



# Building Successful Research Collaborations

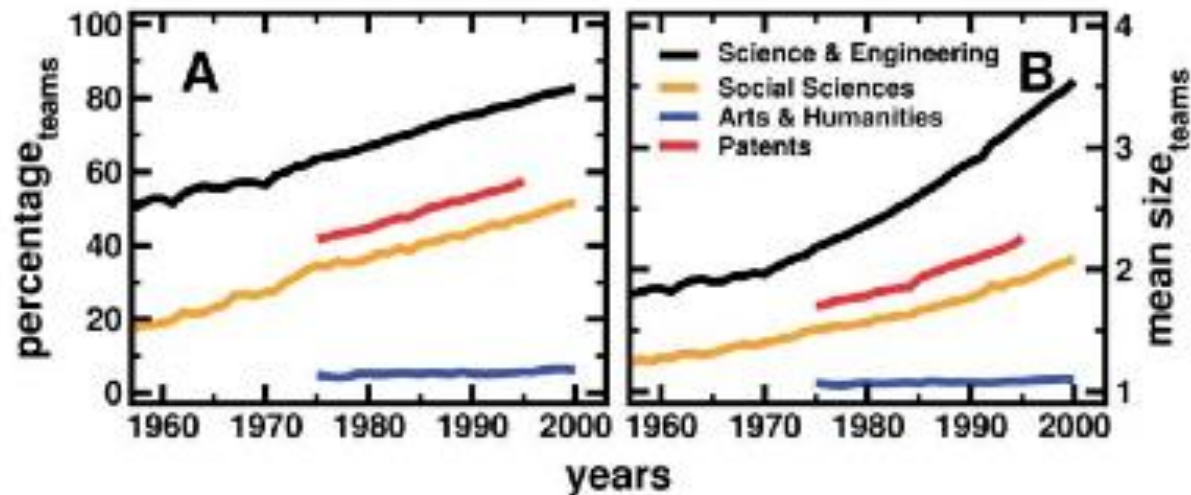
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# Research is increasingly done by teams

Out of >19M published papers a shift toward “collective research” is evident



**Fig. 1.** The growth of teams. These plots present changes over time in the fraction of papers and patents written in teams (A) and in mean team size (B). Each line represents the arithmetic average taken over all subfields in each year.

The Increasing Dominance of Teams in Production of Knowledge

Stefan Wuchty, Benjamin F. Jones, and Brian Uzzi

Science 18 May 2007 316: 1036-1039



"I make a pretty good team!"

# Reasons to Collaborate

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## **You are busy!**

- When one is busy the other might find time to make progress

## **Access to expertise** or particular skills

- Specialists → content areas in which you are working

## **Cross-fertilization** across disciplines

## **Multiple sites** for greater patient access

## **Access to equipment or resources**

## Improved **access to funding**

## Enhancing **trainee education**

# Who are your closest – likeliest partners?

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- People who can share the interest in your topic and with whom you have built-in close contact
  - Colleagues
  - Residents (SPs)
  - Medical students (ISPs)
  - Research students (e.g. Jt. Doc, CORE)
  - MA/LVN/RNs → “PEA” (dual RA + clinical support role)
  - Research assistants

# Reach out to the next level

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**Reach out to other FP departments/CIMs** locally, regionally, nationally  
→ they might have similar practices and similar clinical questions/interests

**Reaching out to specialists** → in the content areas in which you are working who might want to collaborate in PBR efforts

**Reach out to researchers** in FMPH/CIM → they have lots of needed expertise

# Severe Acute Respiratory Syndrome (SARS) Scientific Network

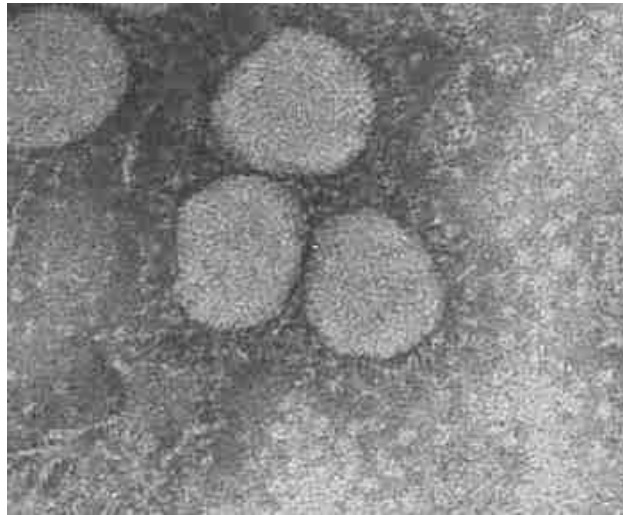
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On ***Monday 17 March 2003***, WHO called upon ***11 laboratories in 9 countries*** to join a collaborative multi-center research project on SARS diagnosis. An international multi-center research project to **expedite identification** of the causative agent was established.

# Identification of the Agent that Causes SARS on April 16, 2003

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## Newly Identified Coronavirus



Thin section electron micrograph and  
negative stained virus particles

Source:

Department of Microbiology, The University of Hong Kong and the Government Virus Unit, Department of Health, Hong Kong SAR China



# What is a Scientific Research Team?

Low

Level of Interaction and Integration

High



## *Investigator-initiated research*

Investigator works on a scientific problem – largely on his or her own.

## *Research Collaboration*

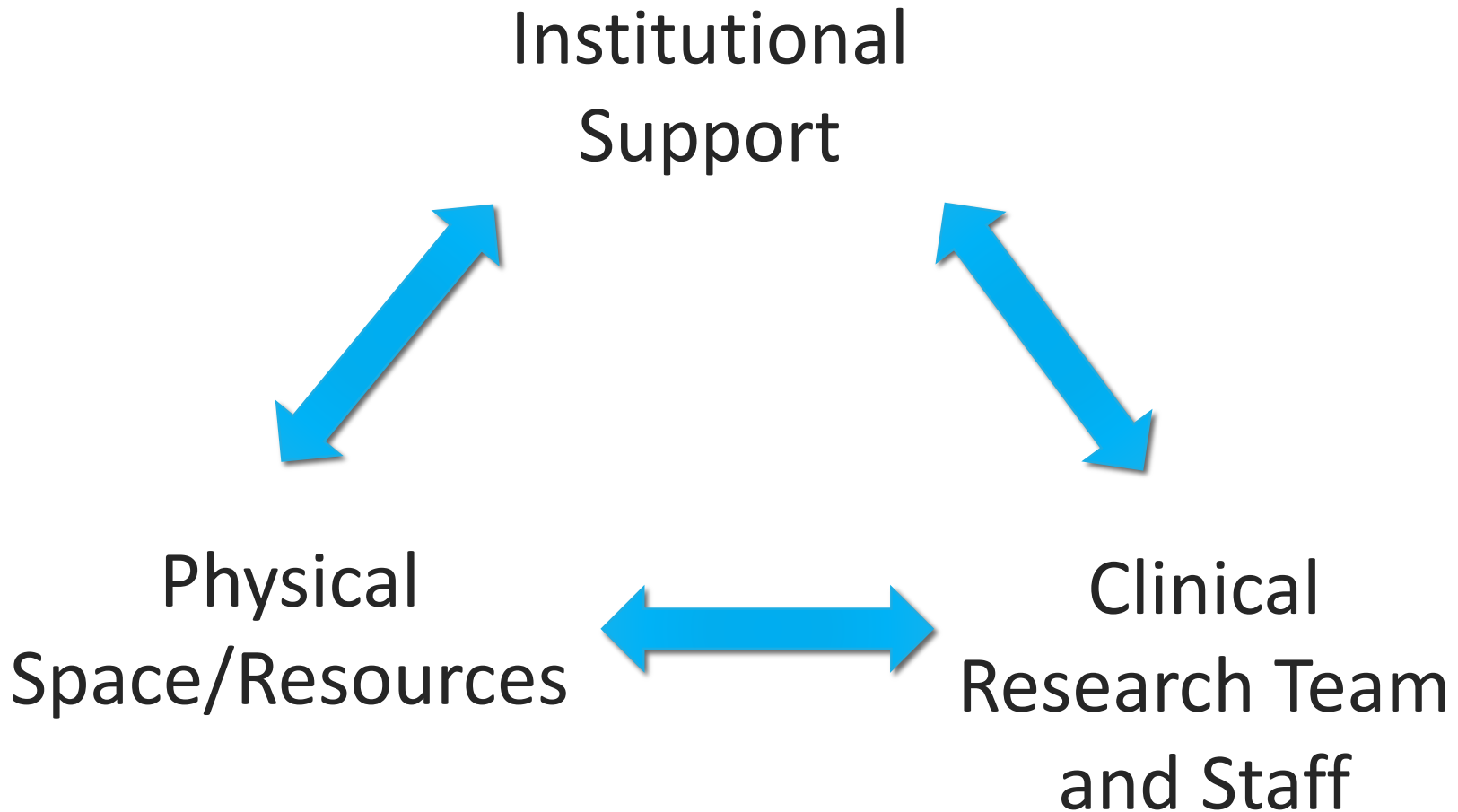
- Group works on a scientific problem, each bringing some expertise to the problem.
- Each member works on a separate part, which are integrated at the end.
- The interaction of the lead investigators varies from limited to frequent with regard to data sharing or brainstorming.

## *Integrated Research Team*

- Team works on a research problem with each member bringing specific expertise to the table.
- There are regular meetings and discussions of the team's overall goals, objectives of the individuals on the team, data sharing, and next steps.
- One person takes the lead while other members have key leadership roles in achieving the goal.

# Building Success

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# What are necessary for good collaboration?

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Trust

Membership (Building a Team)

Shared Vision - Goals

Role Definition – Who will do what?

Sharing Credit

Communication and Negotiation

Conflict Resolution

Team Dynamics

Leadership



*"Sometimes I think the collaborative process would work better without you."*

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**Trust: Sufficient confidence in another person to be vulnerable to their actions**



# Trust and the Team

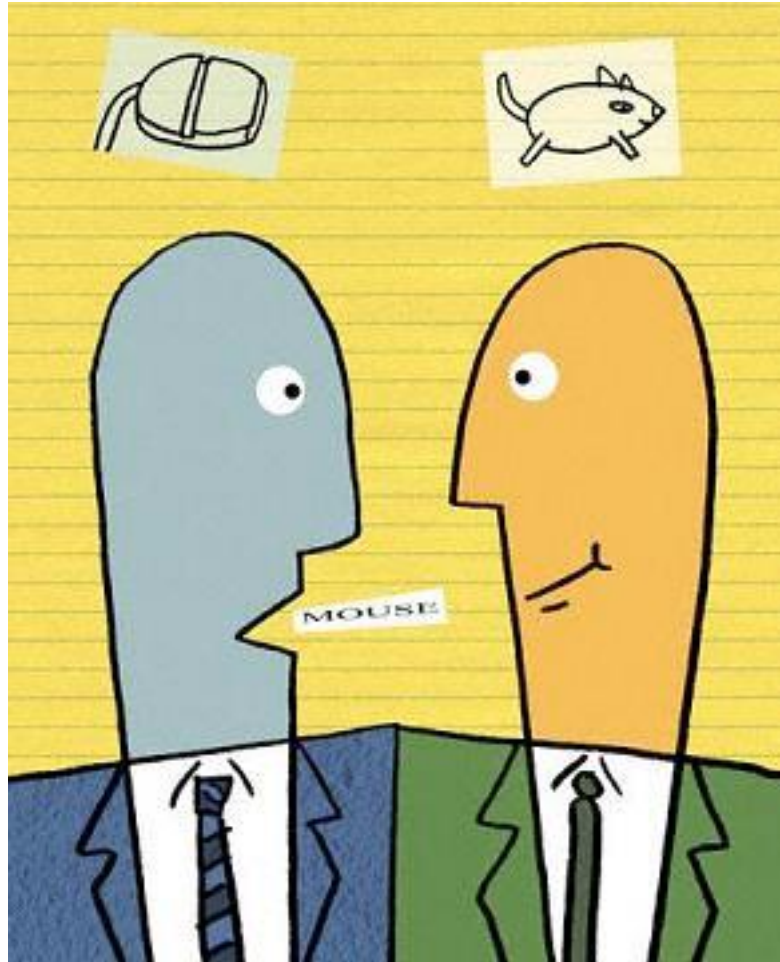
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Trust goes hand-in-hand with your scientific confidence in the results generated by your:

- Postdoc, Collaborator, Colleagues, etc...

If trust is never established or damaged once formed...confidence will slip

# What is Expected from a Collaborator?



What did you say?

# Open and Honest Discussion:

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Any team member can raise a concern

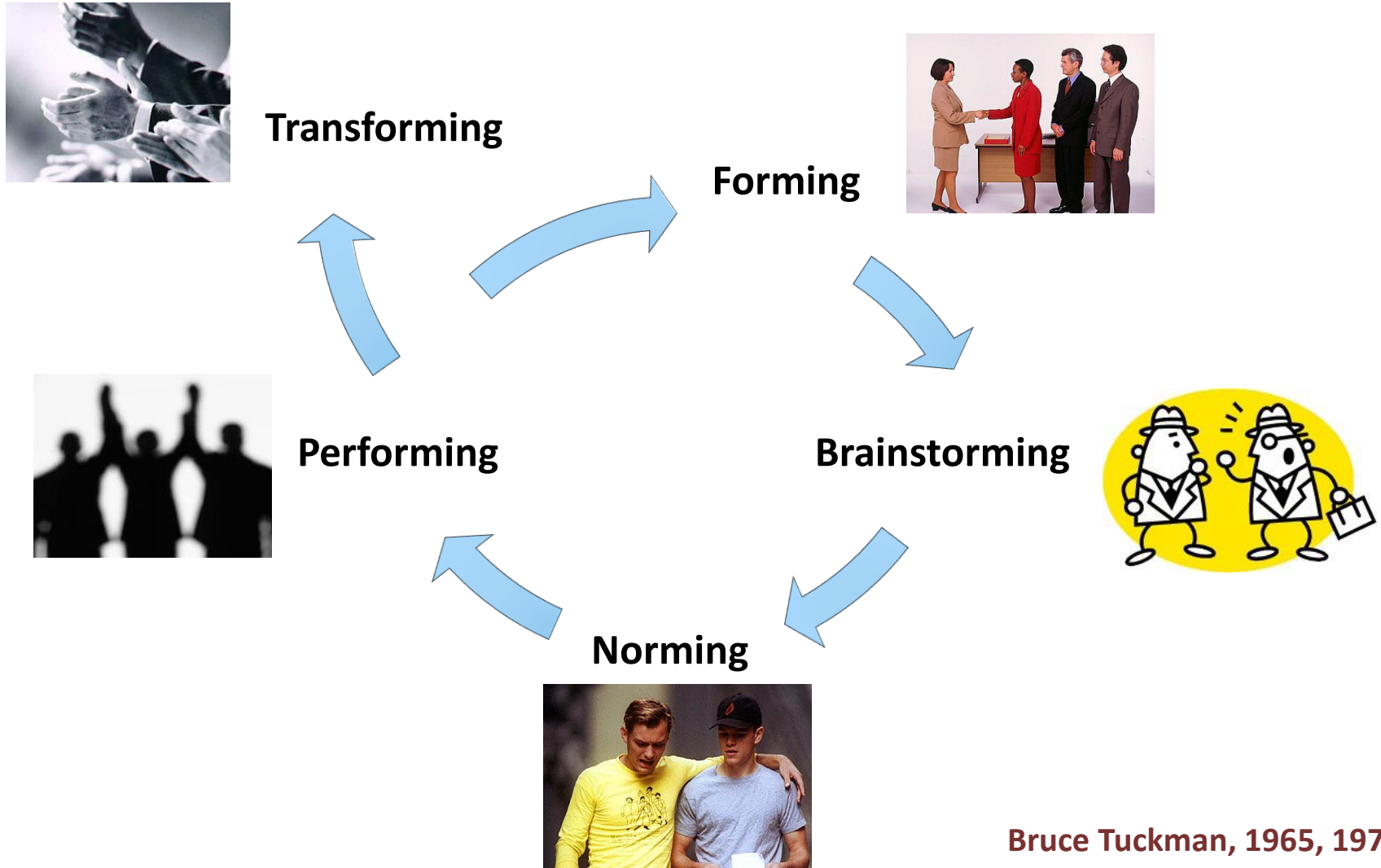
Every team-member is allowed to express his attitudes, desires, and needs

All team-members agree to participate actively when they have the information to do so

Adapted from The Ideal Speech Situation - Jürgen Habermas



# Model of Team Development



Bruce Tuckman, 1965, 1977

# Managing Diversity: Harnessing Differences

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**Essential Differences** – disciplinary world-views, methodologies to reach goals, technologies, criteria for credit and authorship.

- ✓ Require integration

**Incidental Differences** – personality styles, work habits, identity factors – race, gender, etc.

- ✓ Require effective management

# Culture clash: collaboration between researchers and clinicians

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Views of how to do research: rigor vs. pragmatism

Meeting times: during regular work hours vs. before or after hrs.

Distinguishing roles; roles for clinicians:

- Knowledge of the clinical practice system
- Knowledge of practice-based pragmatic questions
- Knowledge of how to integrate research effort into practice

# Getting the work done



## The Sweet Spot

Personal strengths and passions align with essential work in a setting which provides opportunities for challenge and growth.

# References

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L. Michelle Bennett, PhD

Deputy Scientific Director, NHLBI, NIH

Howard Gadlin, PhD

Ombudsman, OD, NIH

**[teamscience.nih.gov](https://teamscience.nih.gov)**