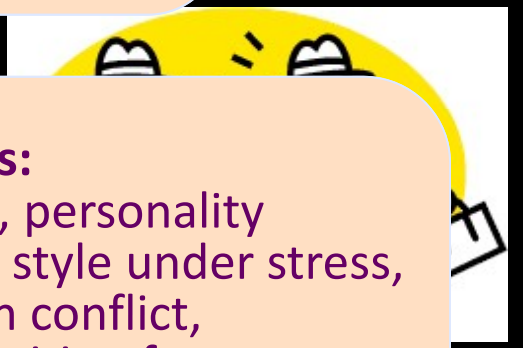
Adjourning and Transforming

Formin



Threats:
- **Power**
- **Status**
- **Autonomy**

Performing



Challenges:
- trust, personality styles, style under stress, style in conflict, competition for power, autonomy, status, language, culture, and poor listening

Norming

Bruce Tuckman, 1965, 1977

Shared Vision

Setting Expectations

Provides a scaffold for building deeper trust

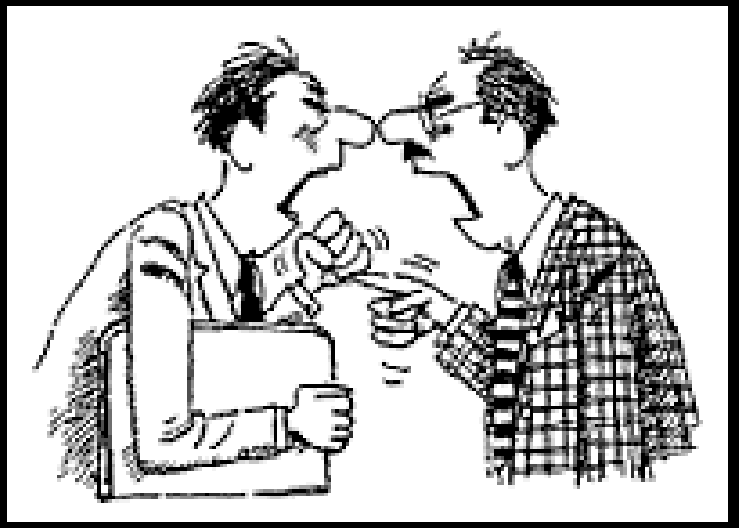
There are no secrets or surprises and there is a strong platform for discussion

“Last year, this journal received an unusual request: could three authors have it indicated in a footnote that they were joint second authors on a paper? We refused…”

- Nature Editorial, Jan 2 2013

Getting and Sharing Credit

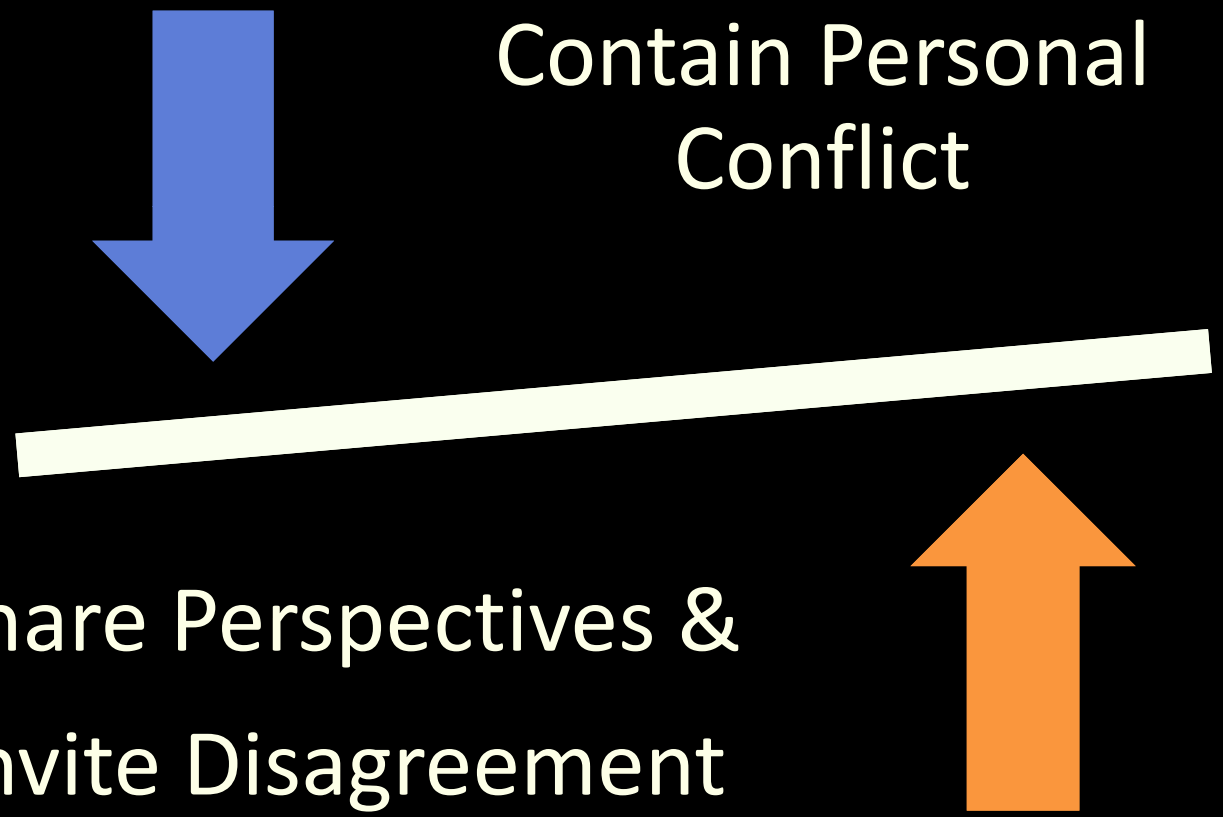
- What is the #1 issue that causes problems in a collaborative research effort?



Communicating

- Who is Leading? Co-Leading?
- When are we meeting? How frequently?
- Format of meetings and expectations
- Accountability – what if someone doesn't deliver?
- Logistics – who is responsible?
- Decision making – how? Who is involved?
- Sharing information throughout the team
- Getting input from all team members
- Project management? Scientific Management?

Productive Collision



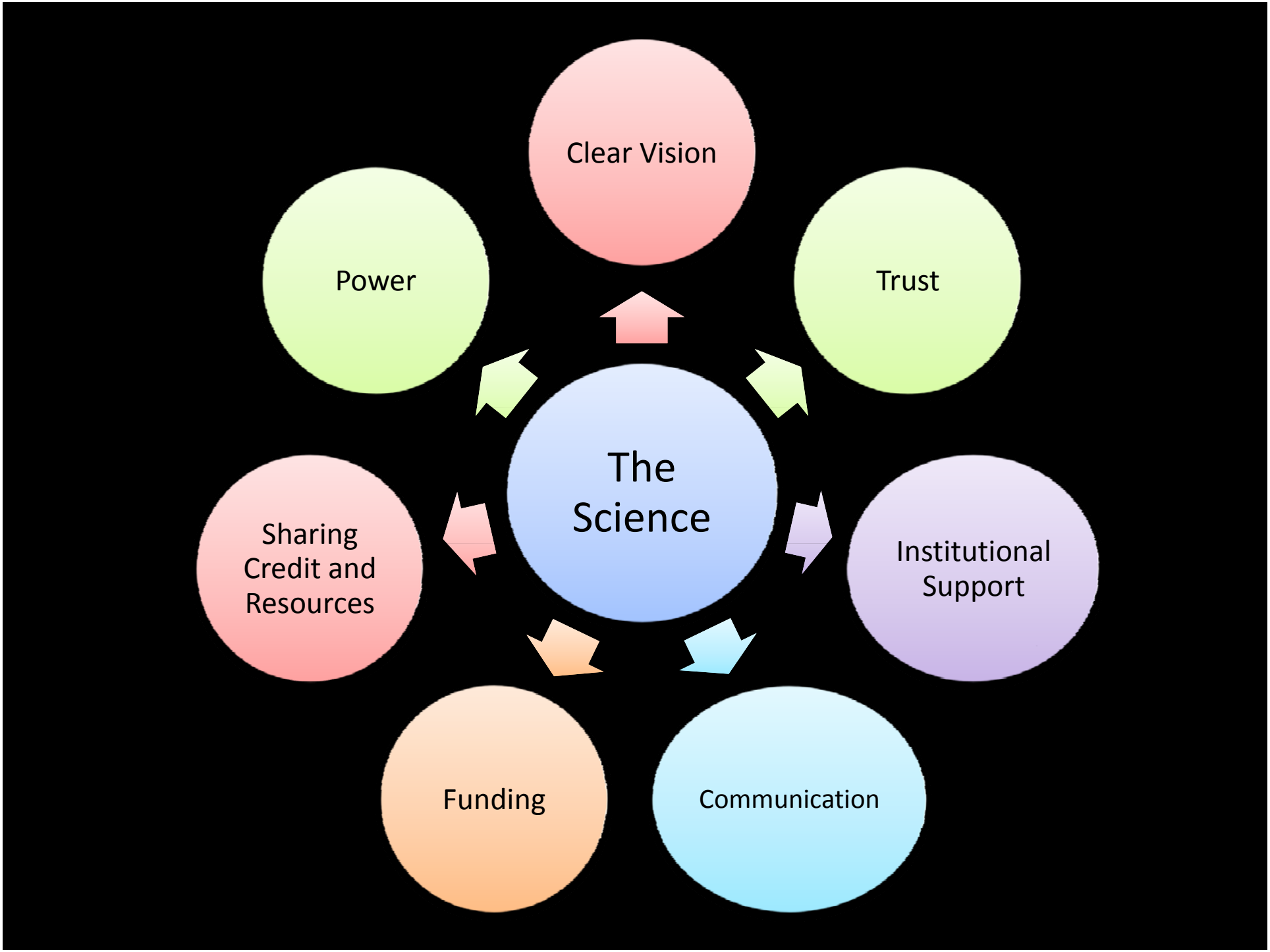
Conflict Management

What will happen if there is a disagreement?

There will be disagreements…..

Team Dynamics

"It's not the science you need to worry about, it's the team dynamics"

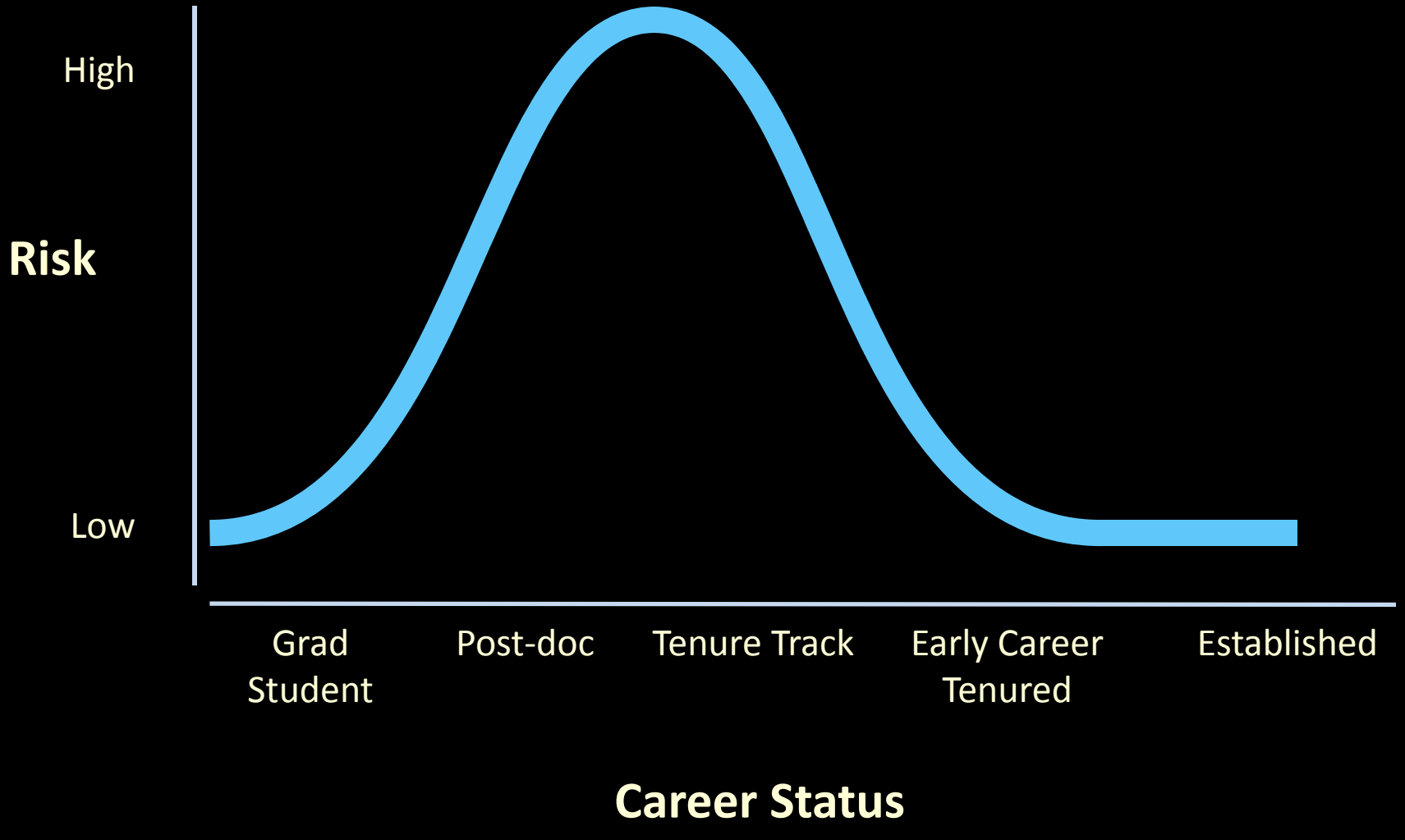

Clear Vision
Trust
Power
The Science
Sharing Credit and Resources
Institutional Support
Funding
Communication

Prenuptials for Scientists: Collaborative Research Agreements

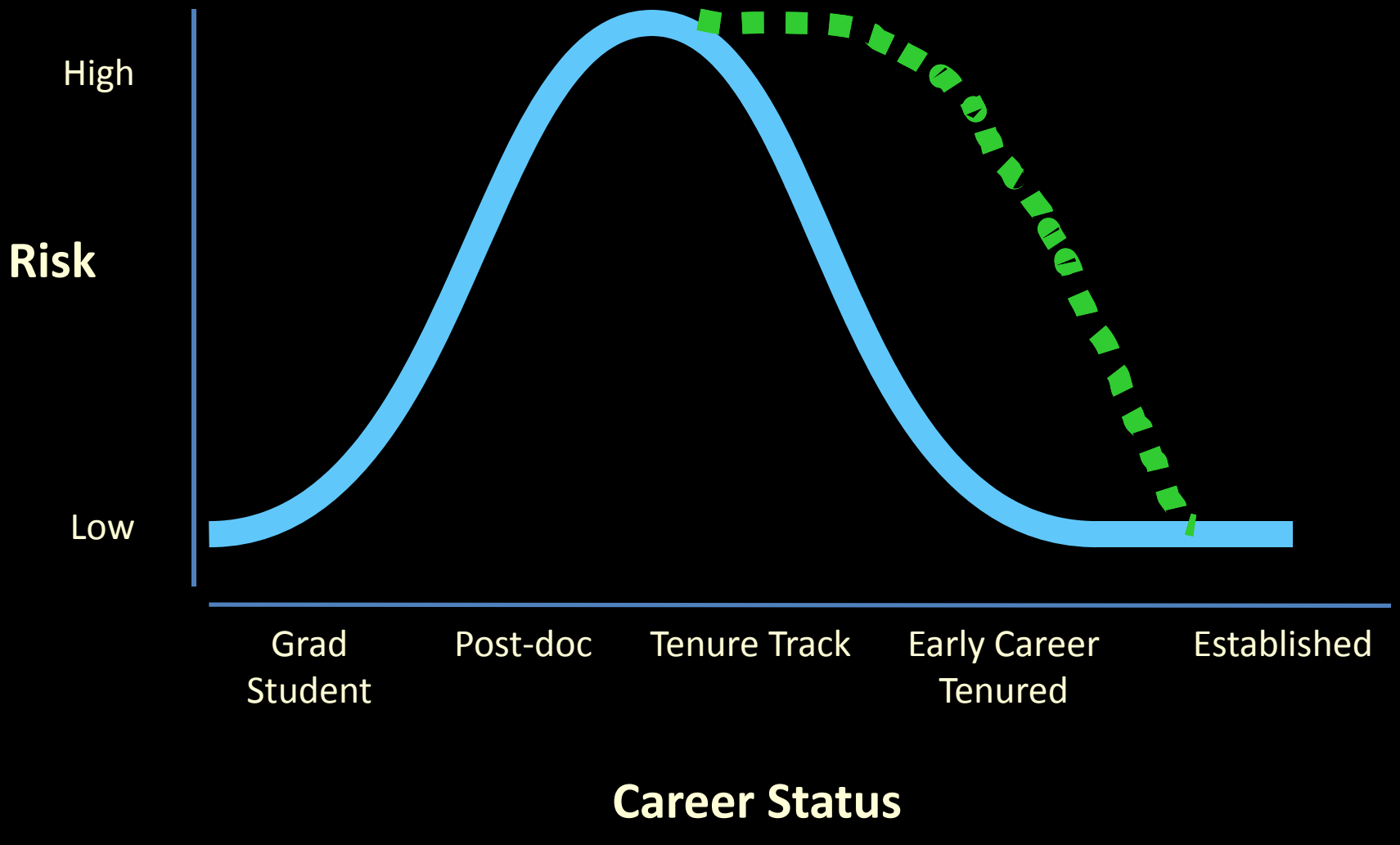
Some Categories to cover

- Goals of Collaboration
  - Including…when is the project "over"?
- Who Will Do What?
  - Expectations, responsibility and accountability
- Sharing/Storing Reagents and Data
  - How? When? Where?
- Authorship, Credit
  - Criteria, attribution, public comment, media, IP
- Contingencies and Communicating
  - What if …? and Rules of engagement
- Conflict of Interest
  - How will you ID conflicts? And resolve them?

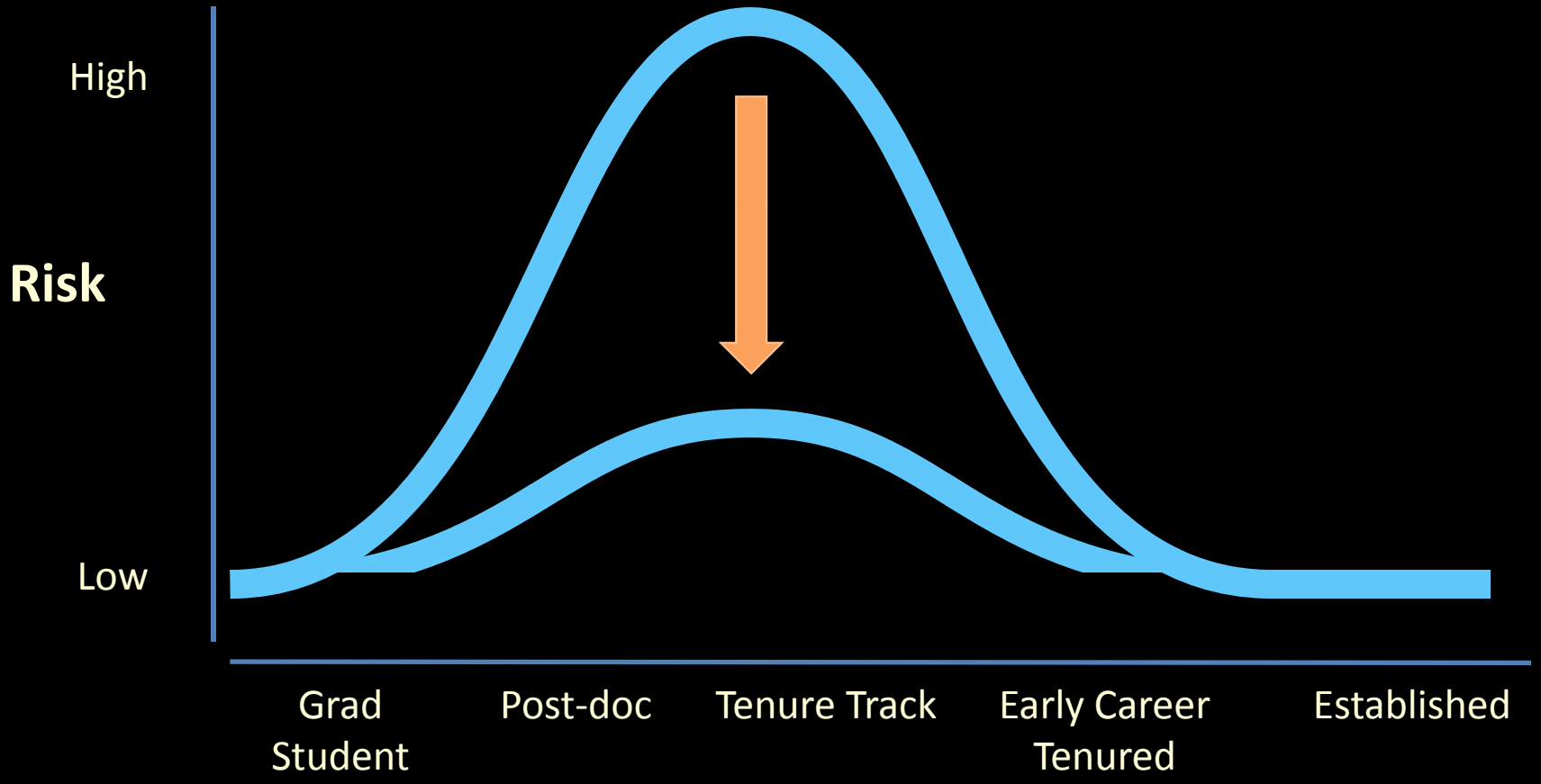
Participating Shouldn't be Risky

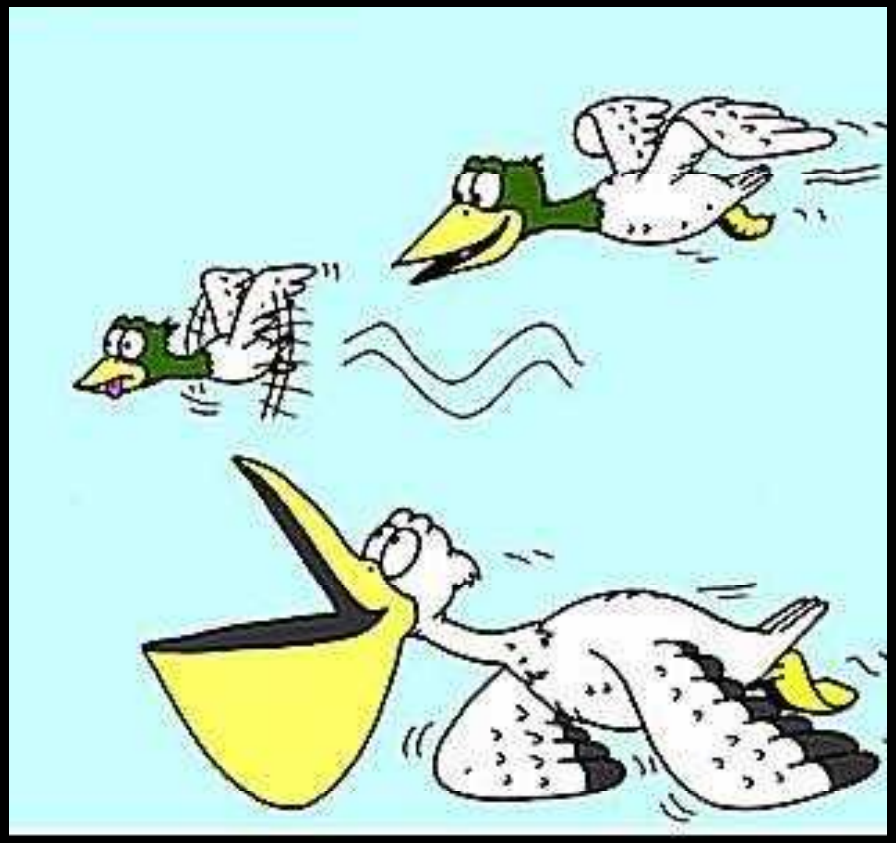


Participating Shouldn't be Risky



Participating Shouldn't be Risky





Great first flight, Son!
Don’t worry, Fred will catch you if you fall…

Can we make participating in team science safe?

Encourage Use of Explicit Agreements

- Include participating in or leading an IR project in the offer letter or a pre-tenure agreement
  - Roles, Responsibilities, Expectations
  - Review and Reward
    - Review criteria, sharing credit
  - Mentoring
    - For and by the scientist
  - Joint Appointments
    - What can everyone expect and how to make changes

Preemptive Approach

- Develop scaffolds to establish trust
- Written agreements serve as scaffolds
  - Prenuptial agreements
  - TT offer letters or TT review agreements
- Develop policies that support collaboration
- Provide support (training, education, ADR, etc..)
- Institutional self-awareness

Thank-you