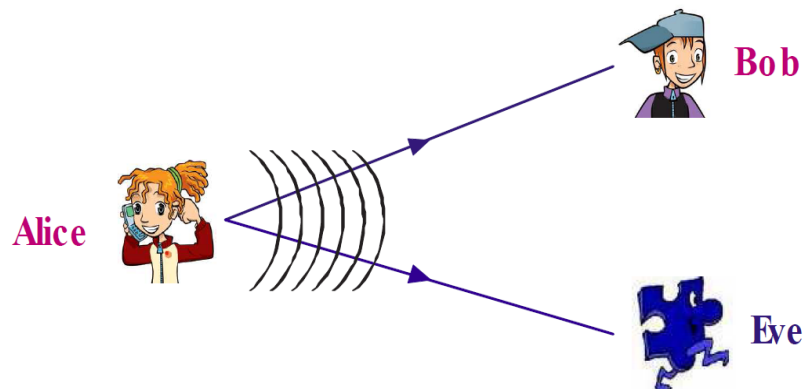


Fundamentally Secure and Sustainable Wireless Networks

Sennur Ulukus, Associate Professor, ECE/ISR (ulukus@umd.edu)



Security



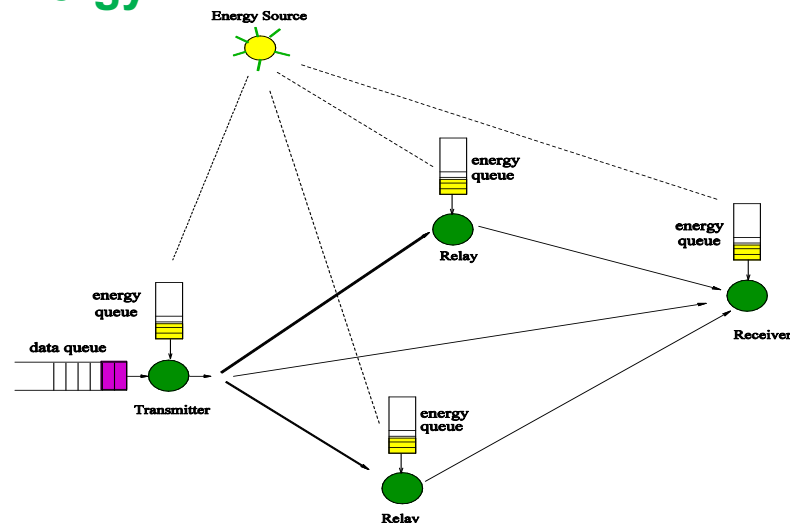
Intellectual merits:

- Unbreakable, provable, quantifiable security.
- Not computation-based.
- Physical communication channel based.
- Uses information theory, communication theory, coding and signal processing to secure wireless communications in the physical layer.

Broader impacts:

- Fundamentally secure wireless communications.

Energy



Intellectual merits:

- Communication and networking protocols for energy harvesting wireless networks.
- Uses information theory, queueing theory, communication theory and networking to design scheduling and resource allocation schemes for energy self-sufficient network operation.

Broader impacts:

- Sustainable, environmentally friendly, green wireless communication networks