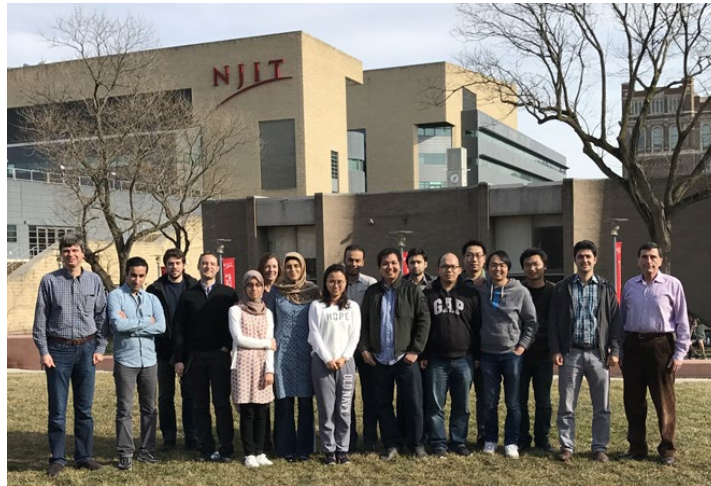


The Elisha Yegal Bar-Ness Center for Wireless Information Processing (CWiP)

March 19, 2021

- The Elisha Yegal Bar-Ness Center for Wireless Information Processing (CWIP) engages in a broad range of research areas ranging from wireless communications, radar, sensor networks, cloud radio, information theory, and signal processing. A unifying theme of the Center's research is that of 5G wireless mobile networks. The Center seeks new collaborations with the wireless communications industry.
- There are six faculty members associated with the Center, 2 post-docs and over 20 graduate students, most of them pursuing their Doctor of Philosophy degree.
- The Center routinely hosts visiting researchers, post-docs, and students from overseas. Several students pursue double PhD programs according to agreements between NJIT and other universities.
- For more info: Alexander Haimovich, Center Director, 973-596-3534 or alexander.m.haimovich@njit.edu

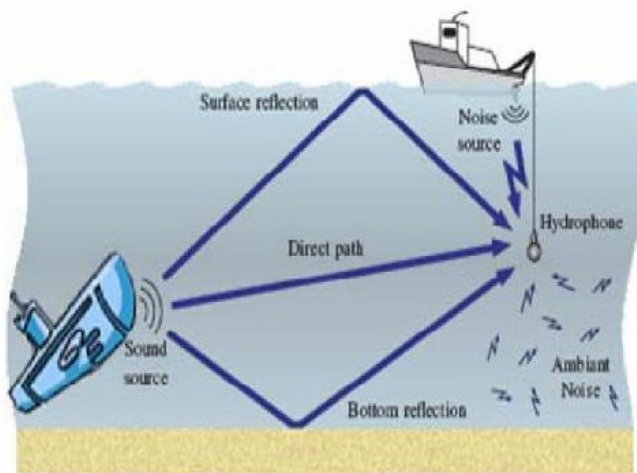


Abdi Projects

Data Communication via the Vector Acoustic Field

Graduate Student: E. Zhang

Sponsor: NSF

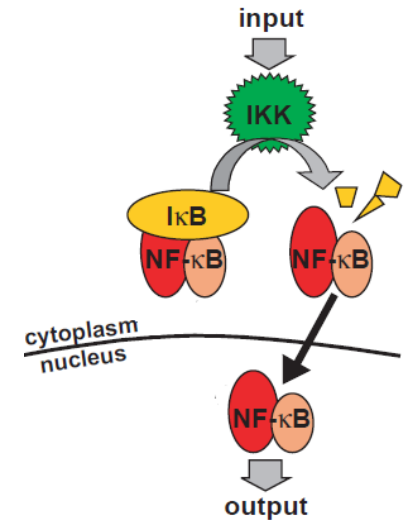
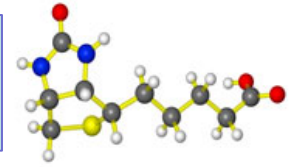


Borehole Telemetry in Oil and Gas Fields

Graduate Student: A. Alenezi

Systems Biology and Molecular Signaling

Graduate Student: M. Ozen

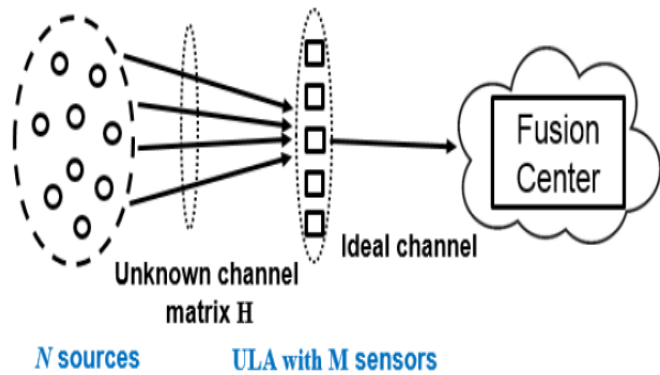


(A. Hoffmann, et al. Science 2002)

Haimovich Projects

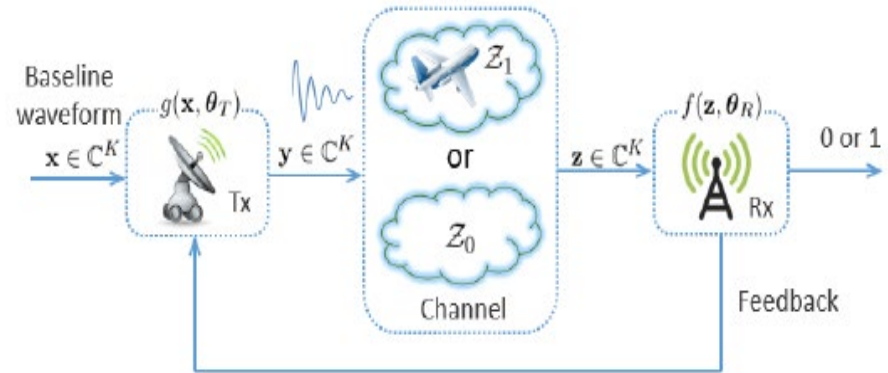
Blind Multiuser Detection of Frequency Hopping Signals

Grad students: Anushreya Ghosh
Funding: US Navy



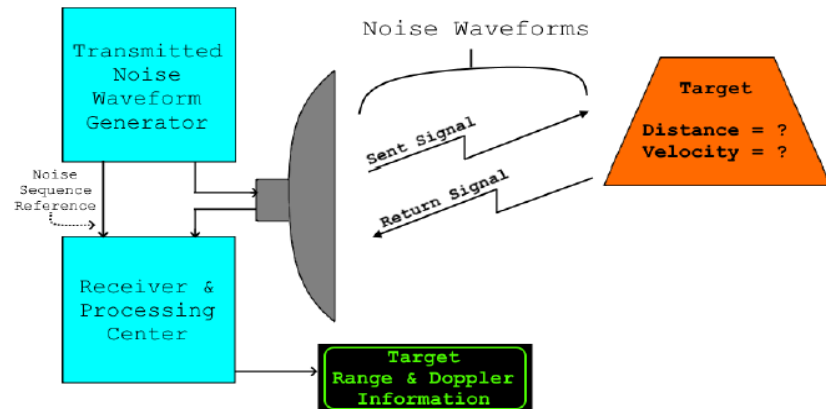
End-to-End Learning of Waveform Generation in Radar

Grad student: Wei Jiang, Zareen Khan



E2E Machine Learning Fuze Radar

Grad student: Kyle Wensell
Staff engineer: James Zhou
Funding: US Army

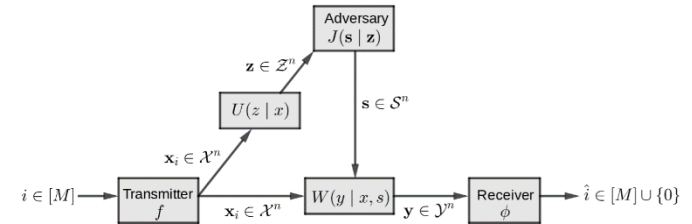


Kliewer Projects



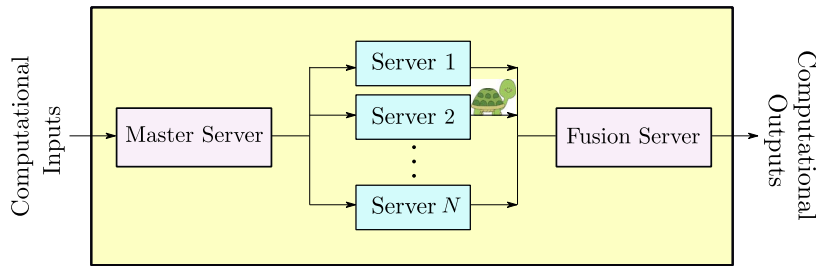
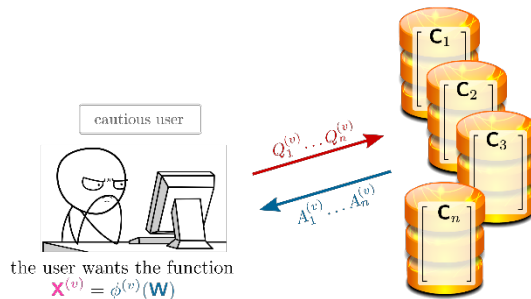
Reliable Authentication in Point-to-Point Channels and Multihop Networks

Collaborator: Oliver Kosut (Arizona State)
 Postdoctoral Researcher: Allison Beemer
 Funding: US Army Research Office



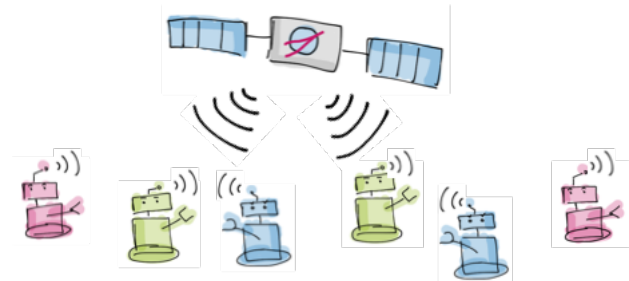
Communication under Adversarial Attacks in Complex Networks: Fundamental Limits and Secure Coding Strategies

Grad students: Malihe Aliasgari, Sarah Obead
 Funding: NSF



Covert/Secret and Efficient Message Transfer in (Mobile) Multi-Agent Environments

Grad student: Ishhanie Majumdar
 Funding: NSF



Coding for 5G and Beyond: Limits and Efficient Algorithms

Grad student: Salman Habib
 Collaborator: David Mitchell (NMSU)
 Funding: NSF

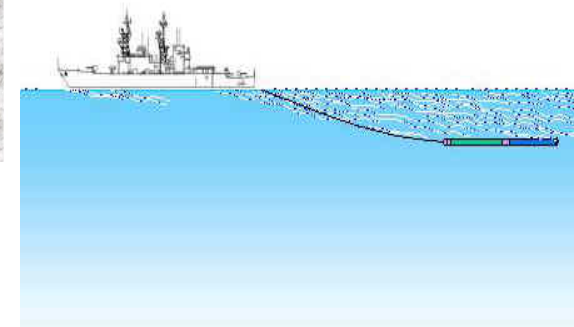
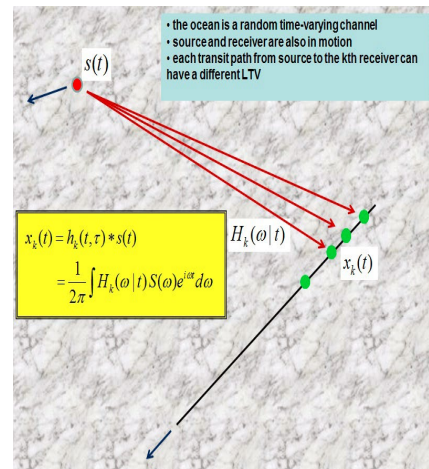
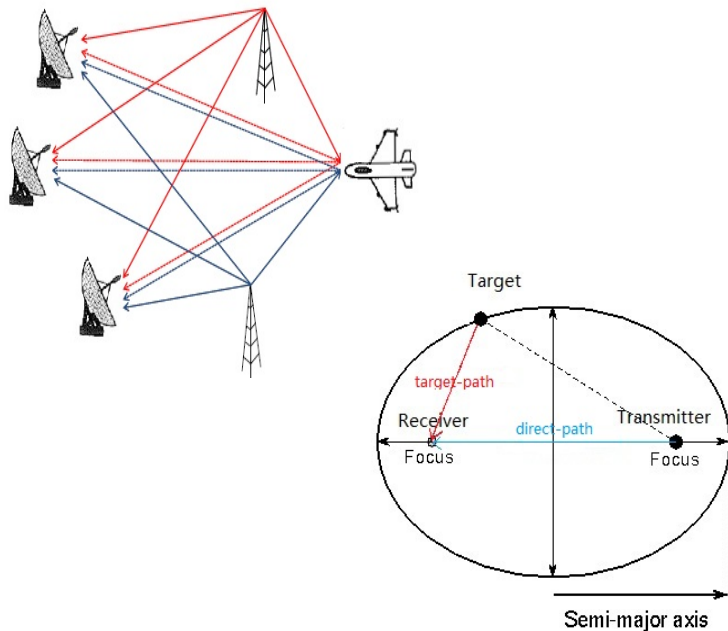
Low-Complexity Wireless Sensor Architectures Based on Asynchronous Processing

Collaborator: Wei Tang (NMSU)
 Grad student: Chen Yi
 Funding: NSF

Ge Projects

Passive MIMO-Radar for Target Detection (Grad student Enlong Hu)

Passive Ranging using Distributed Arrays in Underwater Acoustic Environments subject to Spatial Coherence Loss (Collaborator Ivars P. Kirsteins)



NJIT

The logo for NJIT features the letters 'NJIT' in a white, serif font. A white, curved line sweeps underneath the letters, starting from the bottom left and ending at the bottom right, creating a sense of motion and modernity.

The Science and Technology University of New Jersey