Data Analysis Methods: Social Network Analysis.

Montevideo. March 2015.
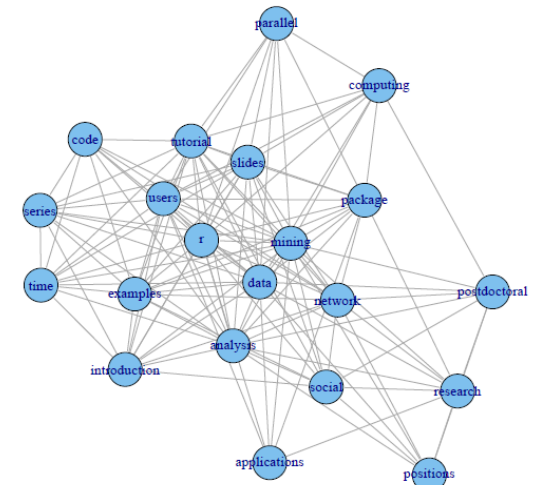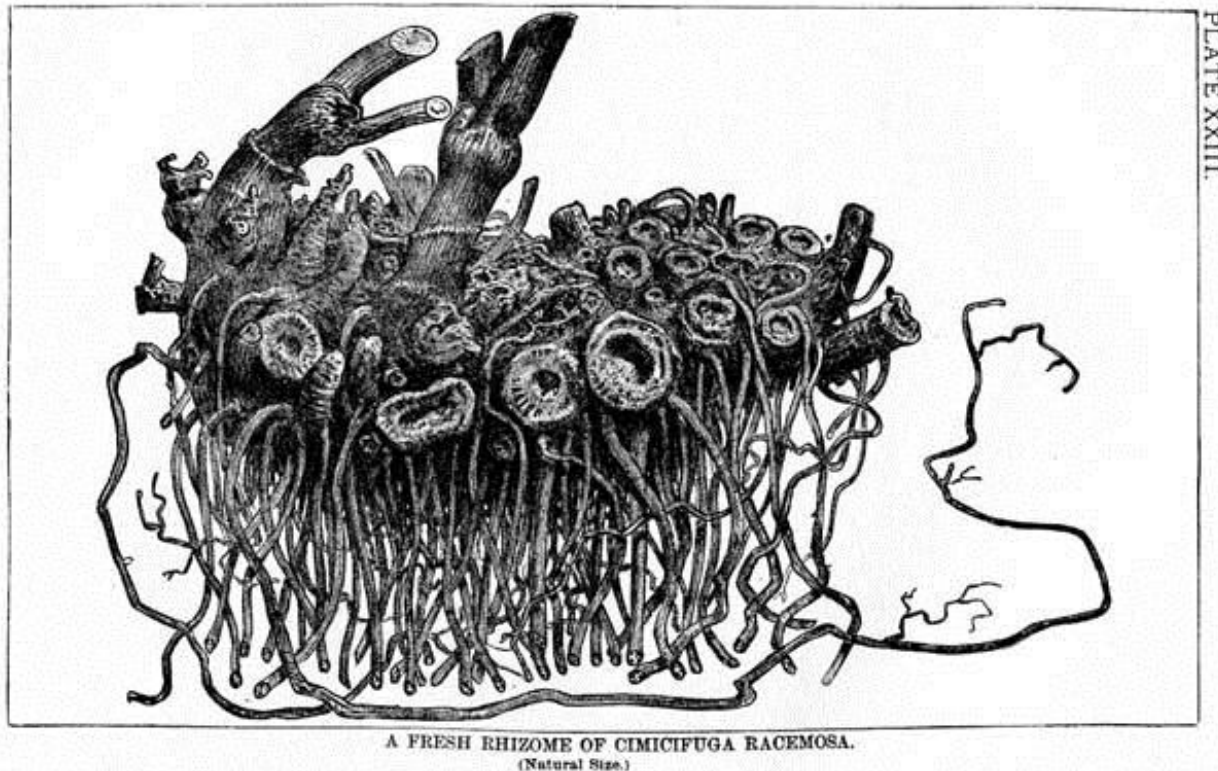
Martín García Cartagena

Jeremy Pittman
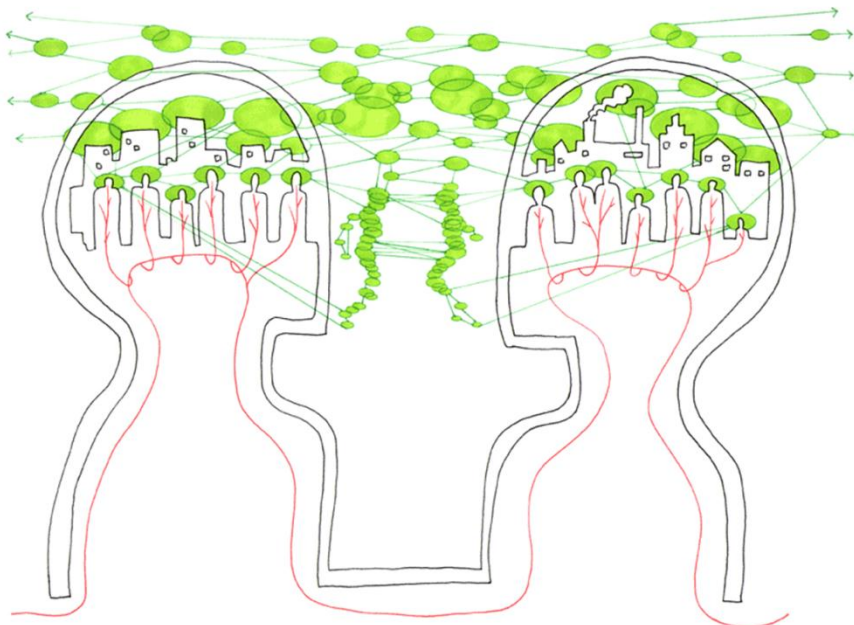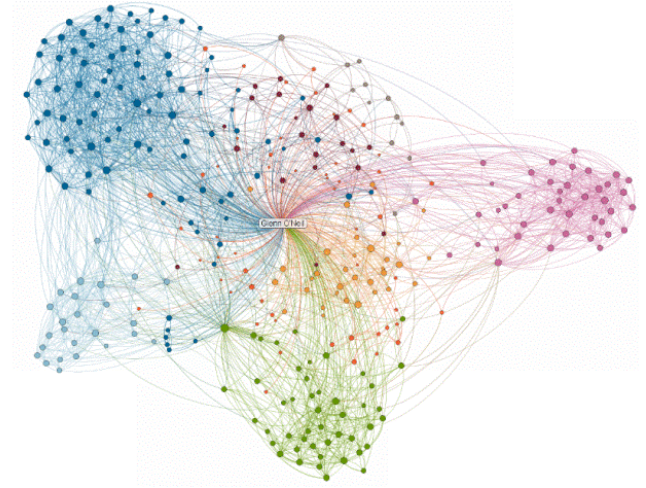
What is Social Network Analysis?

Social network analysis is a methodological approach in the social sciences using graph-theoretic concepts to describe, understand and explain social structure.

(Brandes & Wagner, 1999)

A FRESH RHIZOME OF CIMICIFUGA RACEMOSA.
(Natural Size.)

Roots in Relational Sociology

- Emphasis on:
  - Relations rather than attributes
  - Networks rather than groups
  - Relations in a relational context

Alexander and Armitage 2014

What is Social Network Analysis?

A social network is mainly constituted by two elements: **Nodes** and **Relations (or Edges)**.

Nodes: Can be representations of groups, institutions, words, documents, countries, amongst other social elements that can be related to each other through direct or indirect links.

Relations/Edges: Are the links that bind together those social elements that constitute the network. They can be categorized as relations of friendship, proximity, animosity, filiation, ideological, influence, power, transfer, amongst other posible social relations.
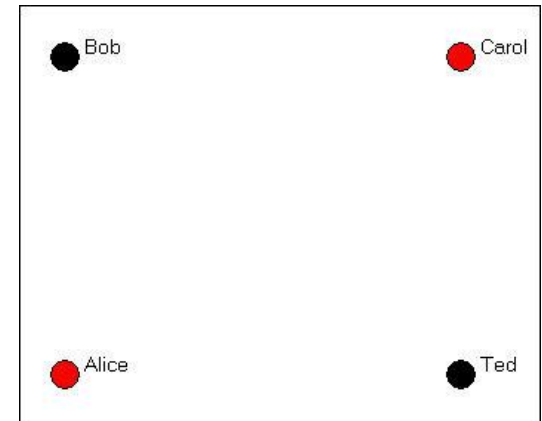
(Reynoso, 2011)
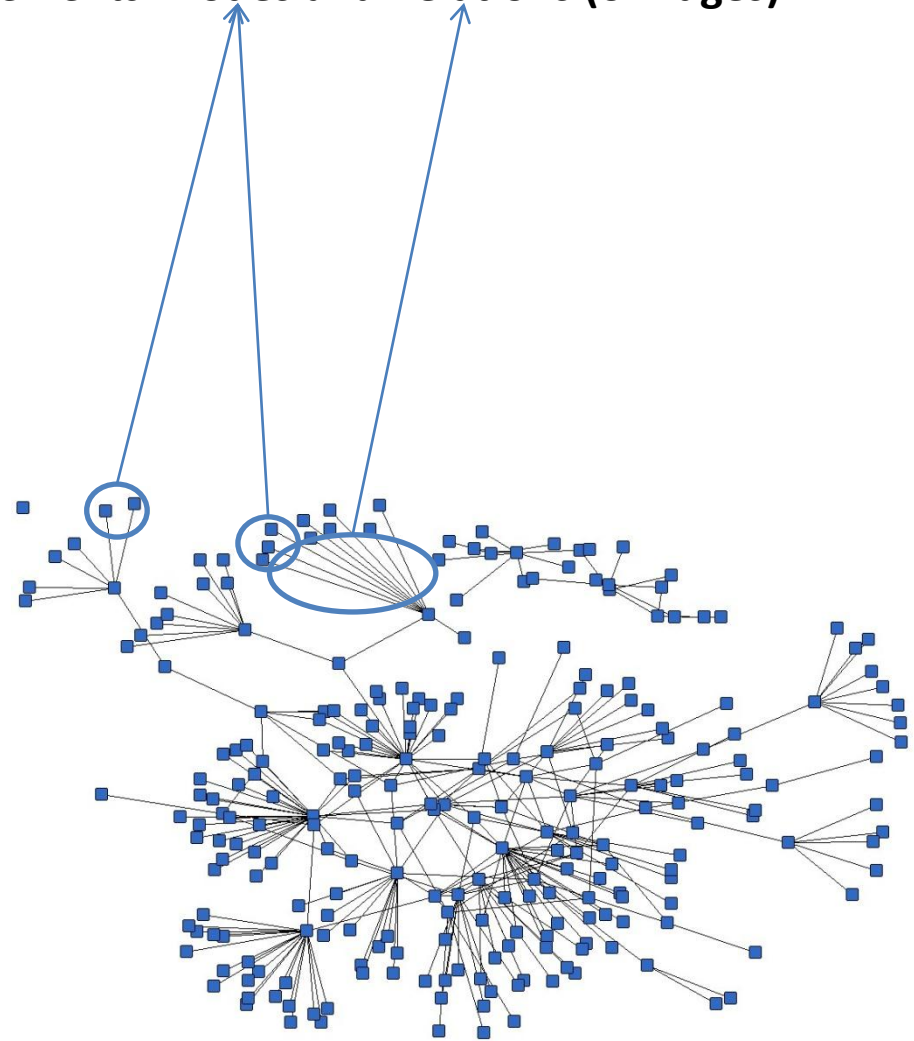
How does Social Network Analysis work?

Nodes:
Bob.
Carol.
Alice.
Ted.

Node Reference	
Male	1
Female	2

Node Atributes	
Bob	1
Carol	2
Alice	2
Ted	1

Bob · Carol · Alice · Ted

Relations:
Like.
Dislike.

Relations Reference	
Dislike	0
Like	1

Who likes who?				
	Bob	Carol	Ted	Alice
Bob	--	1	1	0
Carol	1	--	1	0
Ted	1	1	--	1
Alice	0	0	1	--

Bob → Carol → Ted → Alice

(Hanneman & Riddle, 2005)
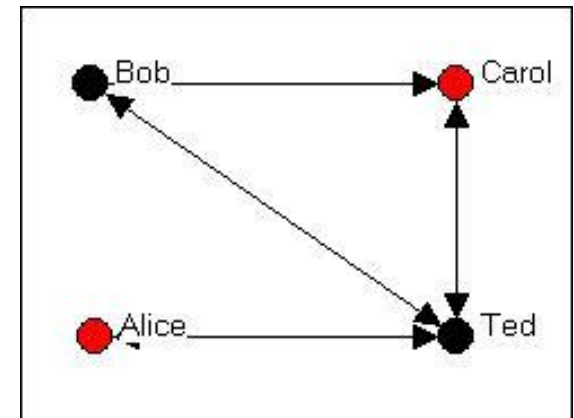
How to inform Social Network Analysis?

Data can be obtained through:

Surveys

Interviews

Document Analysis
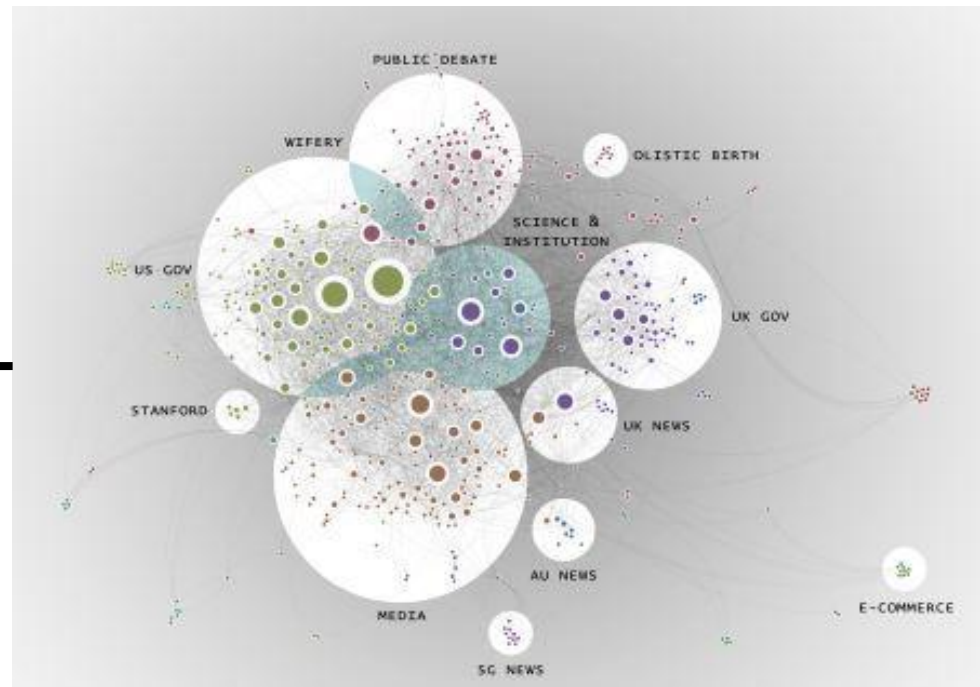
International Public Policy Transfer and Epistemic Communities: The case of ECOPLATA.

Comunidad Epistémica en ECOPLATA.
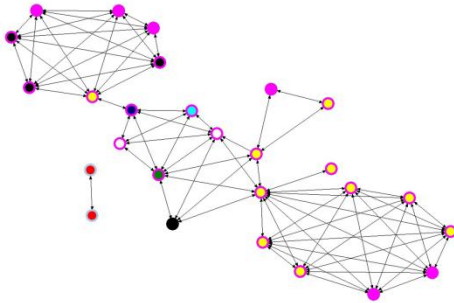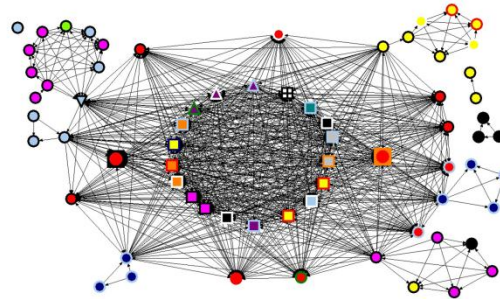1991-1997
- Disociación marcada entre las ciencias sociales y las ciencias naturales.
- Red constituida por personal técnico del área de ciencias naturales.
- Ausencia de actores de la política.
- Red nucleada alrededor del personal técnico Canadiense.

Comunidad Epistémica en ECOPLATA
1998-2002

- Se integran actores de la política.
- Mayor integración de las Ciencias Sociales.
- Mayor cantidad de roles.
- Más diversidad de instituciones representadas.
- Más actores ''de borde''.

Comunidad Epistémica en ECOPLATA
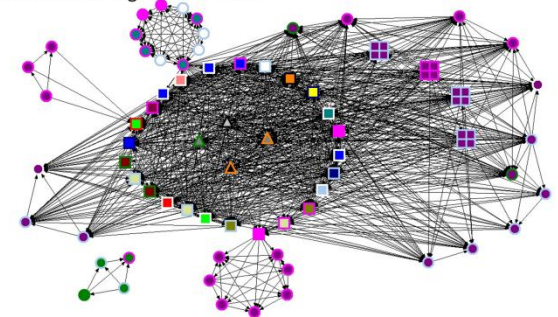2003-2009

- Se consolida la Comunidad Epistémica.
- Ciencias sociales y naturales equilibradas e integradas.
- Más roles de coordinación.
- Dalhousie no integra más la Red.

Governance networks in St. Lucia

Pittman et al. 2015
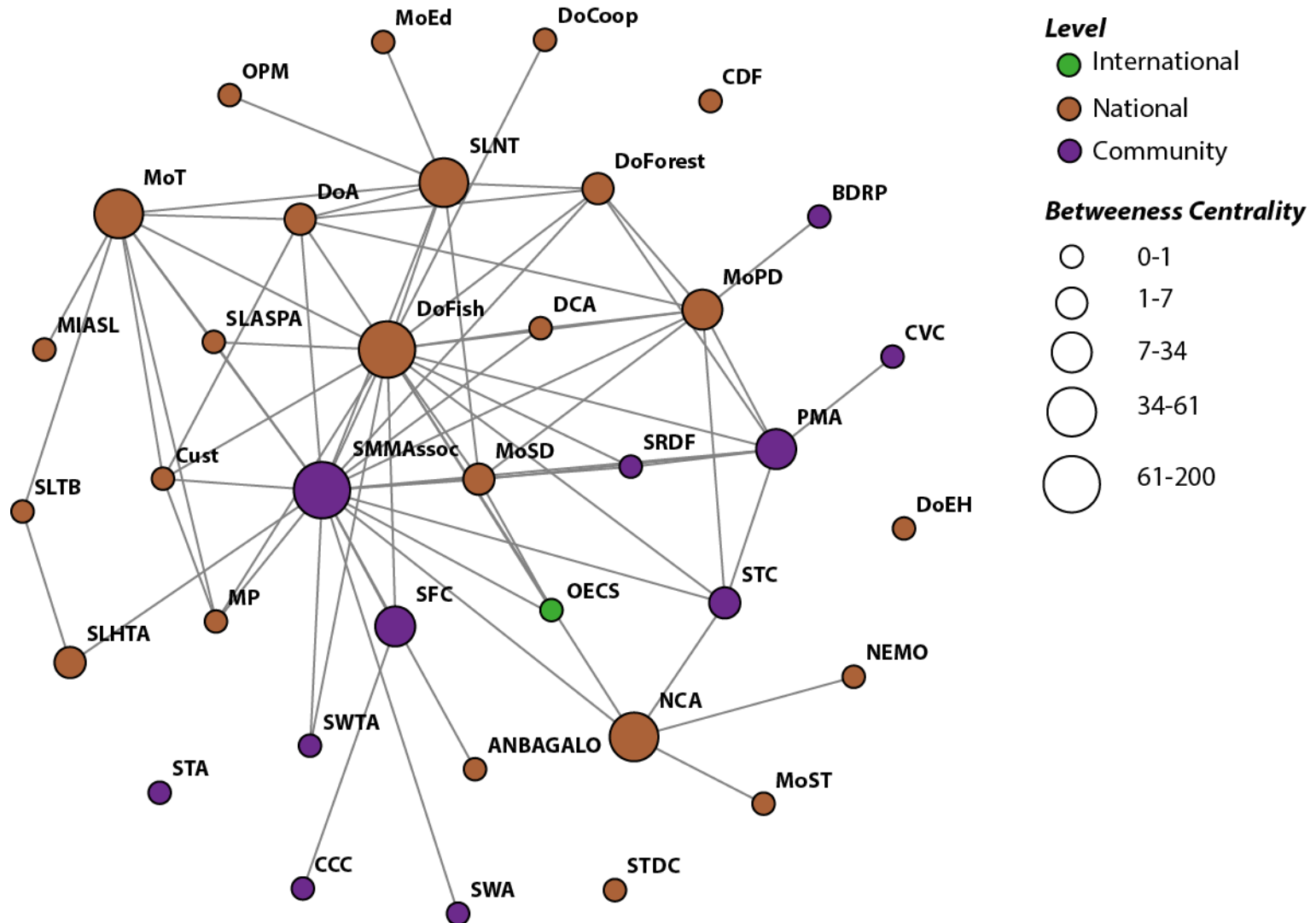
There are 2 opportunities to use SNA:

1. Gather social network data during interviews
   - Quality, frequency and intent of interactions between team members

2. Use social network data gathered during IAI survey
   - Could possibly help train rules for the ABM
   - Paper is already in development (by Jeremy) – is there anyone interested in joining?

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