

# SOCIAL NETWORKS AND SCIENTIFIC RESEARCH AND CAREERS

---

Jean Stockard, Professor Emerita,  
Department of Planning, Public Policy and  
Management  
University of Oregon

# Overview

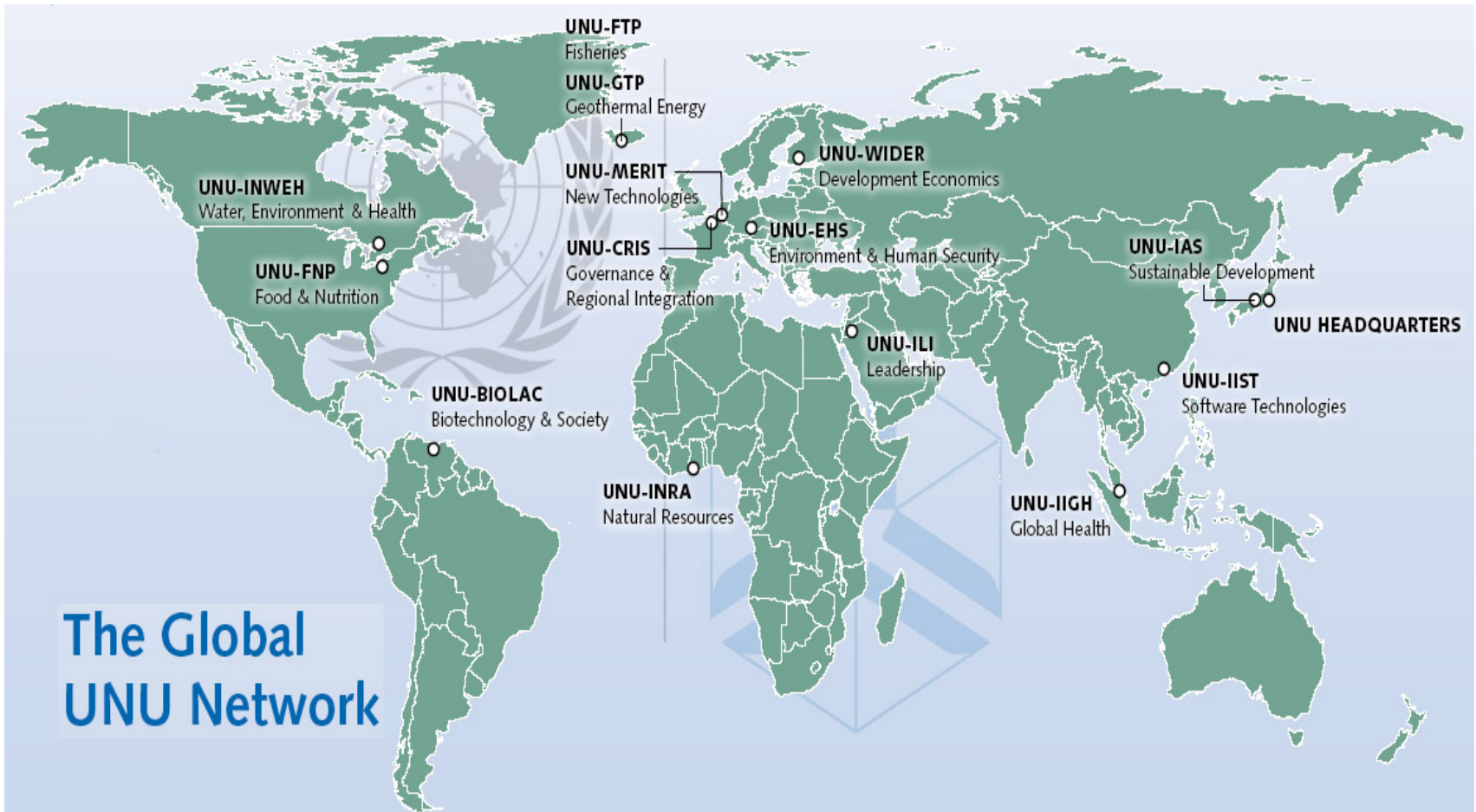
- Social Networks 101: The language of social networks
- Social networks and the success of groups and organizations
- Social networks and individuals' advancement
- Special issues for women in male-dominated fields
- Networks and effective disaster mitigation and preparation

# Social Networks

- Patterns of social relationships
- Connect social units (nodes)
- Connections are called social ties
- Occur at level of individuals, groups or organizations, and communities

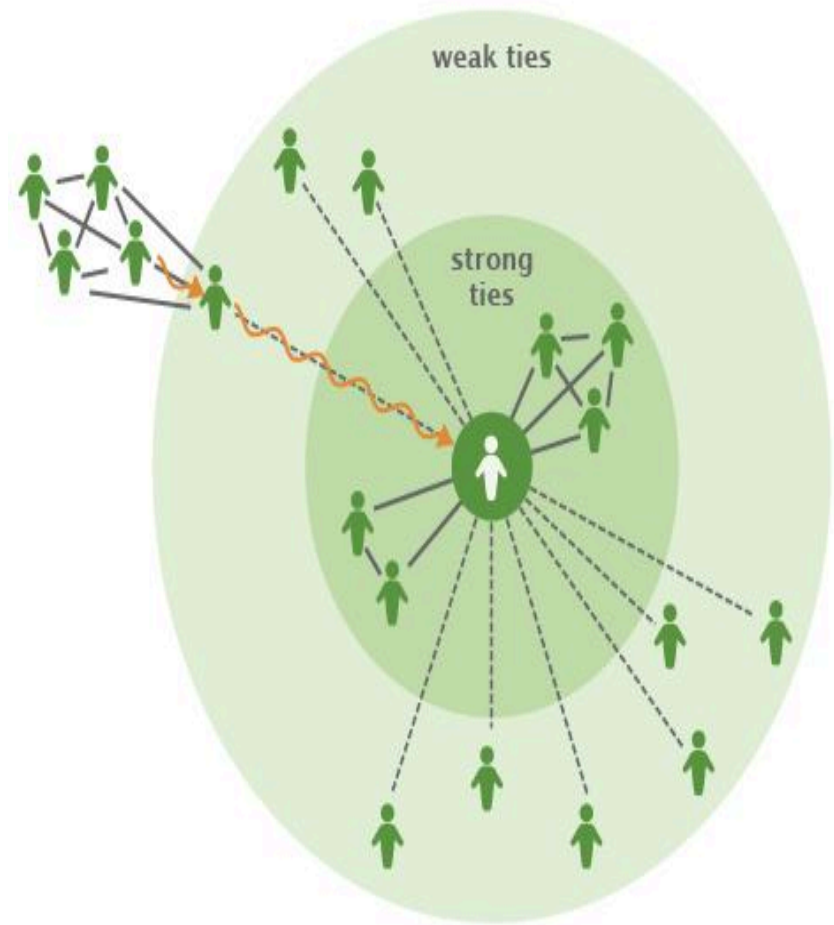


# United Nations University Organizations



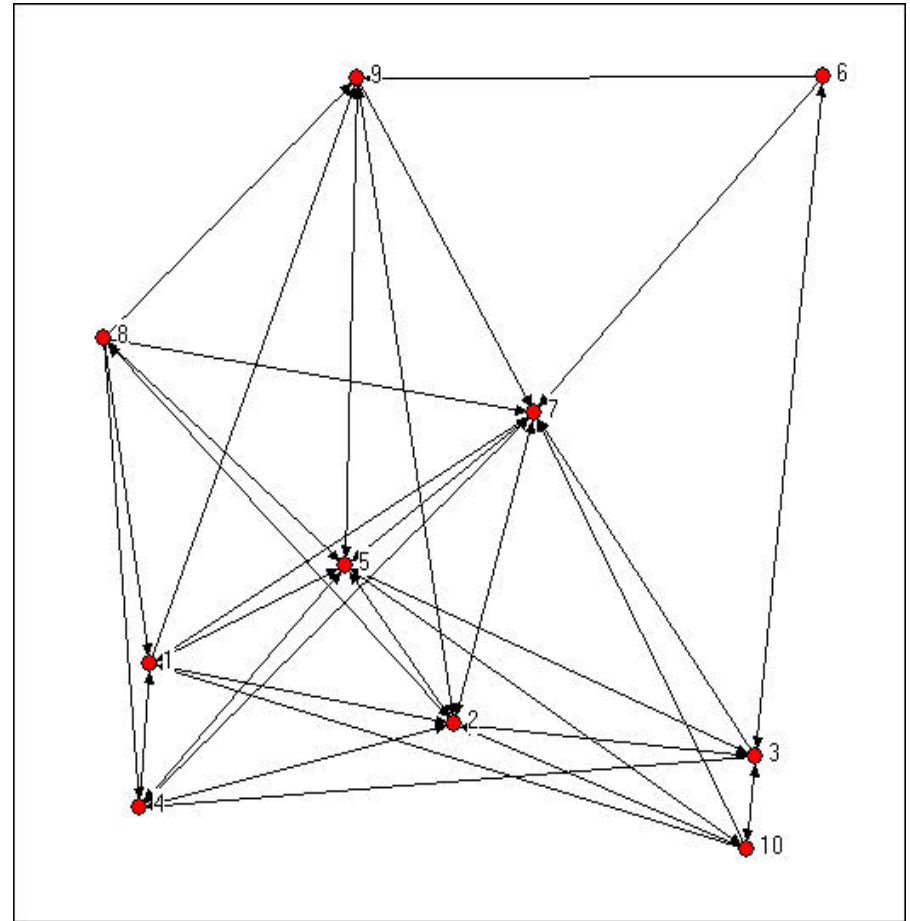
# Network Terminology

- Strong ties
- Weak ties
- Density
- Extensivity
- Reciprocity
- Social Capital
- Opportunities and constraints

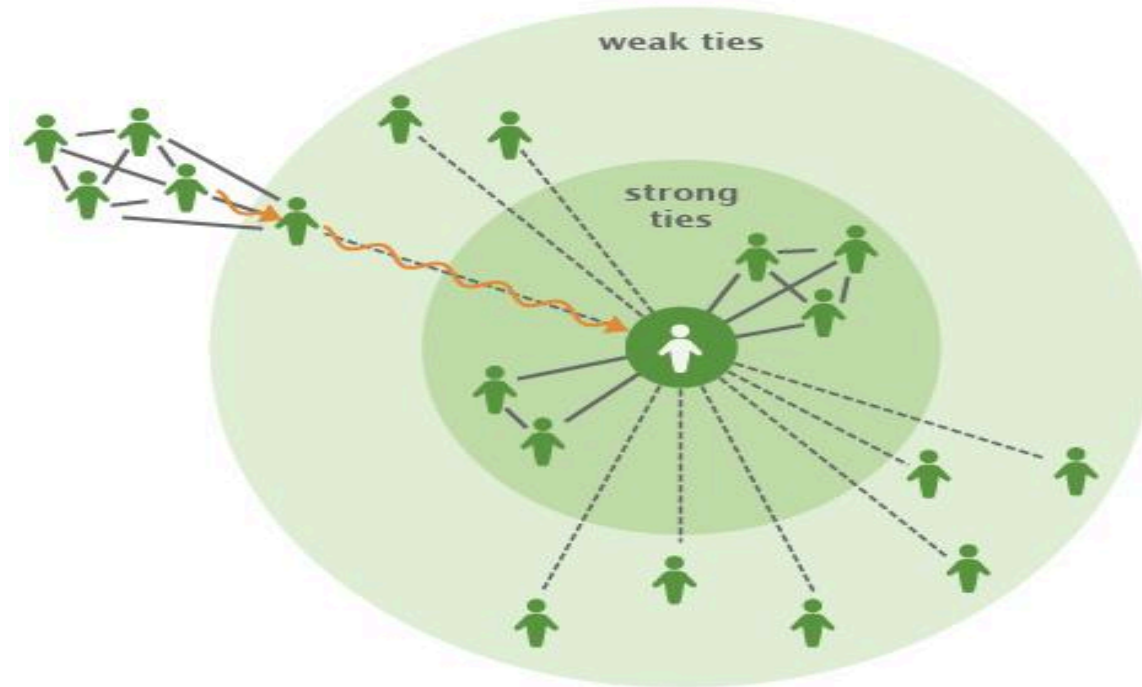


# Social Networks and the Success of Groups and Organizations

- Importance of
  - Extensive networks
  - Reciprocal ties
- Promote
  - Trust
  - Information
  - Cooperation, competition, & joint gains

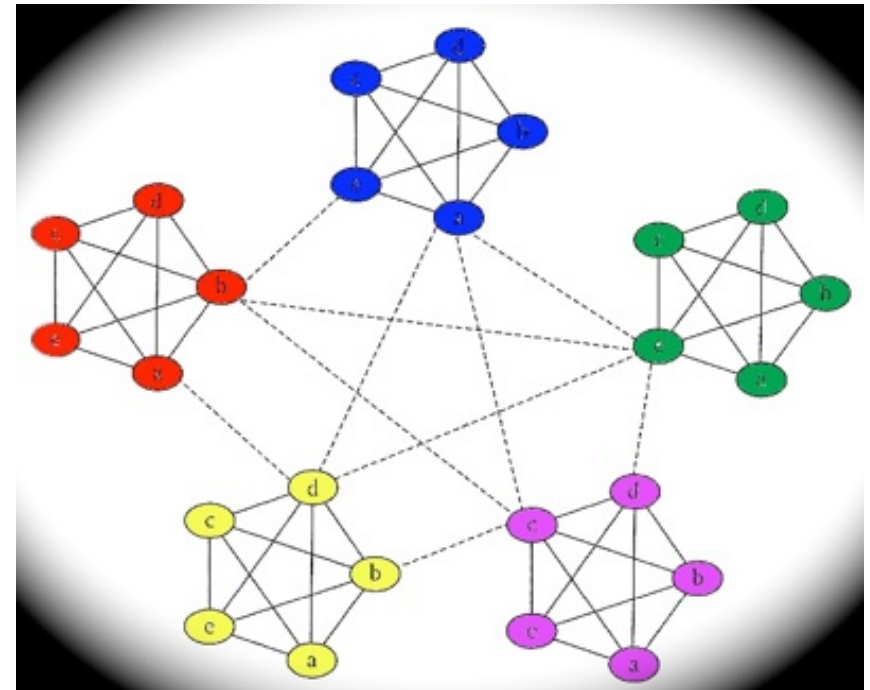


# Individuals' Career Advancement: Weak and Strong Ties



# Women's Professional Networks in Male Dominated Fields

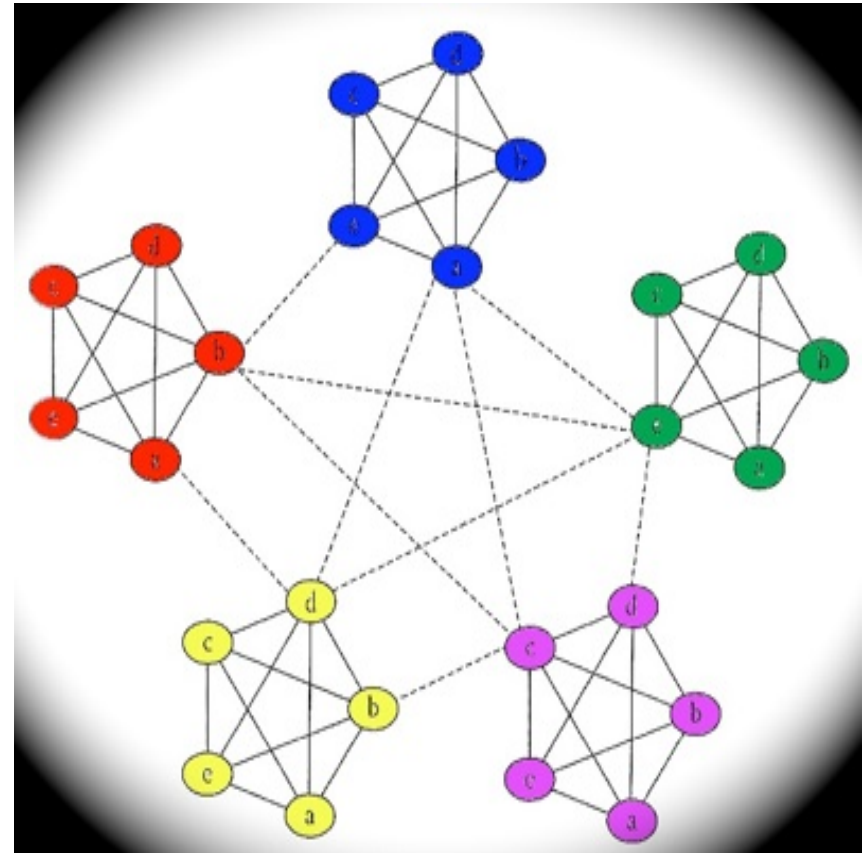
- Less extensive than men's
- Less diverse than men's
- Less likely to include mentors and role models
- Less often in strategic locations
- All are factors important for success





# Using Networks to Enhance Career Development

- Extensive ties
- Diverse ties
- Strong ties
- Weak ties
- Mentoring
- Finding right approach for one's personality and needs



# Social Networks and Effective Mitigation and Preparation

- Fatalities from disasters largely unrelated to magnitude ( $r=.10$ )

<u>Site and Year</u>	<u>Magnitude</u>	<u>Fatalities</u>
Northridge, 1994	6.7	51
Haiti, 2010	7.0	170,000
Loma Prieta, 1989	7.1	63
South Asia, 2005	7.6	75,000
Chile, 2010	8.8	900
Indian Ocean, 2004	9.0	185,000
Japan, 2011	9.0	15,000

# Social Vulnerability

- “...the degree to which societies or socio-economic groups are affected by stresses and hazards, whether brought about by external forces or intrinsic factors – internal and external – that negatively impacts the social cohesion of a country”
- Risk of harm = hazard strength + vulnerability
- Strong social networks (at individual, community, and global level) promote resiliency (lessen vulnerability)
- Poor individuals and nations most at risk, for least likely to have the social cohesion and social networks needed for resiliency

# Interlocking Levels of Analysis

- Individual network characteristics impact organizational and global networks and vice versa
- Strengthening one's own networks benefits one's community and nation
- Strengthening a community's and nation's networks benefits the individuals