

# Science of Team Science



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# Science of Team Science

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- Given the mission of VTCAR to promote multidisciplinary research...
- How to turn “experts” into an expert team?
- Emerging “**science of team science**” reflects **insights to facilitate**
- multi-, inter-, and transdisciplinary scientific progress

# The Drivers of Team Performance

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**Effective  
Team Performance**

Cognitions

*Knowledge*

“Think”

Behaviors

*Skills*

“Do”

Attitudes

*Affect*

“Feel”

# What effective teams do...

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- **Knowledge**
    - Shared mental models about strategies
    - ...anticipate of what other team members' need
    - ... **understand each others' roles** and how they fit together
  - **Skills**
    - self-correct and back up each other
    - ...**manage conflict** well—team members confront each other effectively
  - **Attitudes**
    - ...**trust** other team members' "intentions"
    - ...open to new ideas and are team oriented
- ✦ Hayes. H., & Foti, R. J. (in press). The impact of shared leadership on teamwork mental models and performance in self-directed teams. *Group Processes and Intergroup Relations*.

# Current Relationships

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- NSF IGERT: Profs. Hochella, Winkle, Filz, Little
- NSF IGERT: Profs. Stremmer Davalos, Vlachos, Kuhn, Ross
- VT Graduate School: IGEP, Dean DePauw, Prof. McDowell
- UVA: Prof. Lois Myers

# Collaborations and Resources Needed

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- Have developed measures of key constructs
  - paradigmatic values
  - attitudes toward interdisciplinary research
  - personal/behavioral characteristics
  - team processes like trust
  - shared knowledge
- Evaluation of team science and its impacts
- Measuring effectiveness of team science on multiple levels: individual, team, and organization
- Organizational policies that foster team science
- The relationship between productivity and the composition of teams