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Social Networks, Nanotechnology, and Innovation

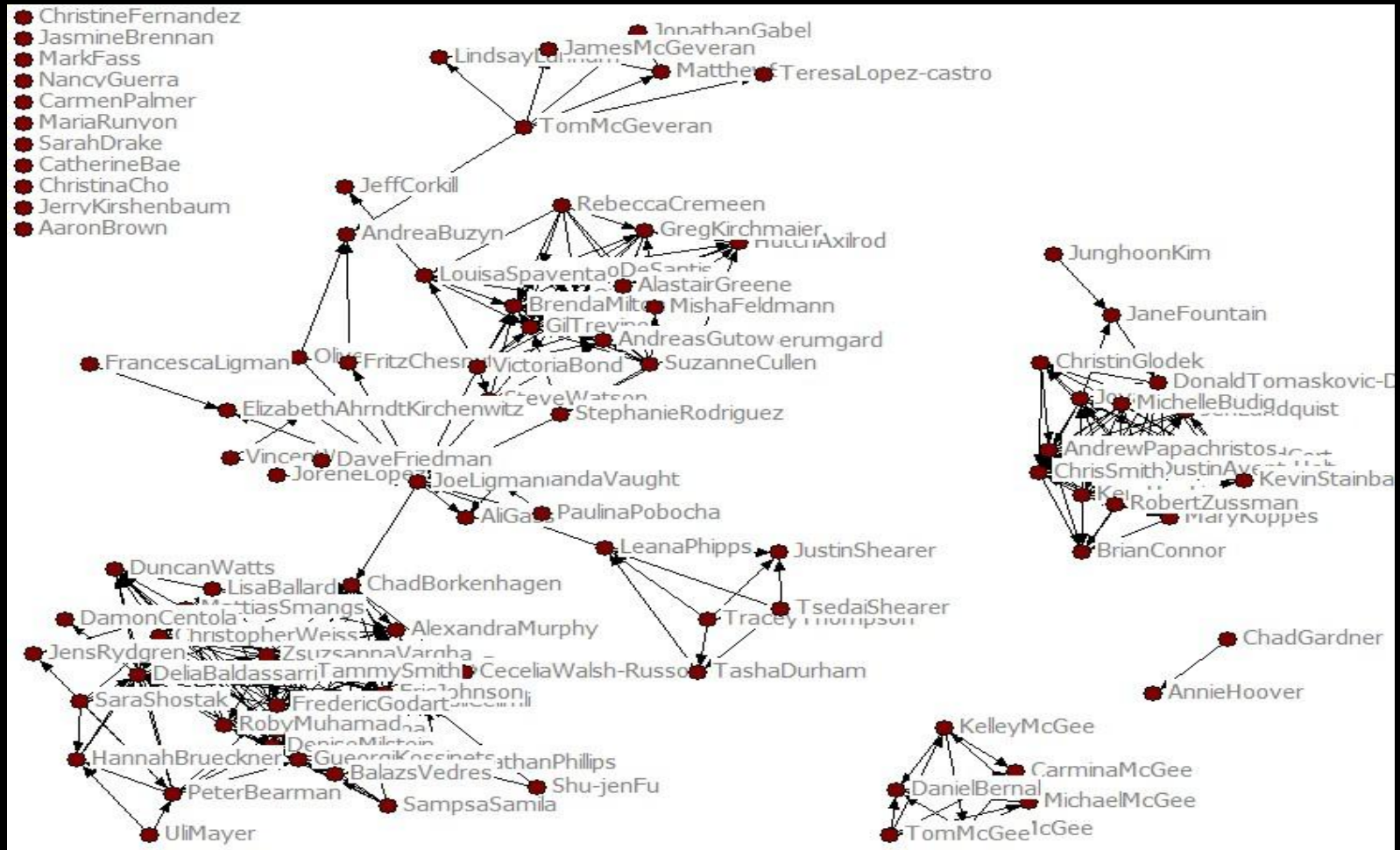
Social Networks

- Social Networks
- Social Networking: Structural Holes
- Embeddedness
- Structure
- Six Degrees of Separation
- The Search Problem

Social Network Utility



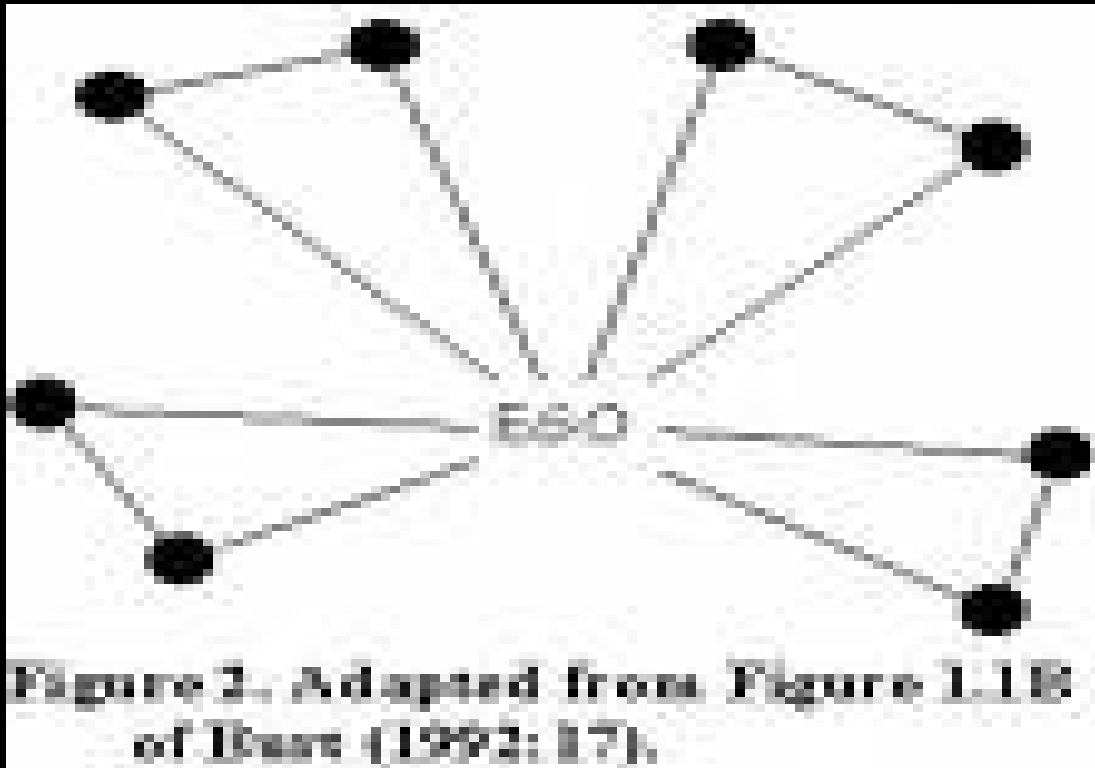
My Facebook Network



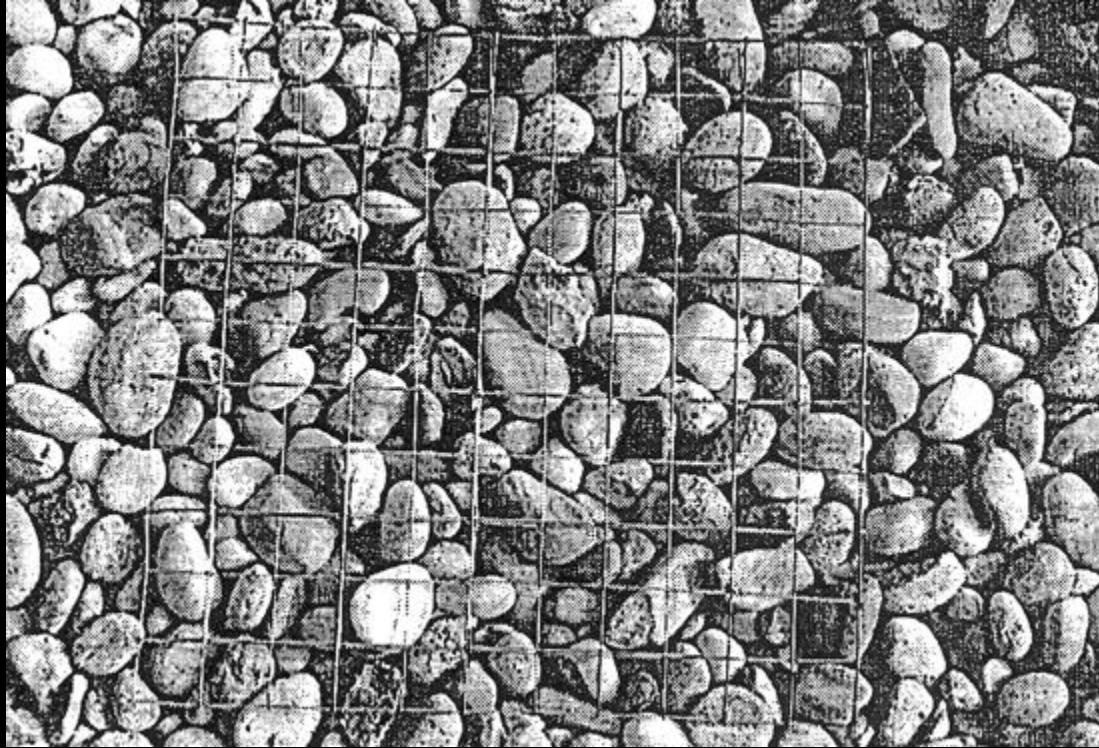
Creating Facebook Networks

- Download Ucinet
<http://www.analytictech.com/>
- Sign up for Facebook/Log in to Facebook
- Bernie Hogan's Facebook app
http://apps.facebook.com/mynet_phaseone/
- Select Ucinet
- Save output (html page) to a text file
- Change text file extension to ".dl"
- Open NetDraw
- Under file choose 'open Ucinet DI text file'
- Go to Layout and choose your preference
(mine was graph theoretic spring embedding)

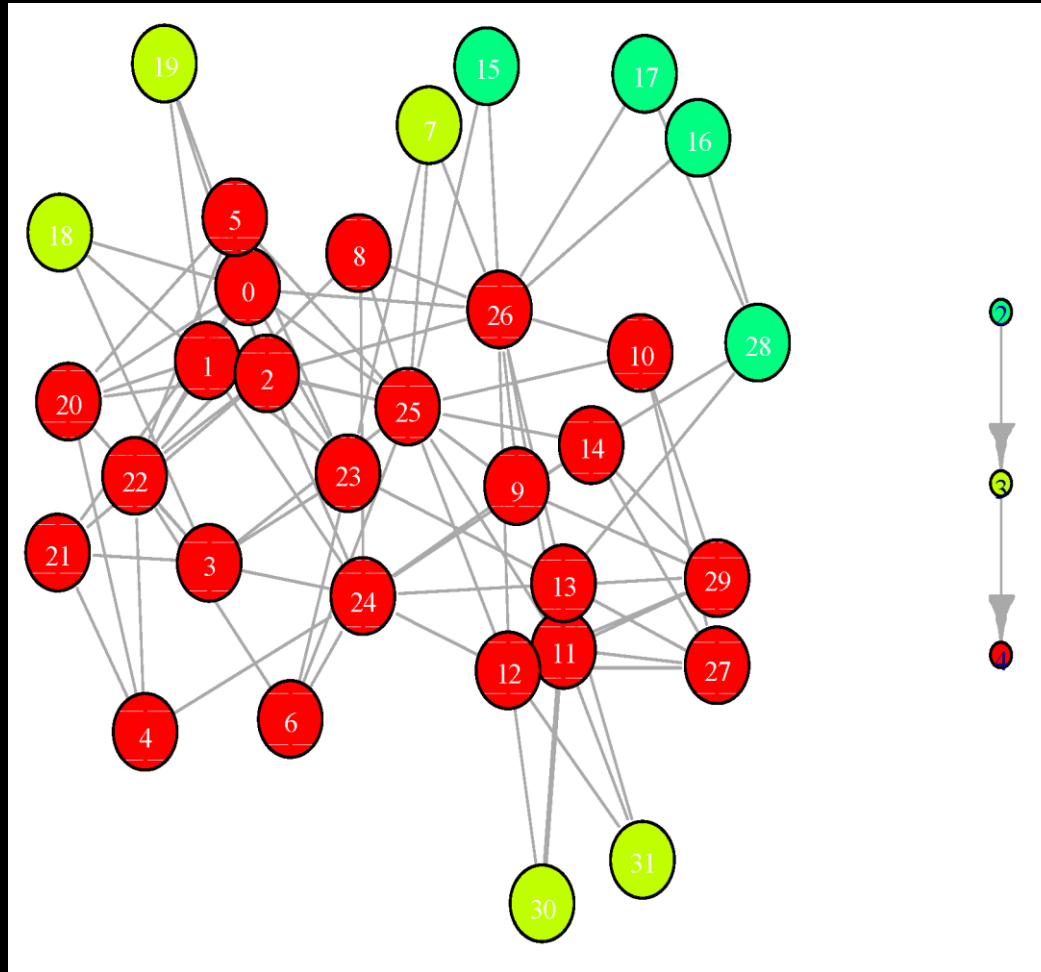
Networking, or Structural Holes



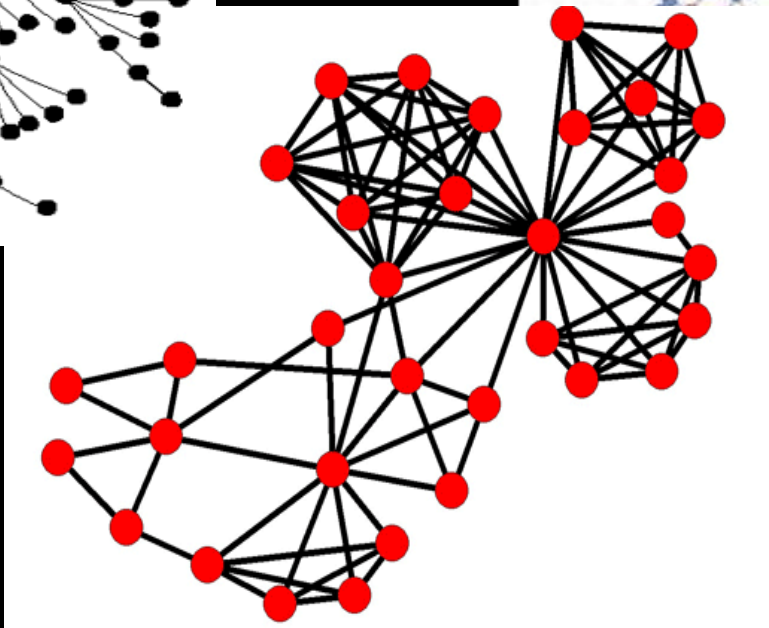
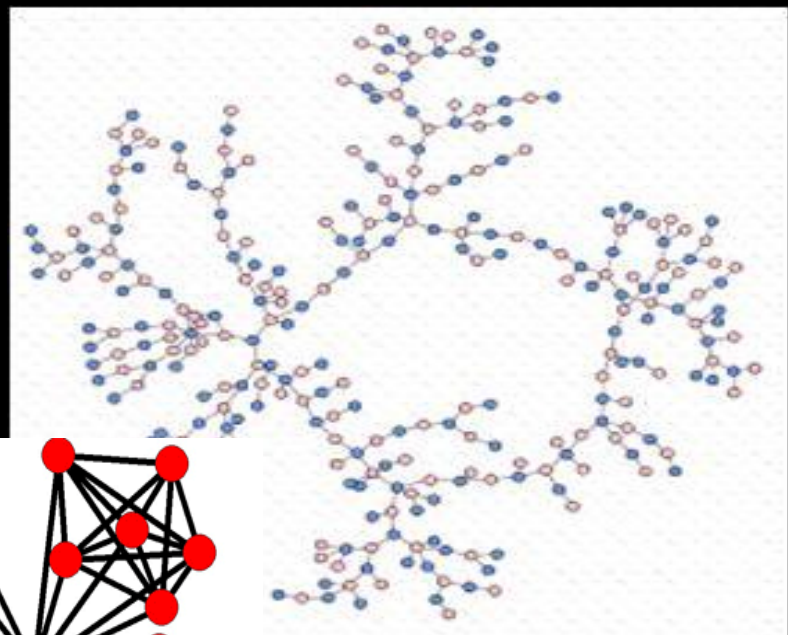
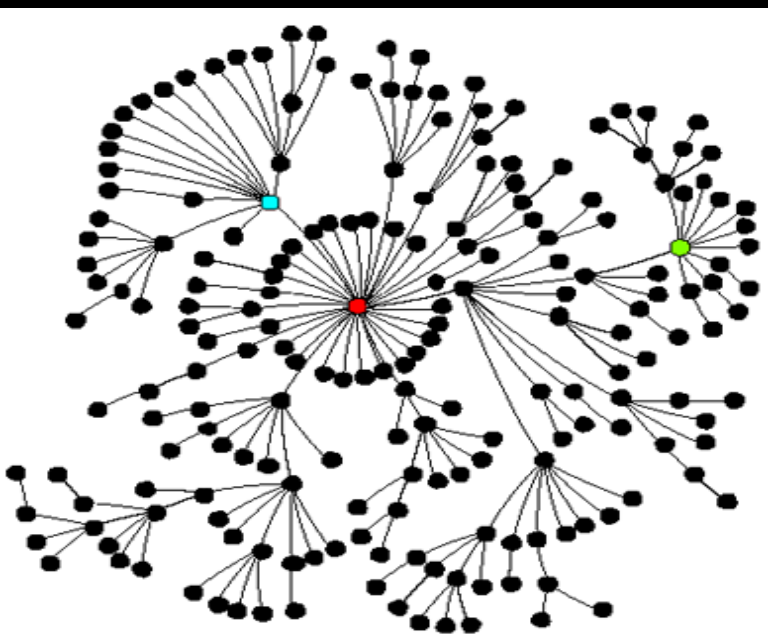
Embeddedness



Embeddedness



Structure

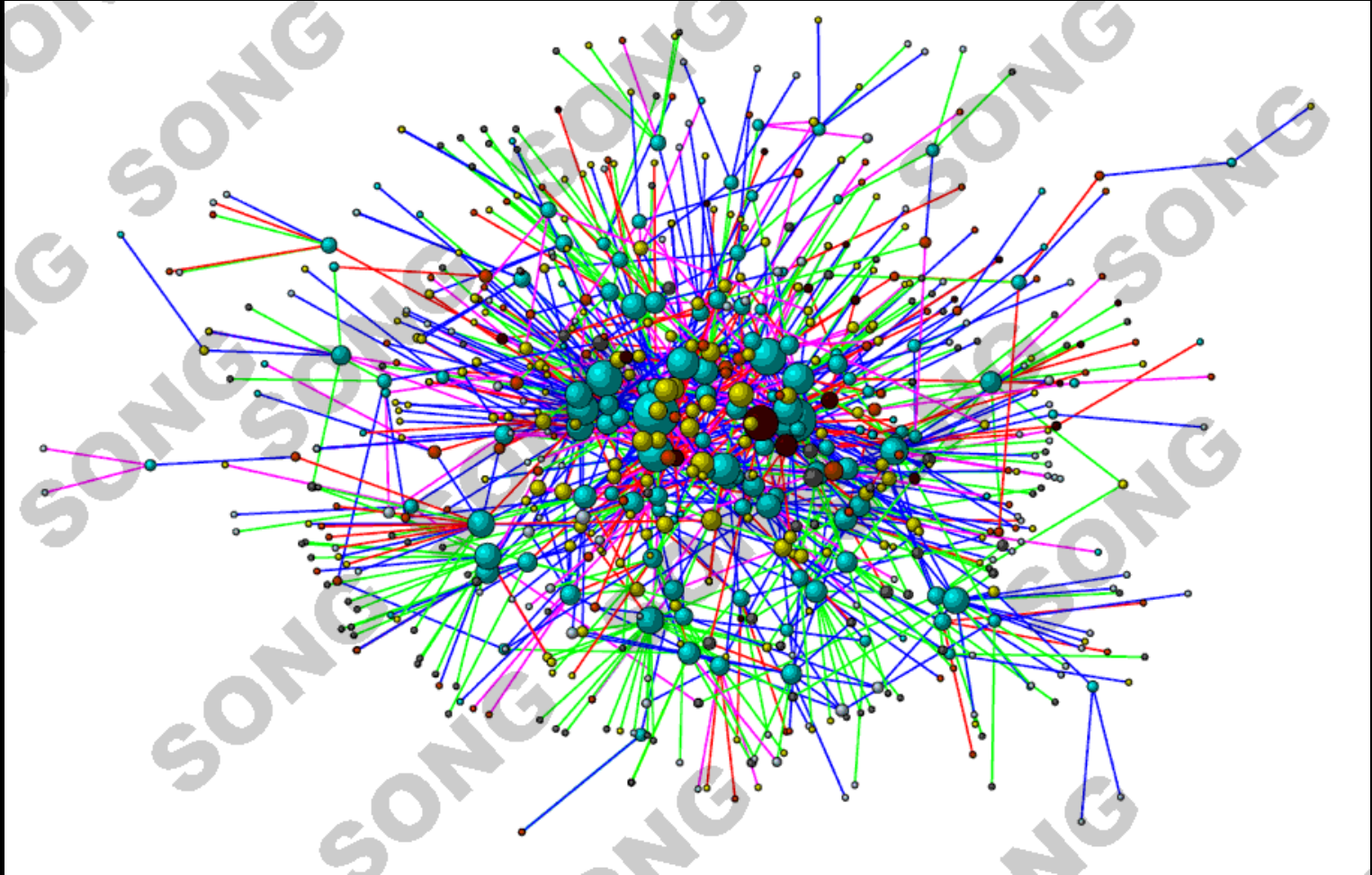


Six Degrees



Paul Erdos

Networks and Industry



Nanotechnology

- Knowledge Intensive
- Collaboration on Core Technologies
- Desire among firms to collaborate
 - 67% surveyed Massachusetts firms desire strategic alliance in R&D development
- 44% of Massachusetts firms have trouble identifying alliance partners

Networks Problems

- Informal paths to formal collaboration
 - Link between sharing facilities, university affiliation and strategic alliance, co-patenting
- Are there important informal networks hovering under observable networks?
- What sort of field is being created?
- Will there be stages in the development of the field?

Collaboration

- Does collaboration lead to collaboration?
 - Are diverse ties, informal relations and industry associations related to formal R&D collaborations between firms?
- What kinds of collaboration lead to diversity?
 - Are diverse ties associated with diverse field collaborations? Do certain kinds of informal collaborations lead to diversity?

Survey

- Target Population: Massachusetts Nano-technology Firms
- Sample Frame: Nanobank: A complete list of firms compiled from articles, patents, and grants
- Sample: 242 firm located in Massachusetts.

Collaboration

- Field identity
- Informal information-sharing
- Shared Facilities
- Association membership
- University Contact