



# IARPA RESCIND

## Lightning Talk

**Diego Gómez-Zarà** (he/him/his)

Assistant Professor in Computer Science and Engineering

*San Diego, CA  
February 28, 2023*

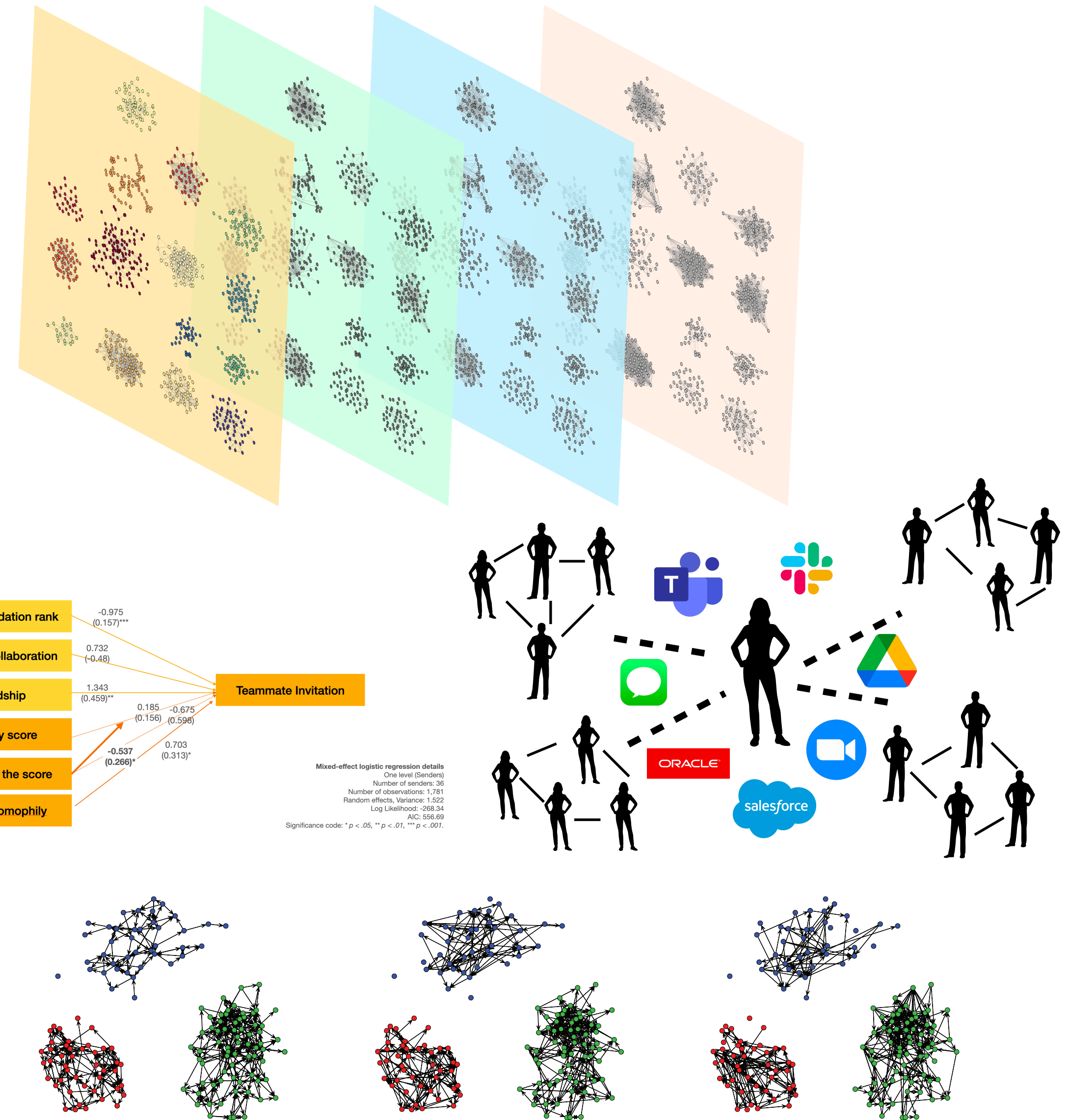


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# About me

- **Topics:** Behavioral Sciences, Network Science, and Human-Computer Interaction.
- **Previous grants:** 2020 NSF, 2020 Microsoft Research Dissertation Award, 2023 Amazon Research Award.
- **Technical expertise**
  - Network modeling
  - Algorithms for recommender systems
  - UI and metrics design
  - Laboratory experiments



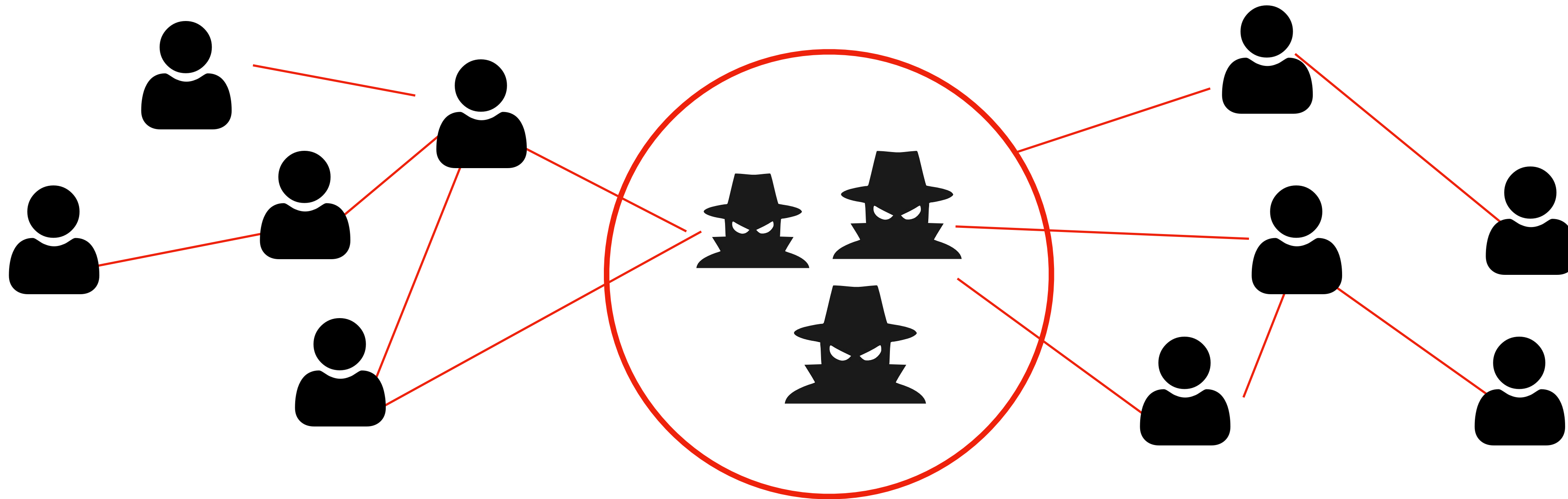
# RESCIND

## What HCI and Network Science can do

Understand, measure, and induce changes in cyber attack behavior and success

Identify and model human limitations or cognitive biases relevant to cyber attack behavior,

Provide algorithms for automated adaptation of these solutions based on observed cyber attacker behavior



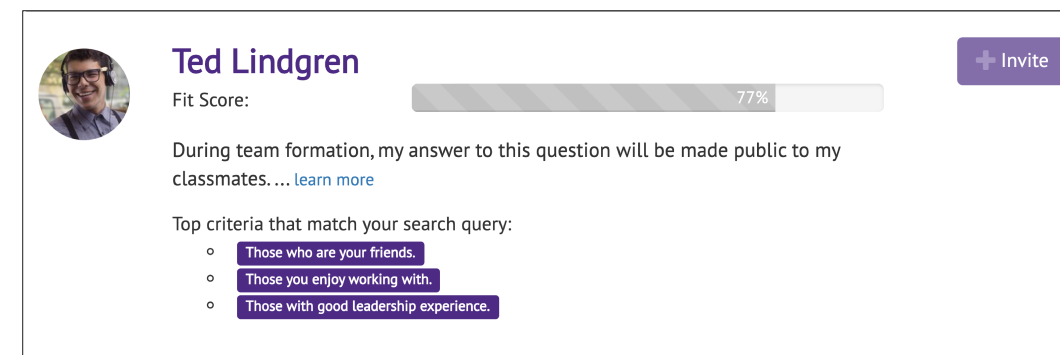
Interactive and interpretable metrics to assess cyber-threats

Network Modeling to identify and prevent spread of cyberattacks

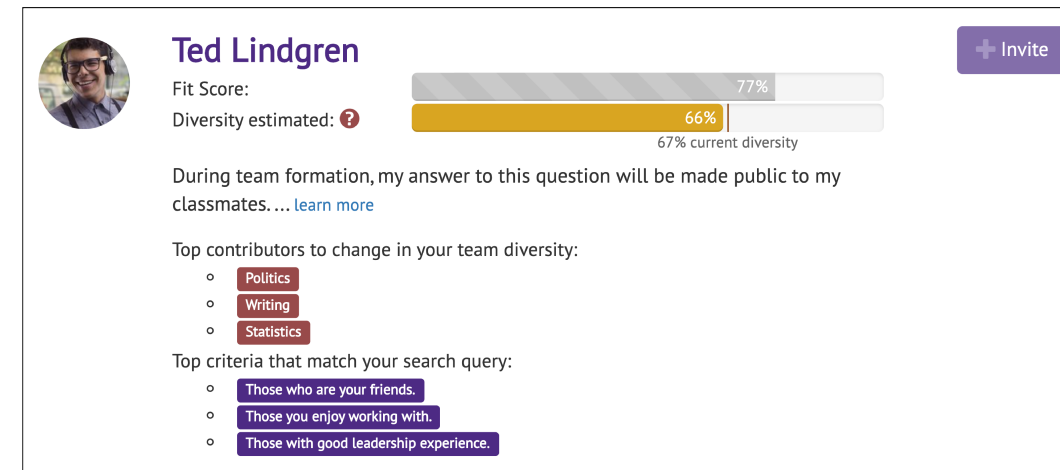
Design of algorithms and nudges to decrease cyber-risks

# Related Work

## How informational nudges affect users' behavior and decisions



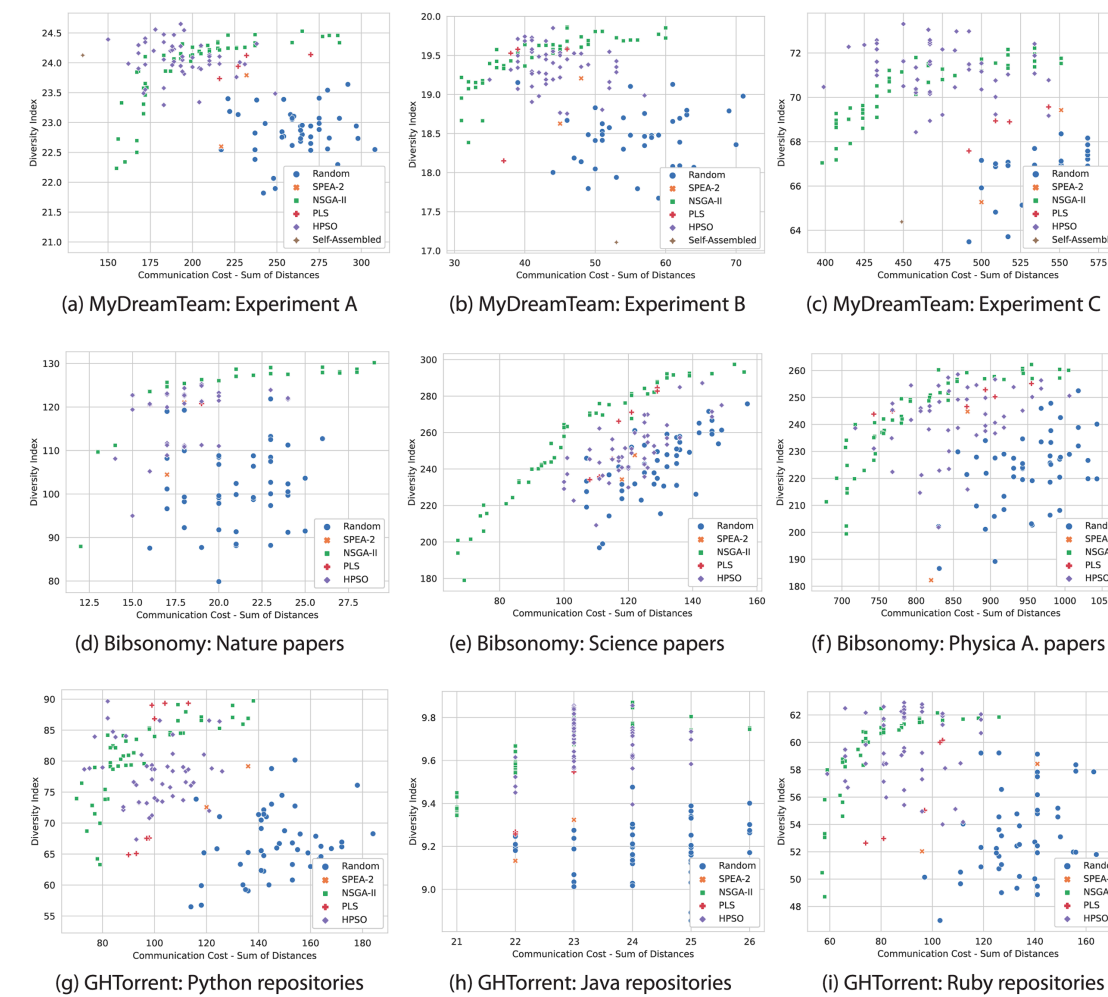
Control condition (no diversity information displayed)



Treatment condition (diversity information displayed)

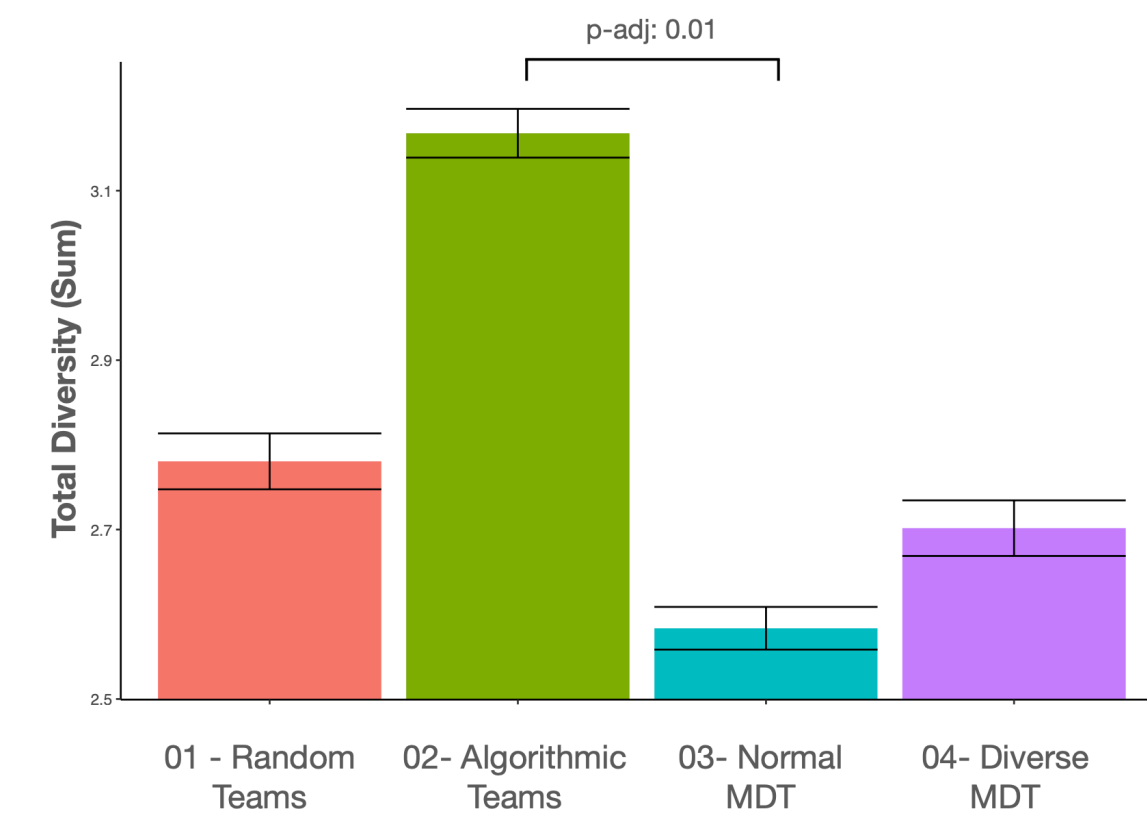
CHI 2019, 2020  
Funded by ARO and NASA

## How algorithms establish group interactions for collective goals



PLOS One, 2022  
Funded by NSF and MRS

## How algorithms can nudge users' behaviors and decisions



AOM (In Revision)  
Funded by NSF and MRS