

save the internet

SONIC Project

- NASA is planning to send a multidisciplinary team to Mars.
- **Project RED**, is a multi-team task designed for preparation for the journey to Mars.
- Participants spent 30 or 45 days on a simulated space mission in NASA's Human Exploration Research Analog (HERA) facility at the Johnson Space Center in Houston.
- Their mission is creating the water infrastructure needed to establish a human colony on Mars.
- We develop optimization-based "contingent" metrics for assessing **individual, team and MTS performance** which take into account the constraints posed by interdependent decisions made by other individuals or teams.
- These metrics are proved to be superior to traditional ones.



NASA Team Task Switching

ProjectRED



SONIC

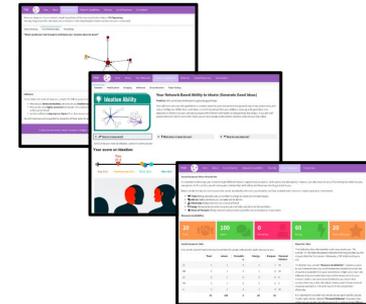


SONIC Software

Personal Network Report (PNR) is an interactive exercise that guides participants through reflecting on their interpersonal networks in organizations.

It is ...

... a in organizational
... concrete, quantitative
... the data they provide
... rkshop tool to help
... rk thinking" to their lives.



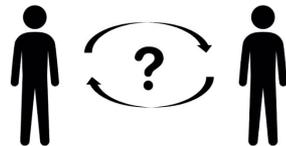
Northwestern University

This research is funded by the National Aeronautics and Space Administration (NASA)

Did you know?

People accurately identify communication ties among those in their network only 20% of the time.

Our recent study indicates that people have inaccurate perception of communication links; namely, people tend to incorrectly perceive (overestimate) the presence of communication links between people grouped by formal and emergent structures and incorrectly miss (underestimate) the presence of links between people in different groups.



Perceptions of Communication Networks

Tanaka, K., DeChurch, L., & Contractor, N. (2018, May). *Origins of omission and commission errors in perceptions of group communication networks*. Paper to be presented at the 68th Annual ICA conference, "Voices," Prague, Czech Republic.



Northwestern University

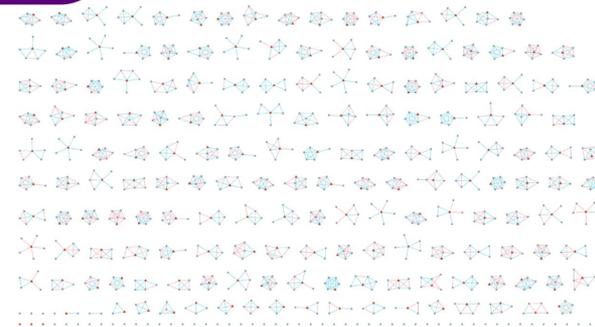
This research is funded by: NASA SCALE NNX15AM26G & ARL W911NF-09-2-0053

Network Visualizations

Each node is a person, while **triangles** and **circles** represent **ego** and **alter** respectively.

Blue edges indicate **strong** ties, while **pink** are the **weak** one.

Ego networks of participants



alter * alter ▲ ego relation — close — know



Northwestern University

STRONG project

SURVIVAL OF THE ADAPTABLE

WHEN I FIRST EXCAVATED IN THE RIFT VALLEY, IT WAS COMMON KNOWLEDGE THAT human ancestors emerged on the dry African plains," wrote Rick Potts about his work on Olorogesailie in Kenya. "Yet scrambling up even a single gully, I couldn't help but notice the evidence of vast change over time in the layers of that eroded landscape. Above the white silts of an ancient lake was the brown soil of a dry environment, covered by a gray ash violently spewed from a nearby volcano; then the lake returned, followed by a hard white line when the waters dried up completely. Was it the constant survival challenge of the savanna—or was change itself the more potent force behind the defining qualities of our species?"

The living world is a display of astonishing adaptations. These adaptations embrace all the structures and behaviors that have favored the survival and reproduction of organisms in the times and places in which they evolved. Powerful claws and a long, sticky tongue do a lot to assist an anteater in digging up and capturing ants. The short "flippers" of penguins are useless for flight, but along with the birds' insulated, bullet-shaped bodies, they help them catch fish in icy Antarctic water. The idea of adaptation extends also to behavior and interactions with other species. The African honeyguide, for example, possesses a keen instinct for finding bee nests; while the honey badger, following the bird, is capable of ripping open the nests to get to the honey, which both honeyguide and badger feed upon.

Over time, a population of organisms evolves in response to the challenges and opportunities of its environment. As grasslands expanded across Africa, prehistoric antelopes evolved teeth that could efficiently chew tough blades of grass that grew on the plains. As the grazing herds expanded, flesh-eating cats became fast, effective killers, and hyenas evolved powerful jaws to crack open the nutritious marrow bones that no other carnivore could break.

Our bipedal cousins were no different. In the lineage of *Paranthropus boisei* the molar and premolar teeth became larger over time, and powerful jaw muscles focused the force on these teeth in a way that favored chewing tough

Opposite: Molten lava fills the sky above a volcano in Iceland. Violent natural events, now as over millions of years past, signal our planet's dynamic nature and remind us that human evolution occurred in conjunction with ever changing environments.





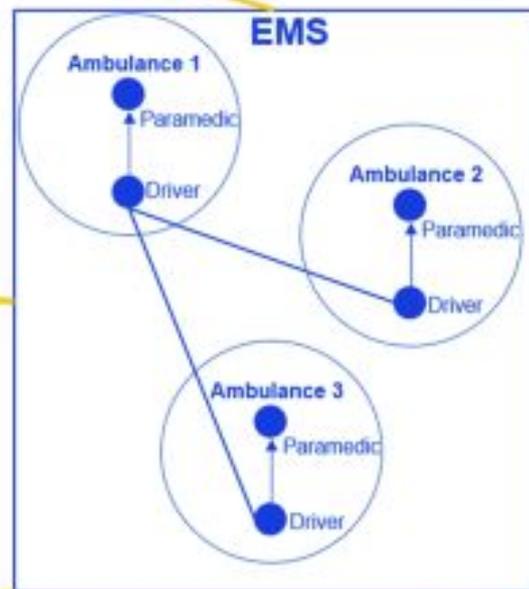
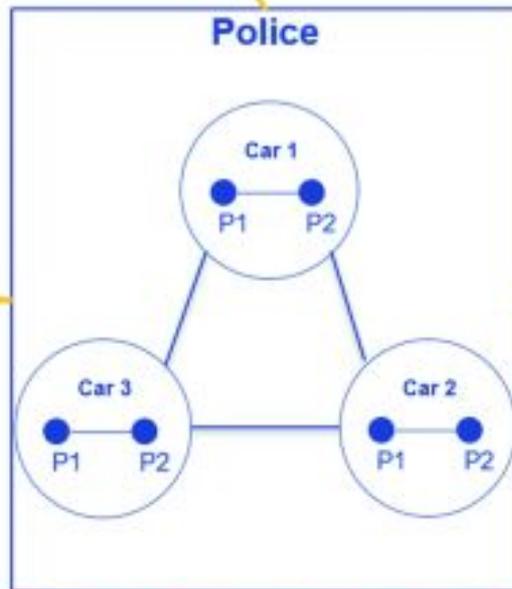
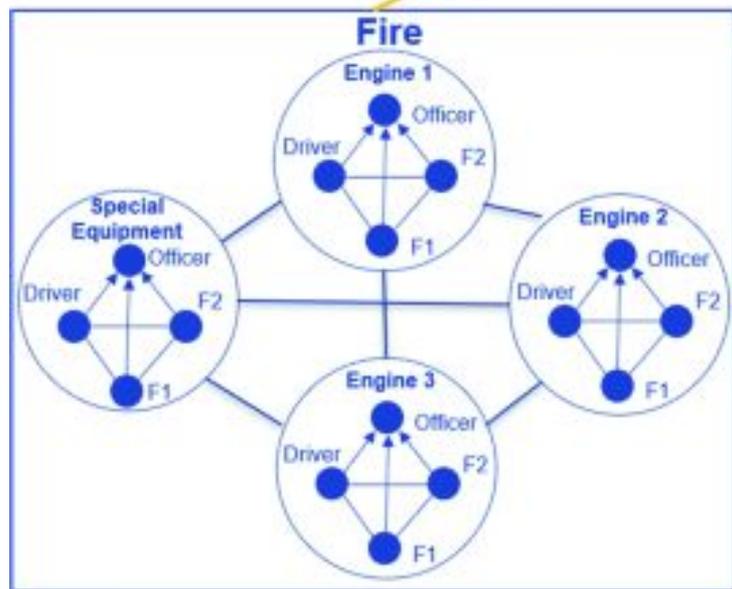












1

Coordination plans and clear communication

2

Performant and resilient local teams

3

Empowered and effective leaders



1

Coordination plans and clear communication

- Documentation and knowledge sharing
- Flexibility and adaptability are crucial
- Intercommunication vs. intracommunication



Performant and resilient local teams

- Viable teams are resilient and support each other
- Change management & disruption buffering
- Boundary diminishing vs. reinforcing

3

Empowered and effective leaders

- Effective leaders are advocates & ambassadors
- Engage in rapid decision making
- Sacrifice their local goals for the greater good



YOUR SAFETY MATTERS.

COOPERATION | COMPASSION | CRITICAL THINKING



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Opening Tribute | The Initial "Golden Hour" For Rescue, Wasted



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SOUTH KOREA COAST GUARD



1

Coordination plans and clear communication

2

Performant and resilient local teams

3

Empowered and effective leaders

save us all