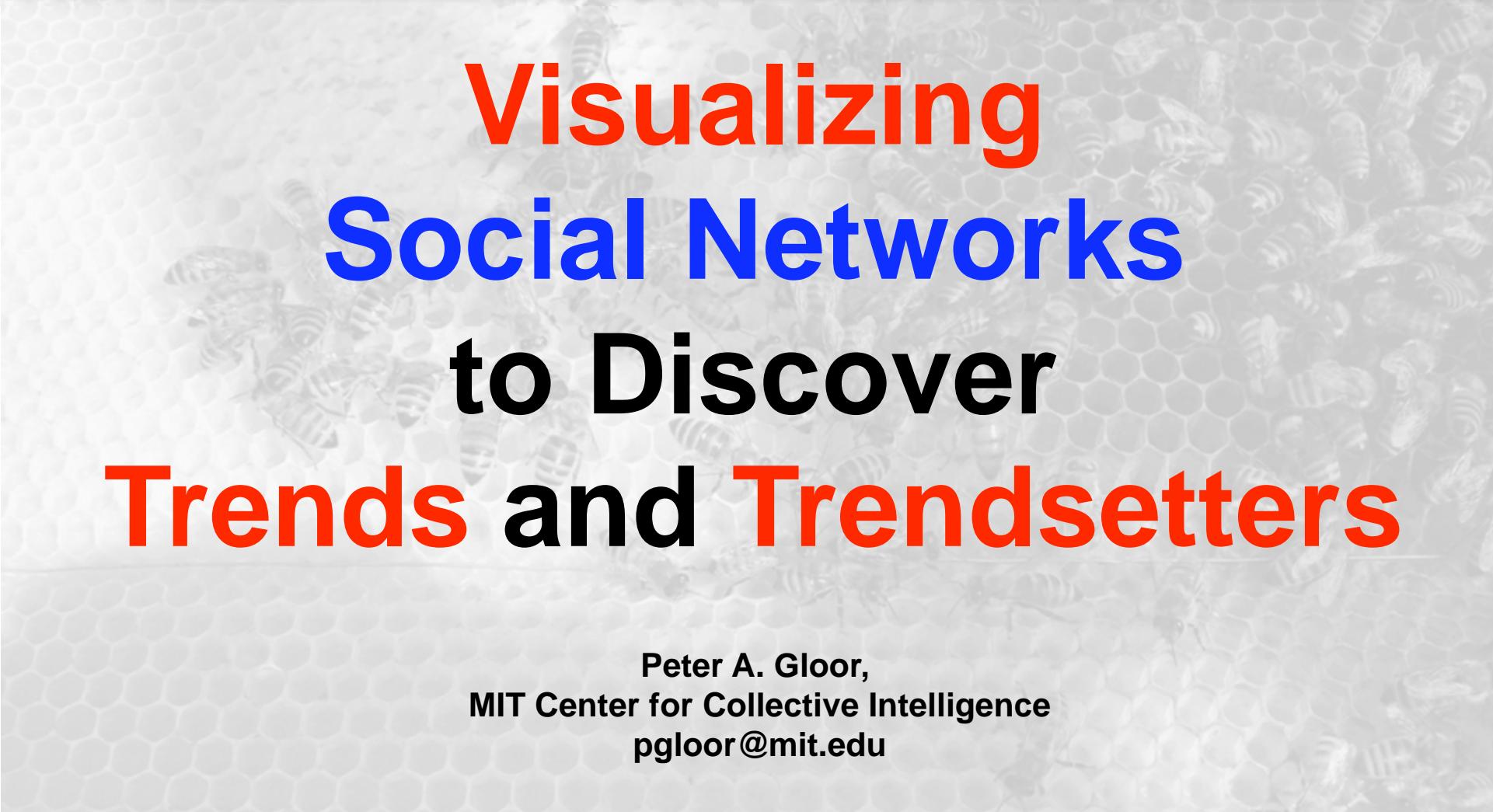
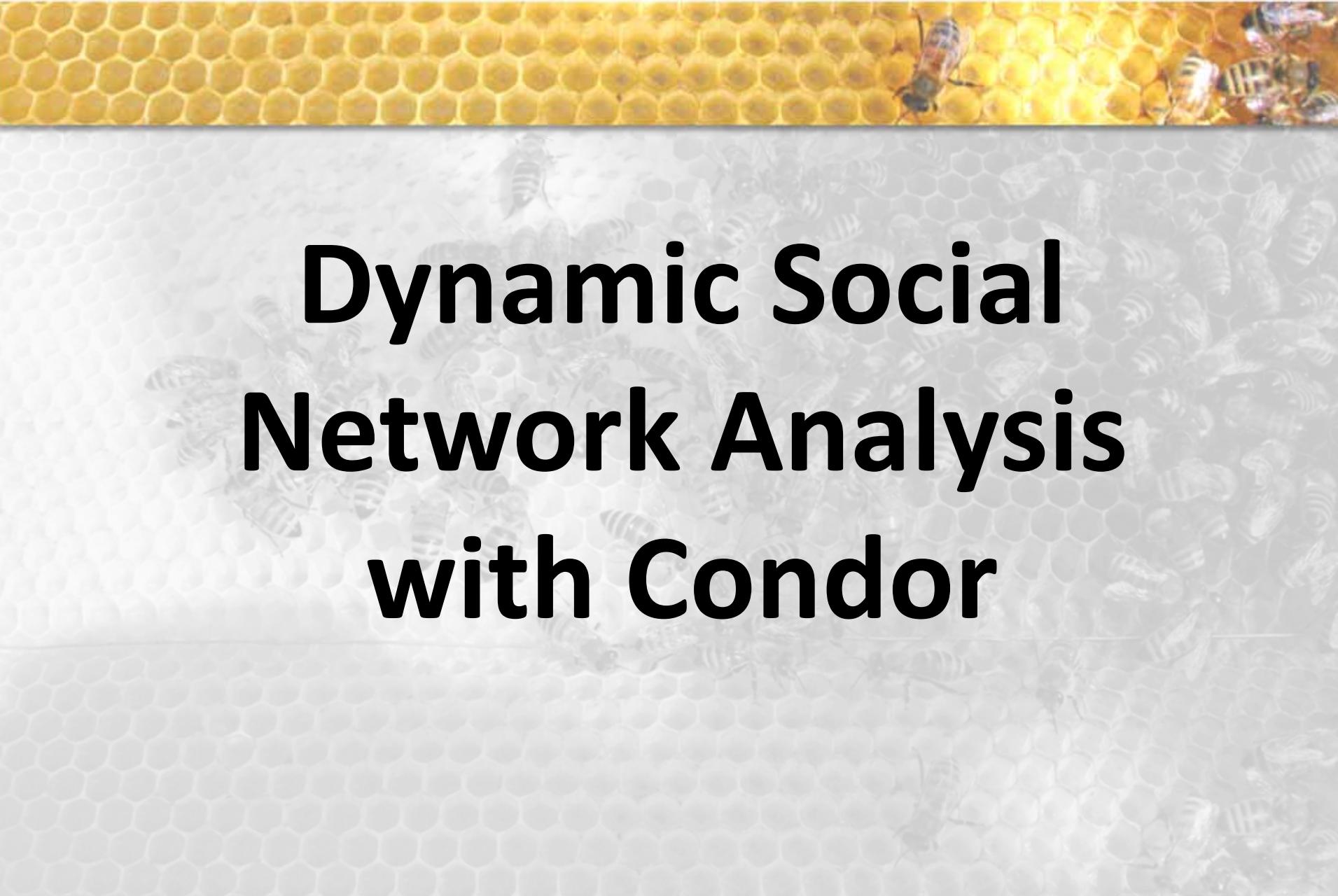


# **Visualizing Social Networks to Discover Trends and Trendsetters**



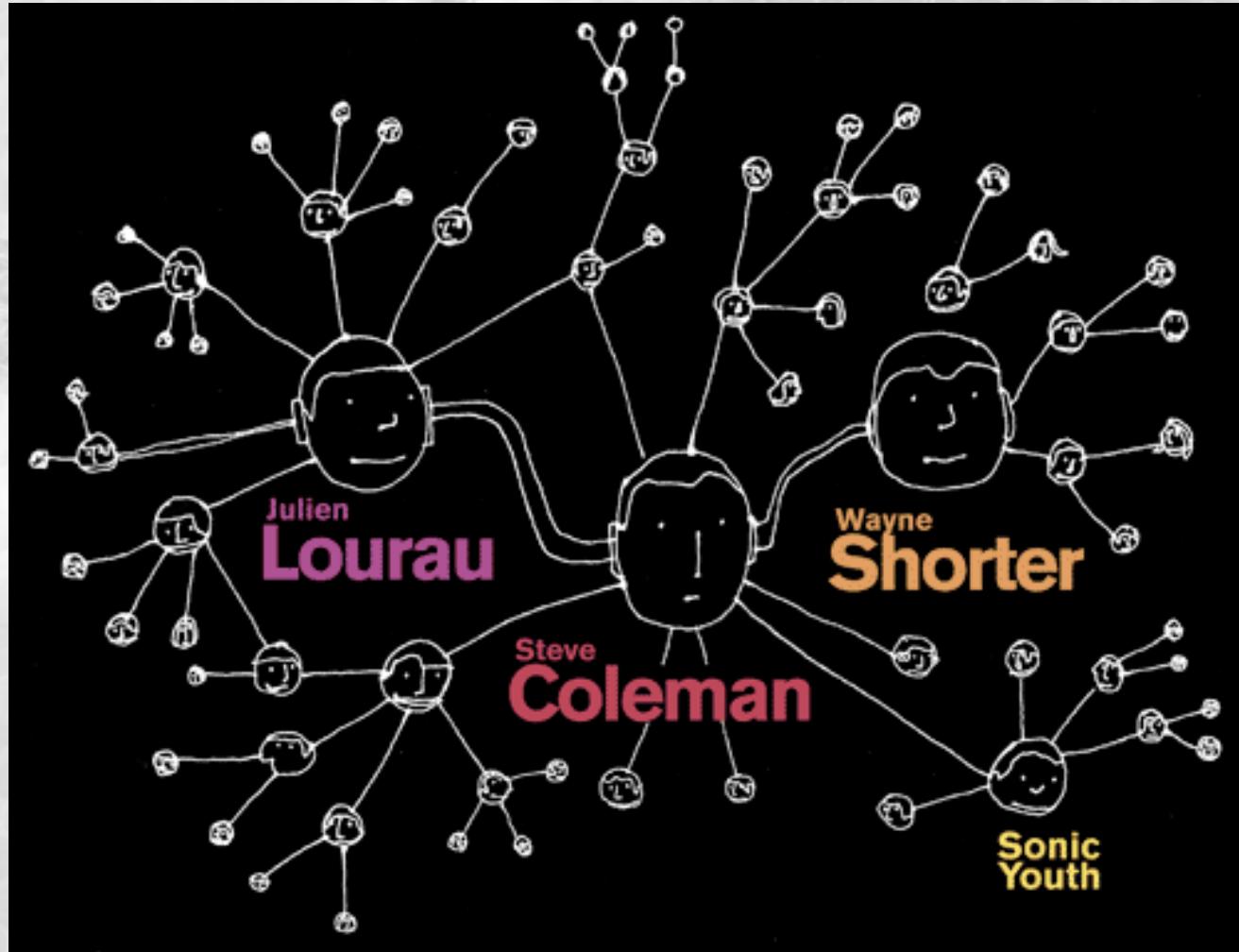
Peter A. Gloor,  
MIT Center for Collective Intelligence  
[pgloor@mit.edu](mailto:pgloor@mit.edu)





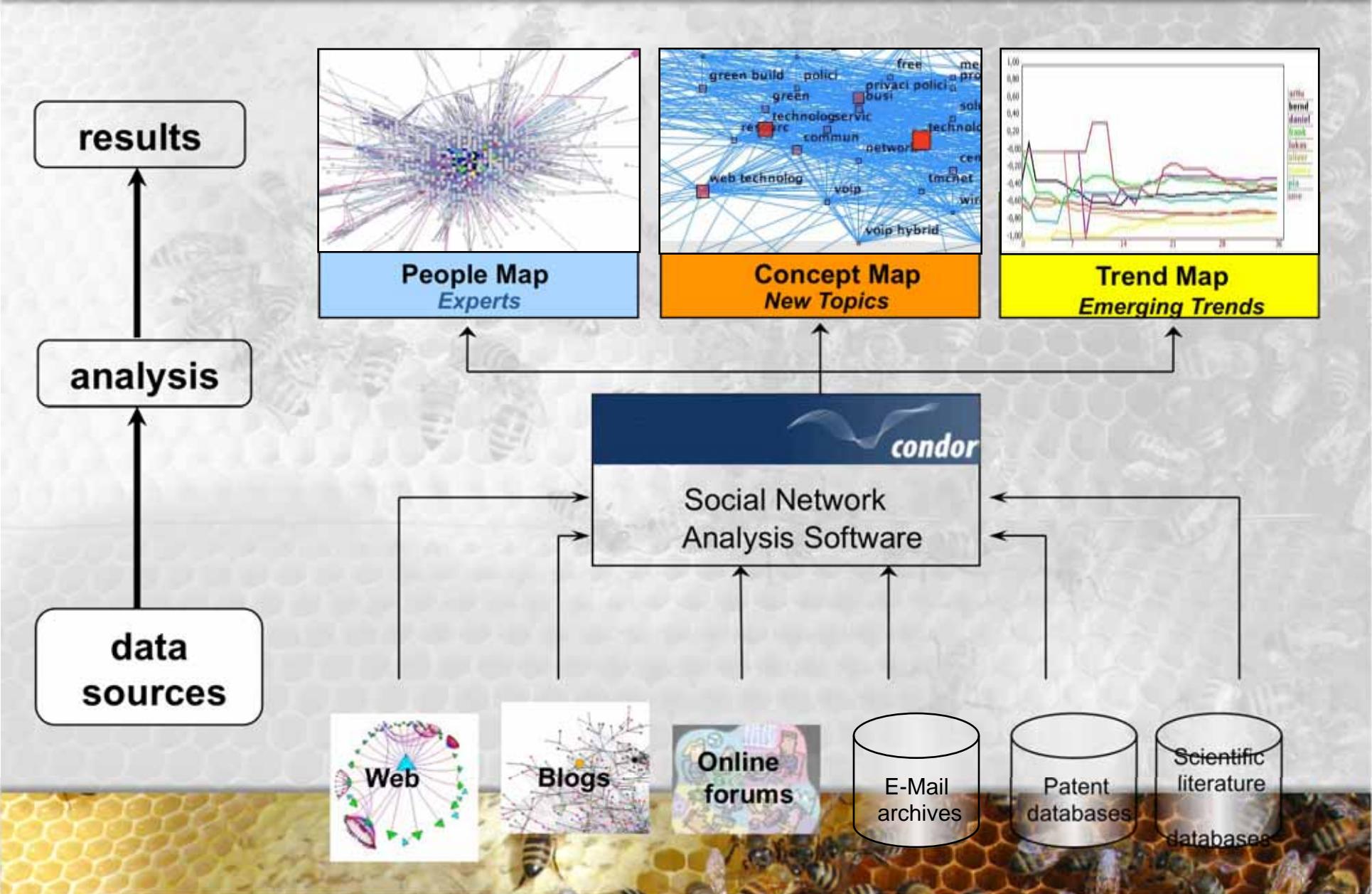
# **Dynamic Social Network Analysis with Condor**

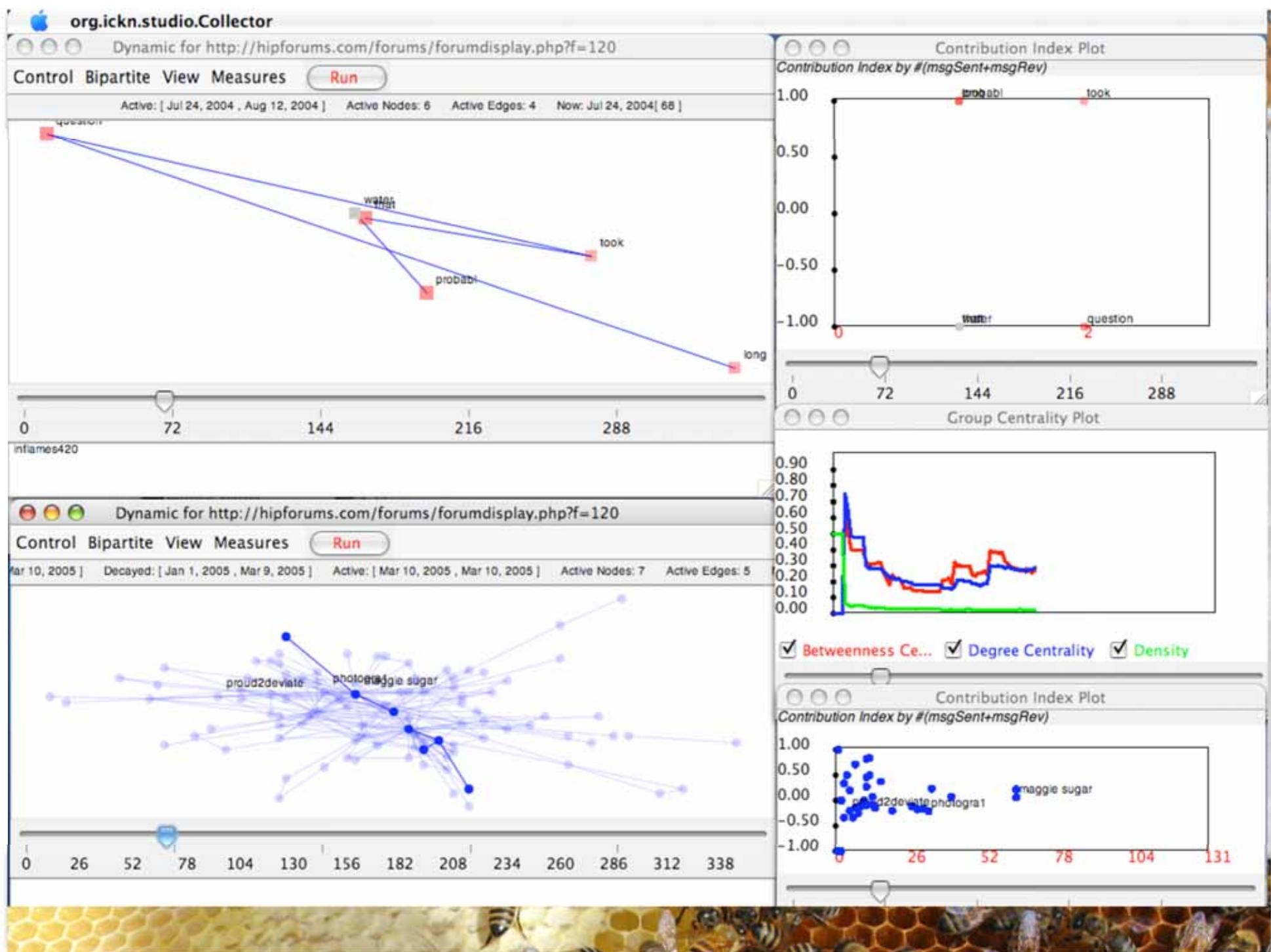
# Social Network Analysis (SNA)



[www.jazzalavillette.com](http://www.jazzalavillette.com)

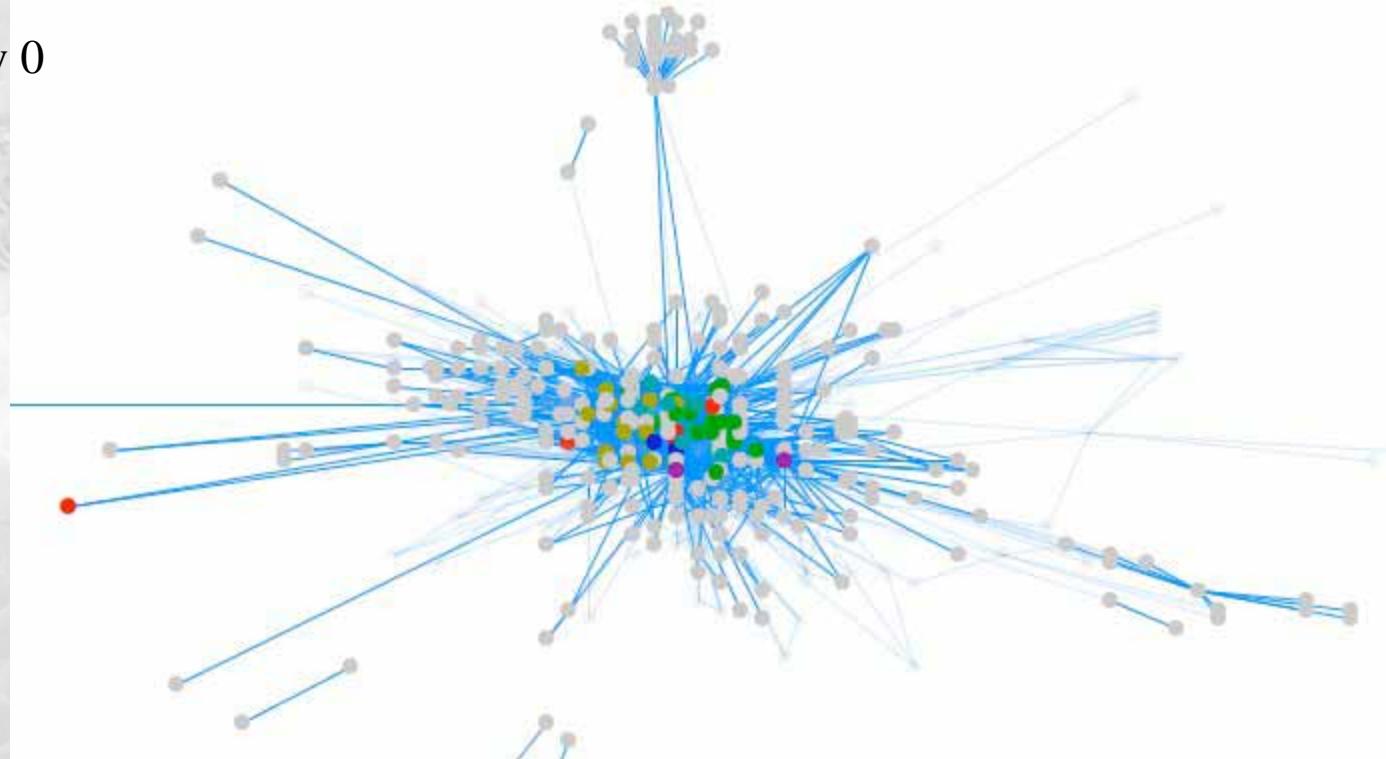
# Condor Architecture





New employees are integrated in about one week

day 0

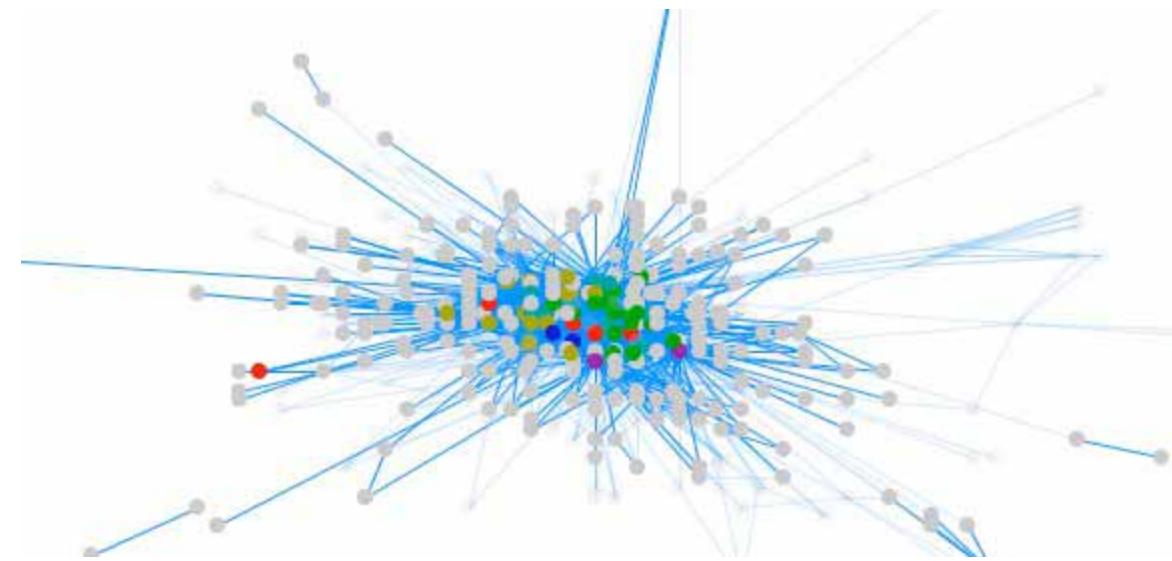


1/27/09

6

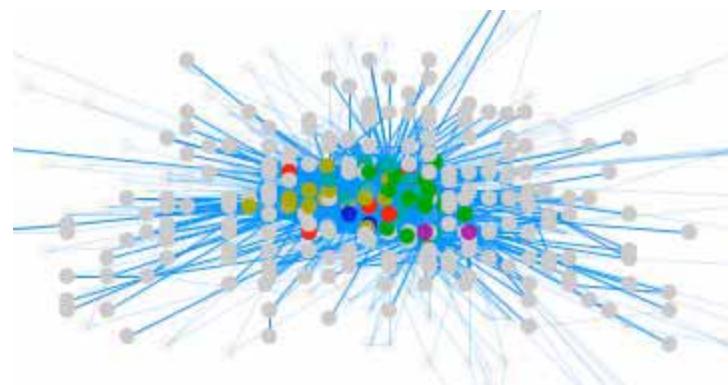
New employees are integrated in about one week

day 3

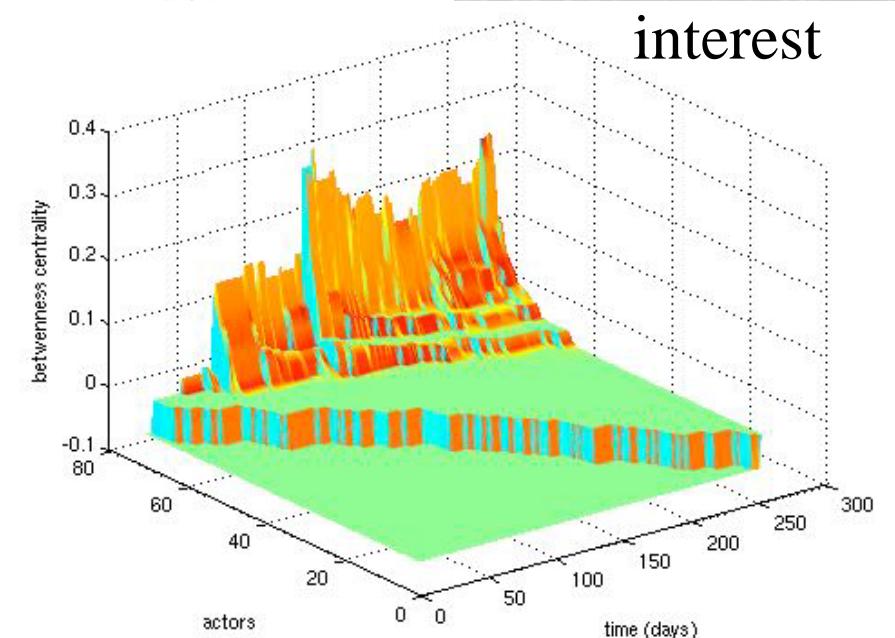
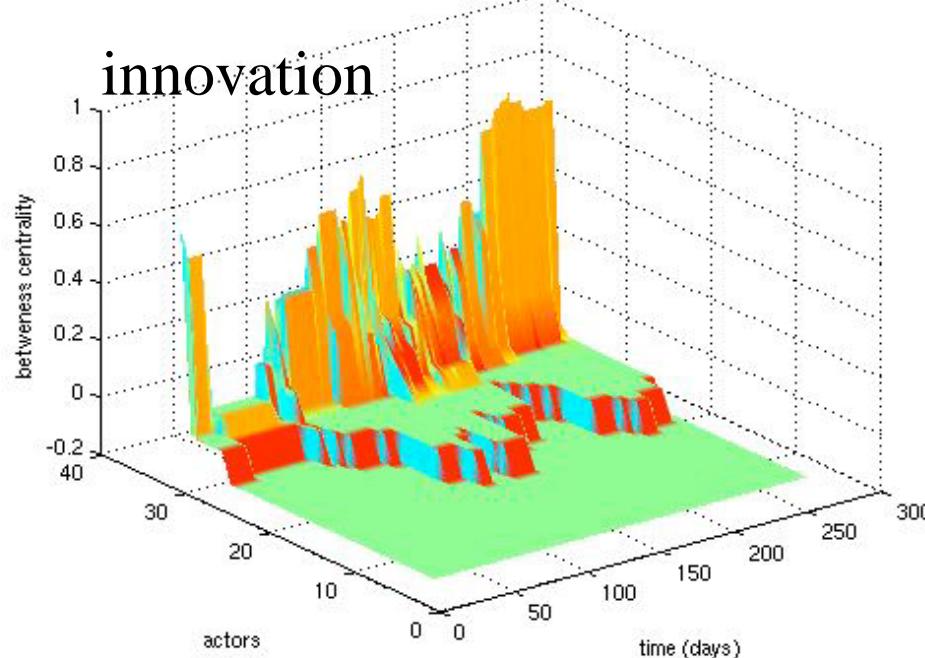
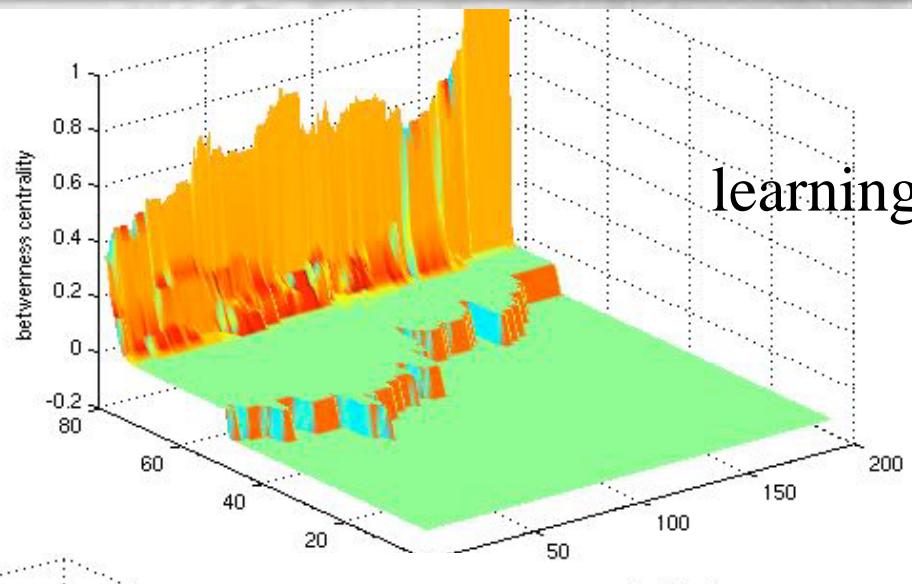


New employees are integrated in about one week

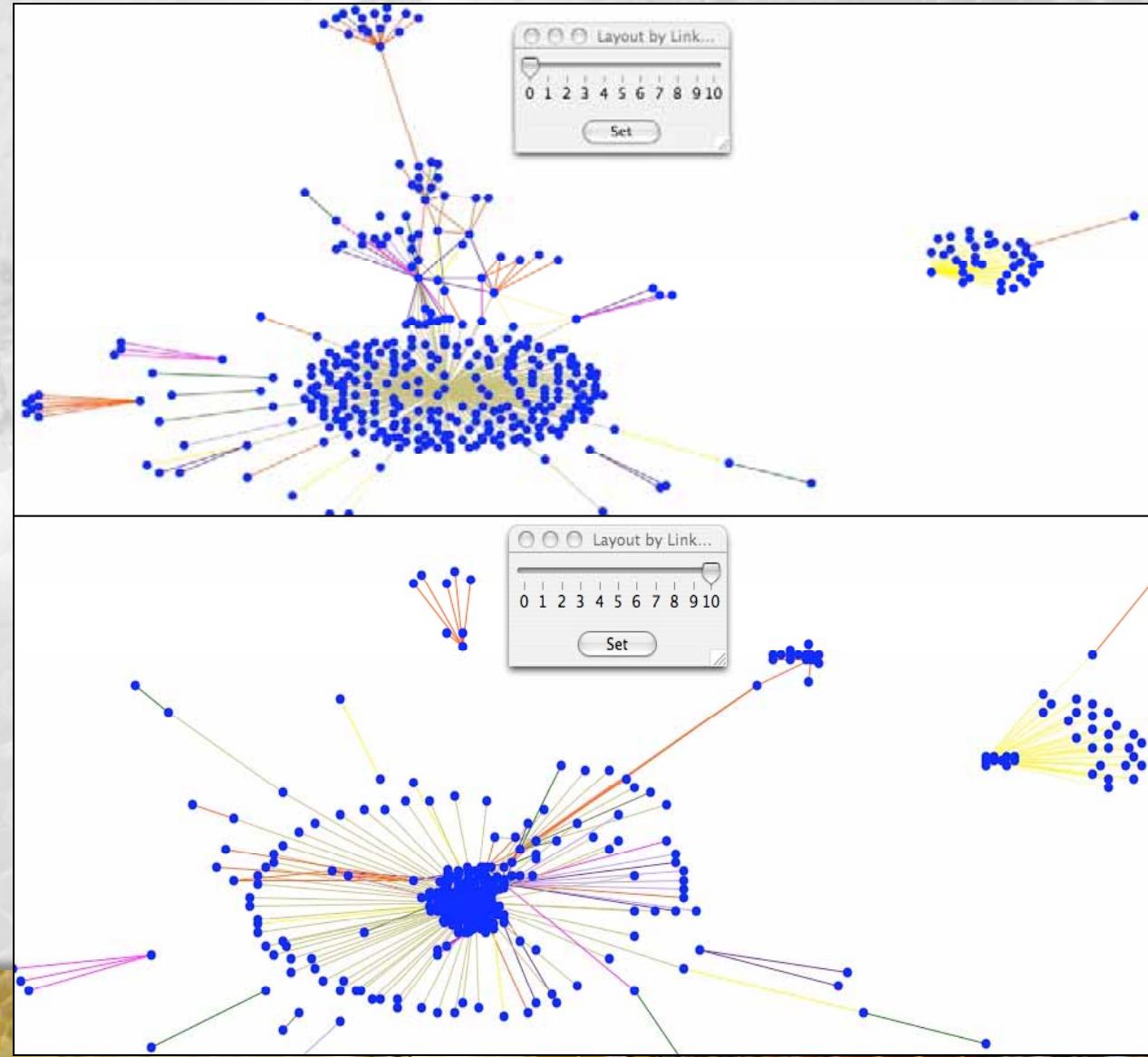
day 5



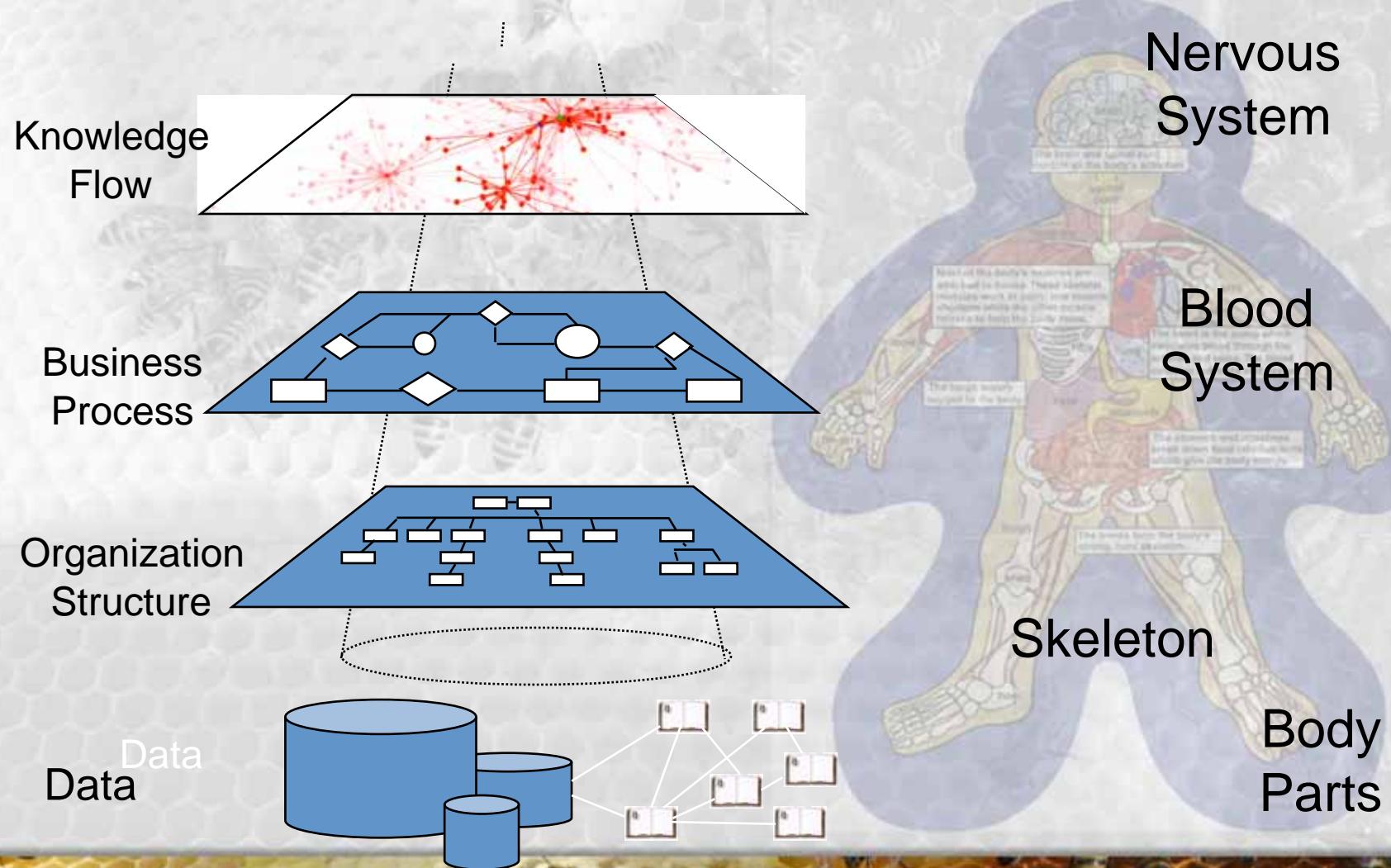
# Predicting Performance by Communication



# Combining links and content similarity



# Knowledge Flow Optimization





# Creators

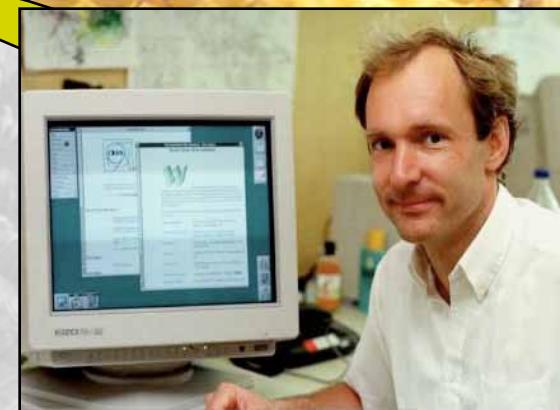


p

E

A





# How Cool ideas develop



powered by  
`<html>`

COINs  
(groups of creators)



Creators  
(creative experts)

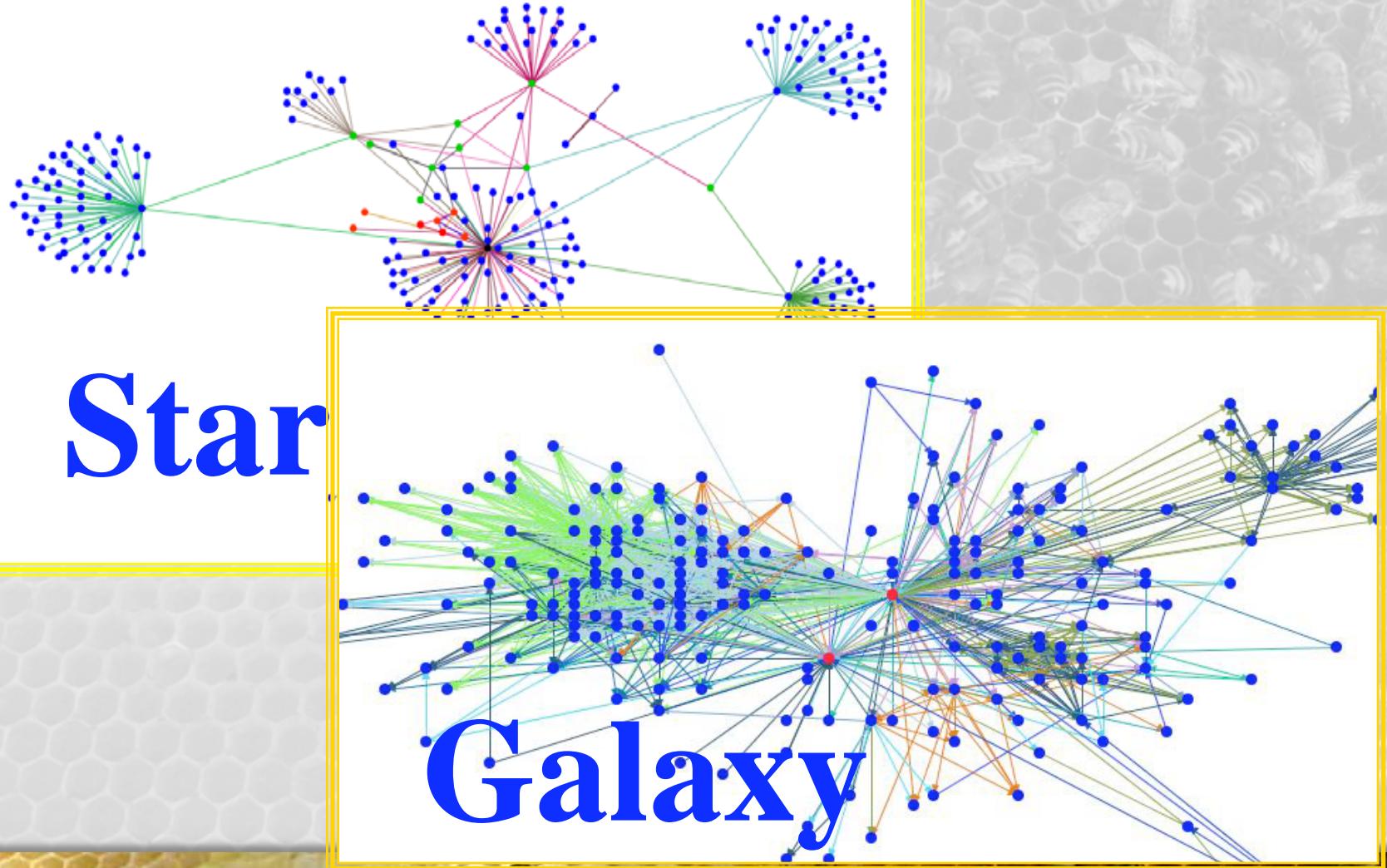


CLNs  
(swarms - ecosystems of COINs)



CINs  
(crowds - ecosystems of CLNs )

# Don't be a star, be a galaxy!





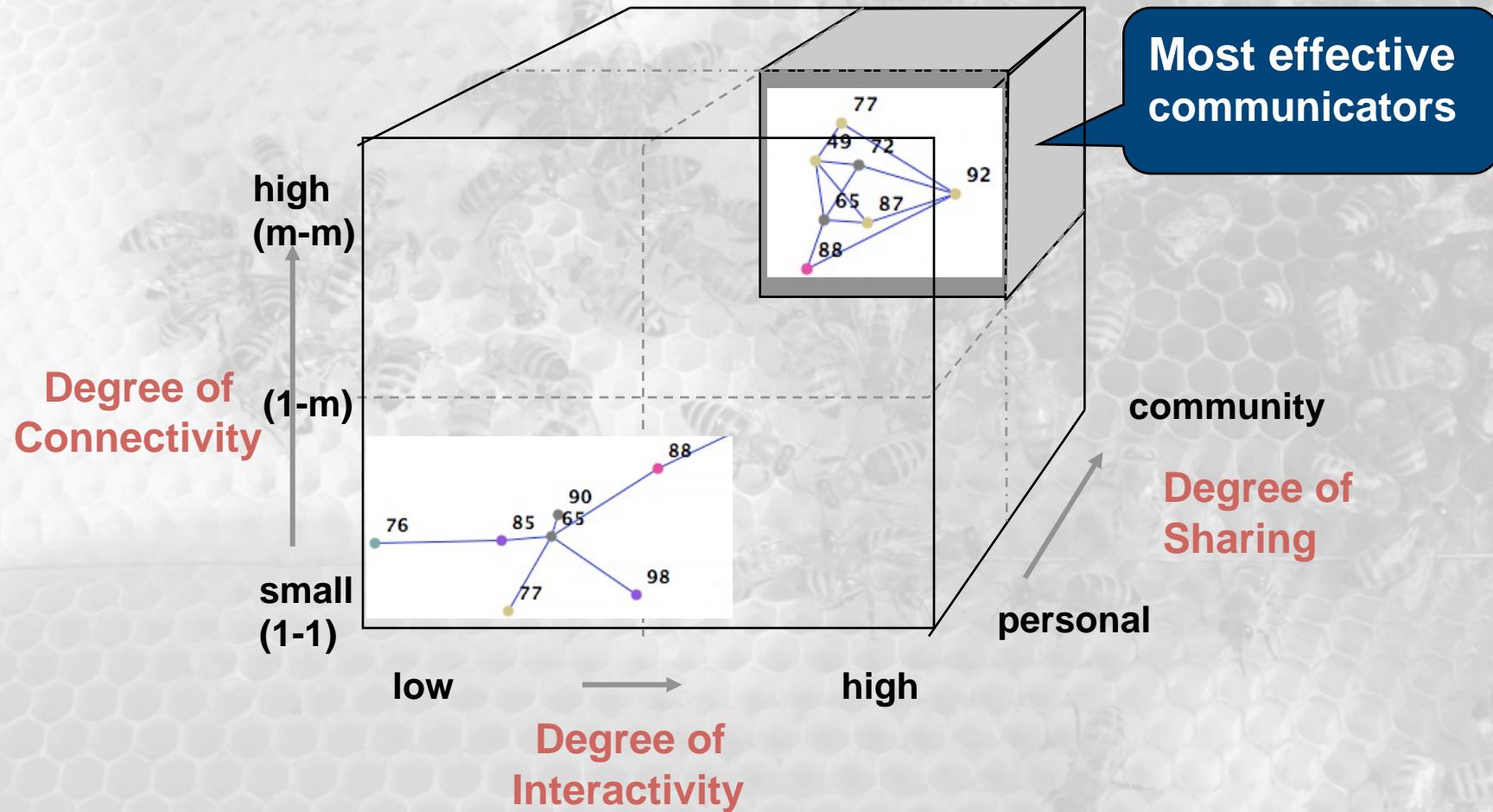
# **Collaborative Innovation Networks (COINs)**

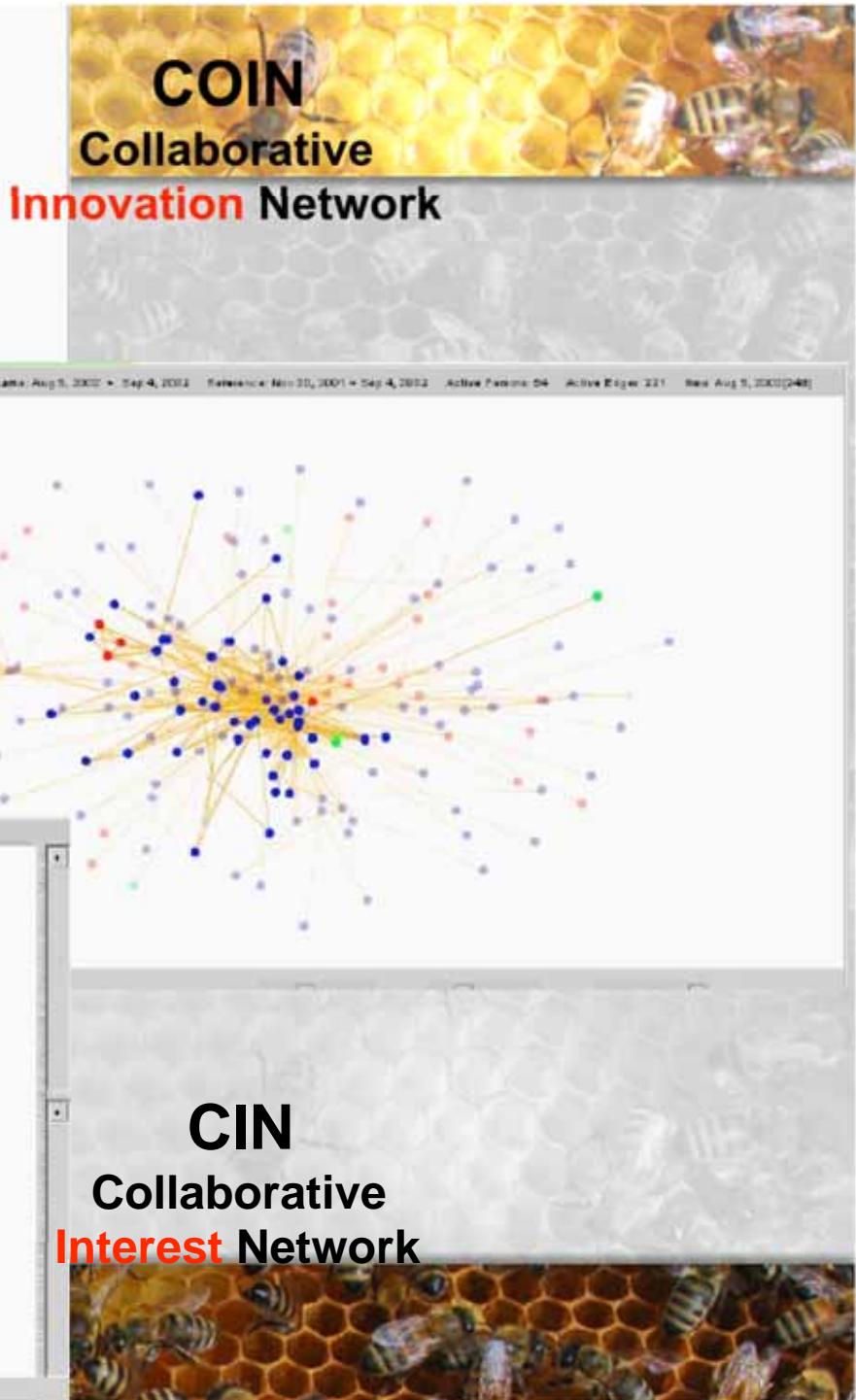
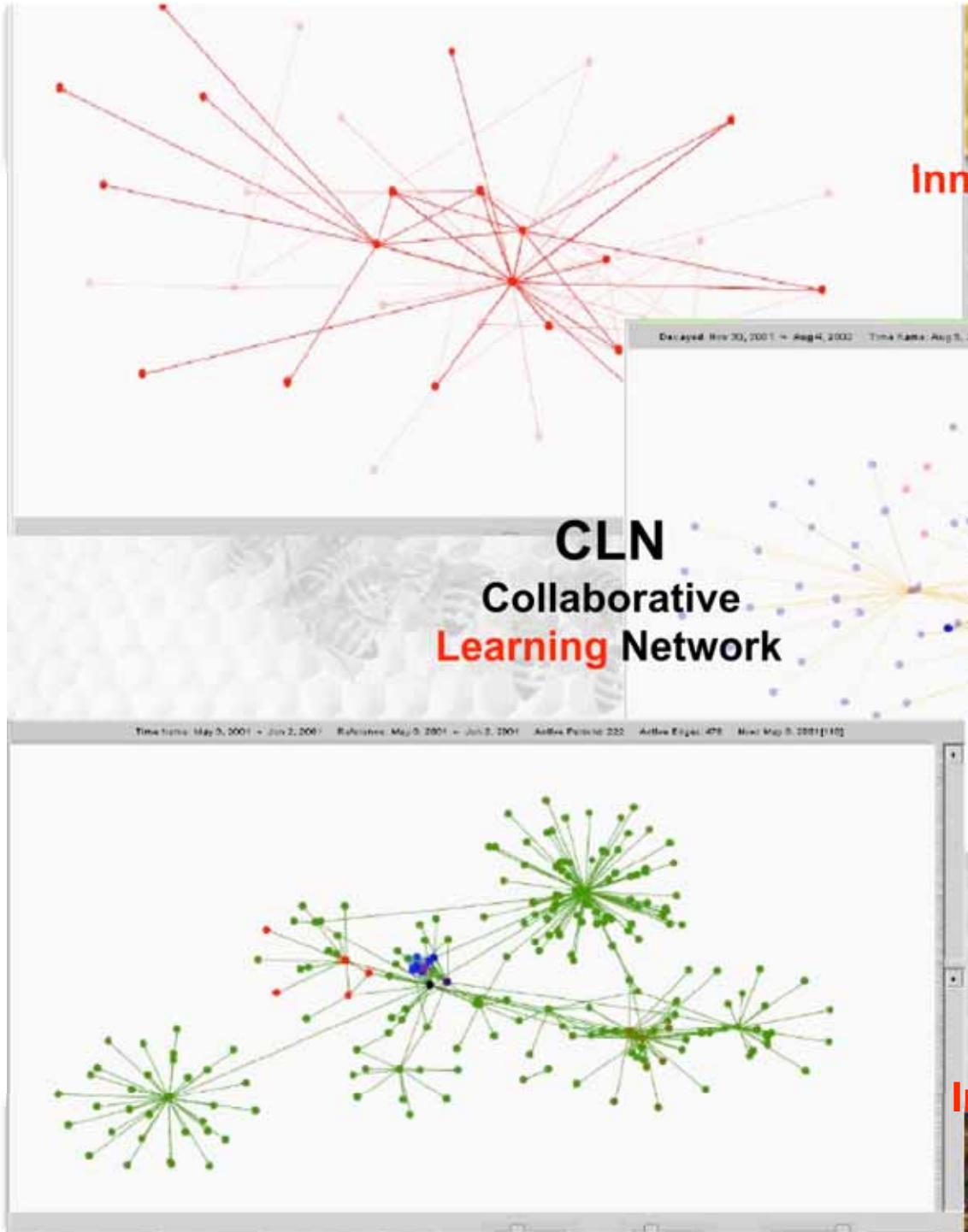


## Debian Social Contract



# People for Innovation



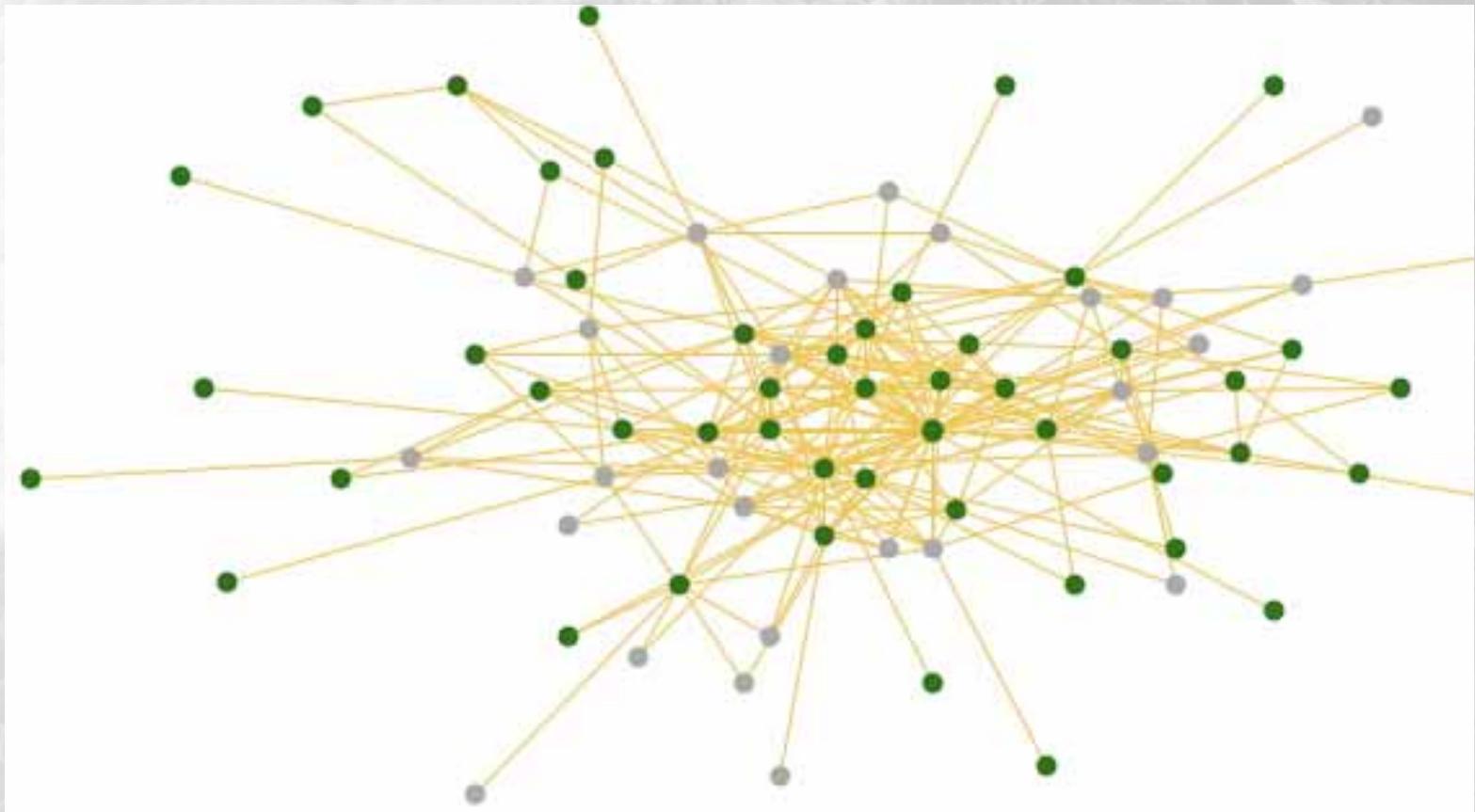




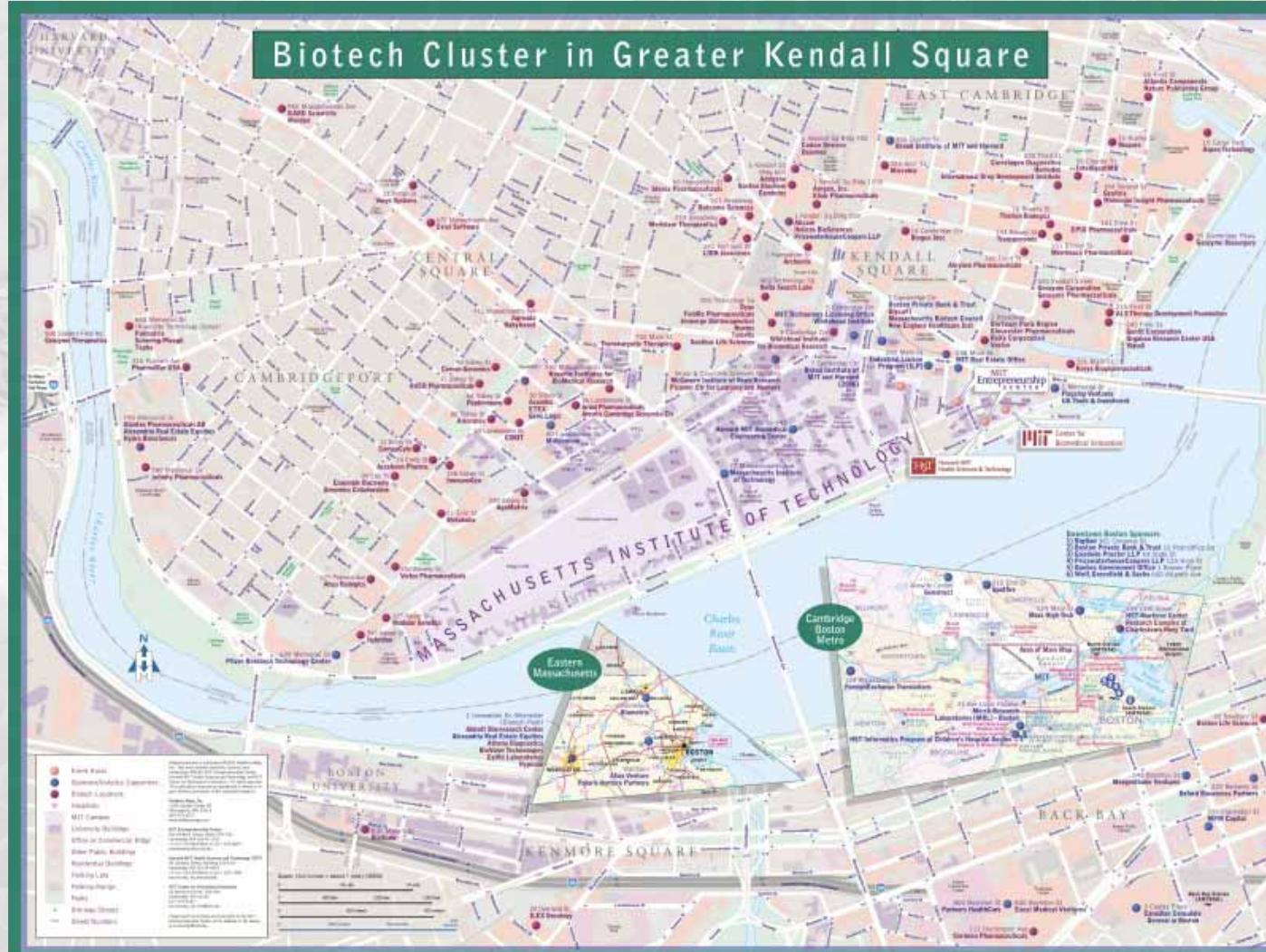
# Swarm Creativity



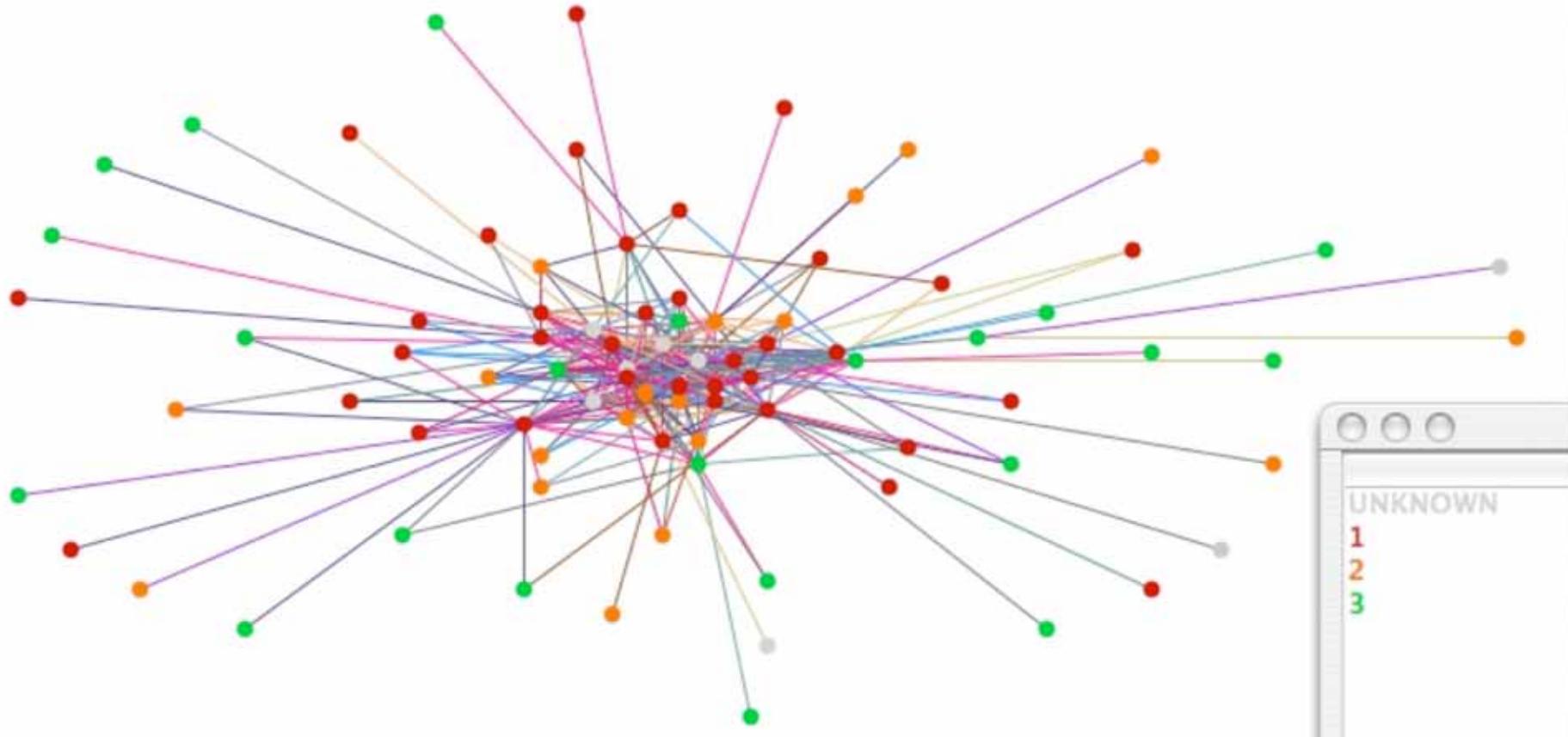
# 100 Software Startups in Israel



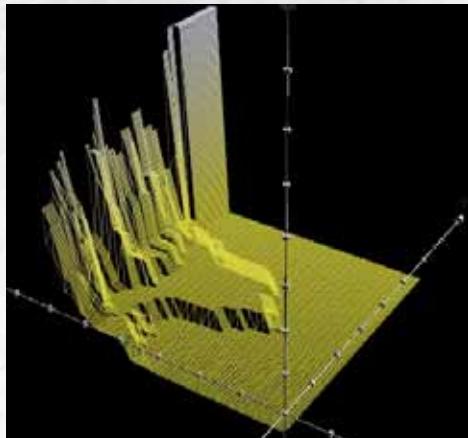
# 250 Boston Biotech startups



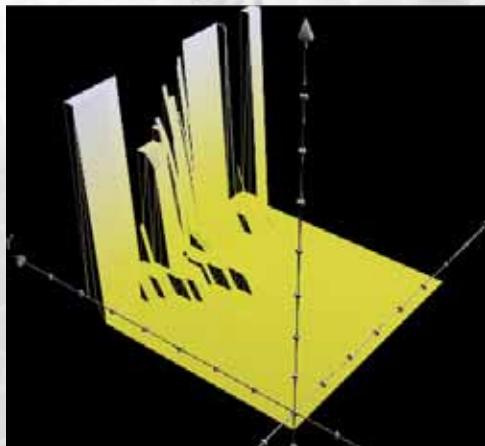
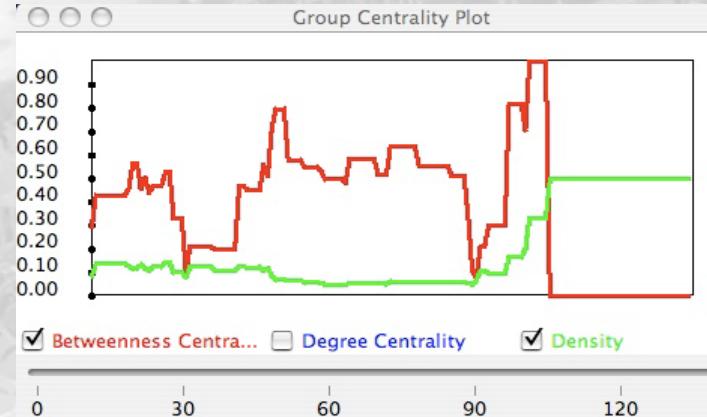
# 250 Boston Biotech Startups



# Correlating Performance & Creativity



Tech\_aspectj\_tools dev. dis.

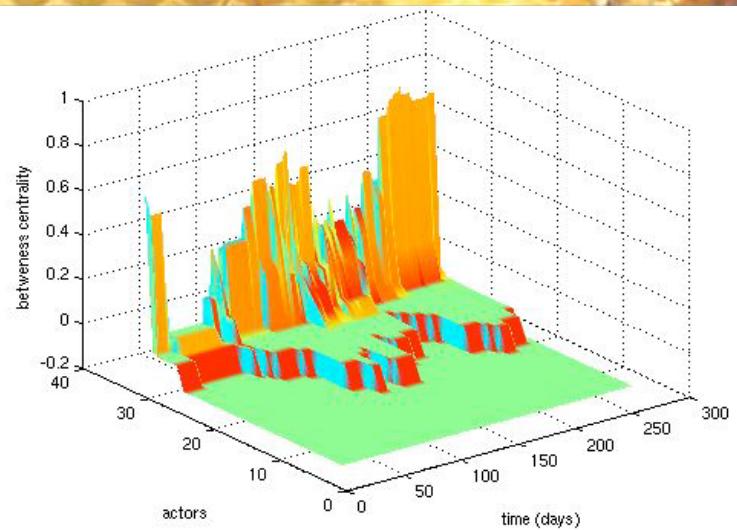
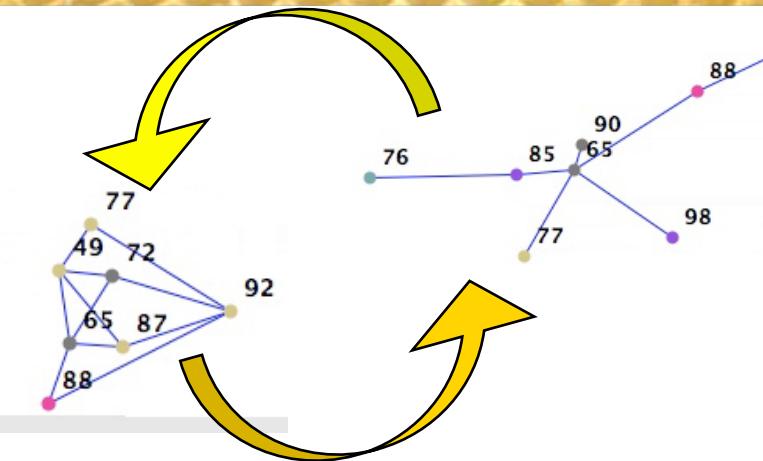


E\_Pde\_Ui Component Developer Discussions

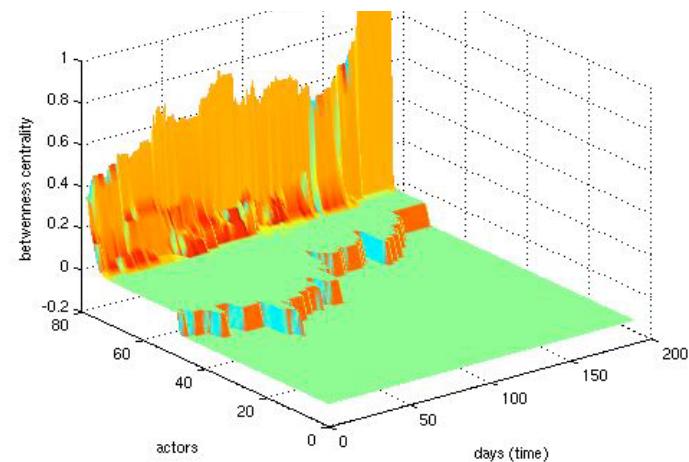
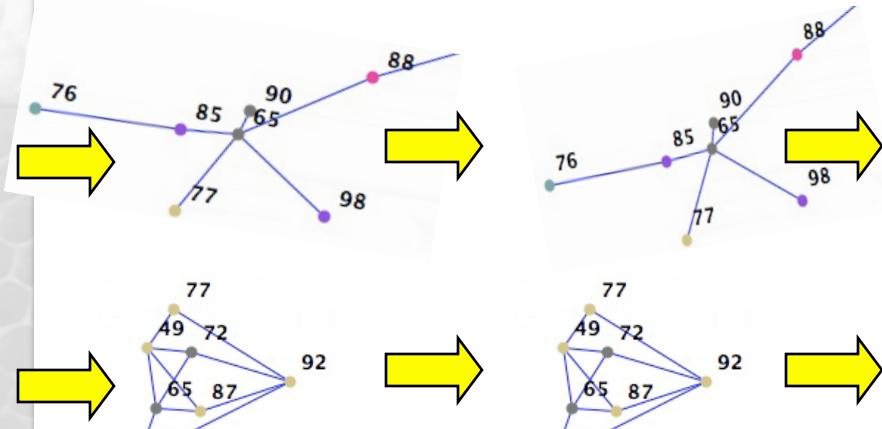


Performance: 0.965      Creativity: 0.0878

# Social Patterns of Creativity



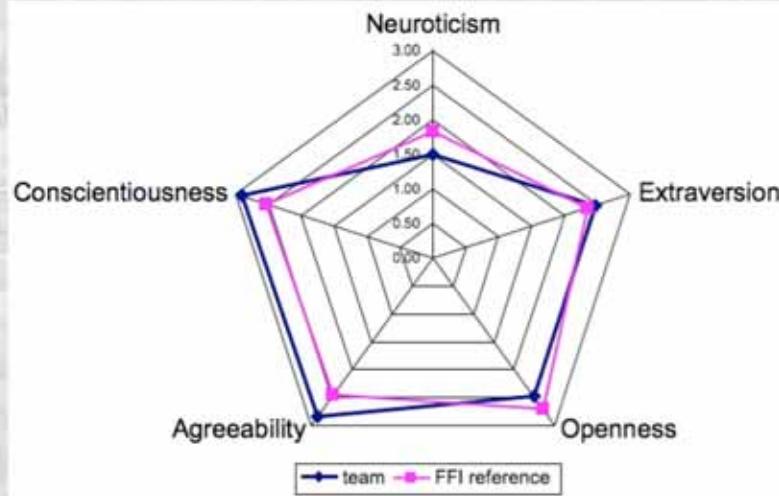
# Social Patterns of Performance



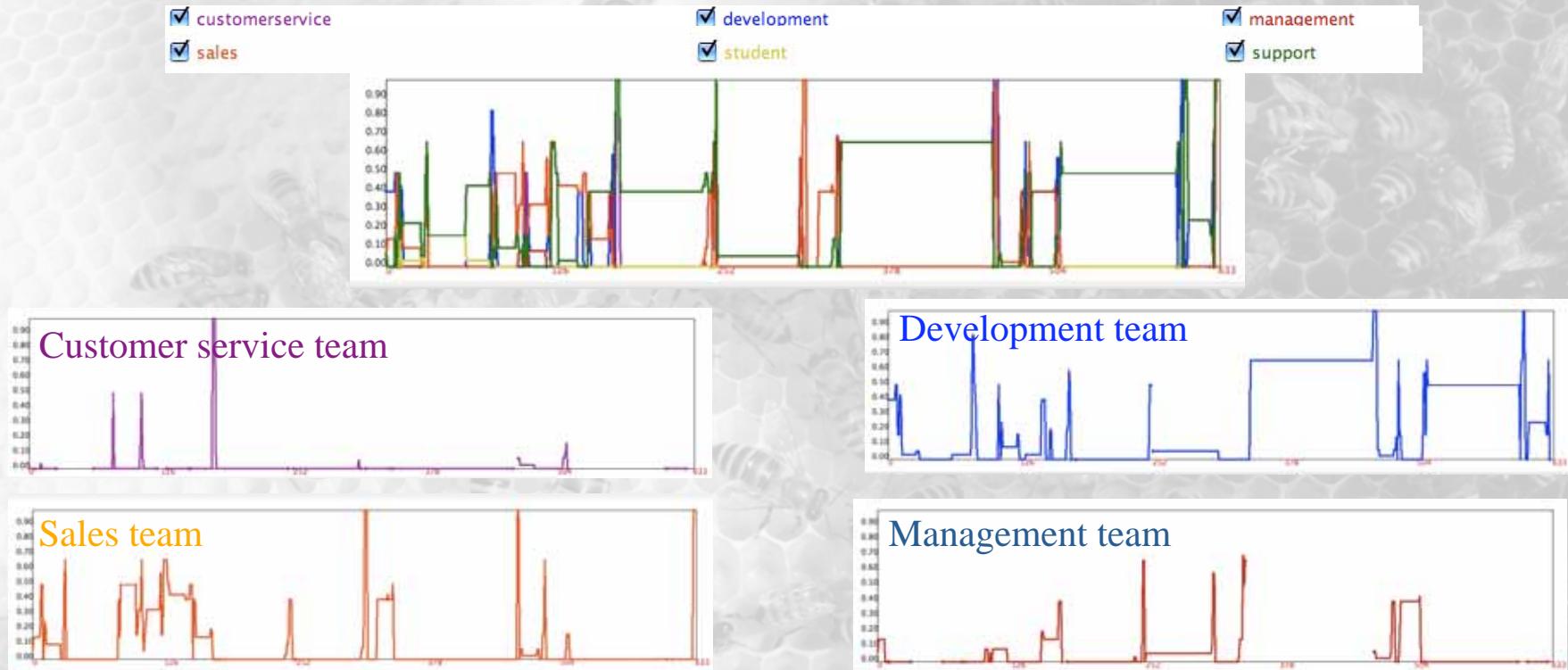
# Social badges



Kreissparkasse  
Köln

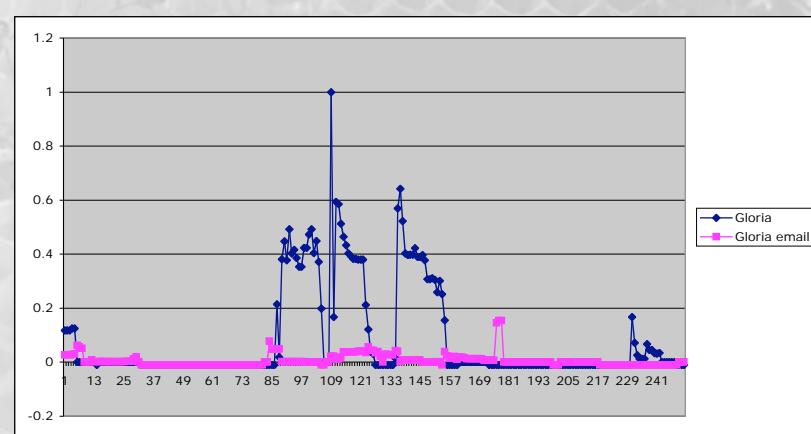
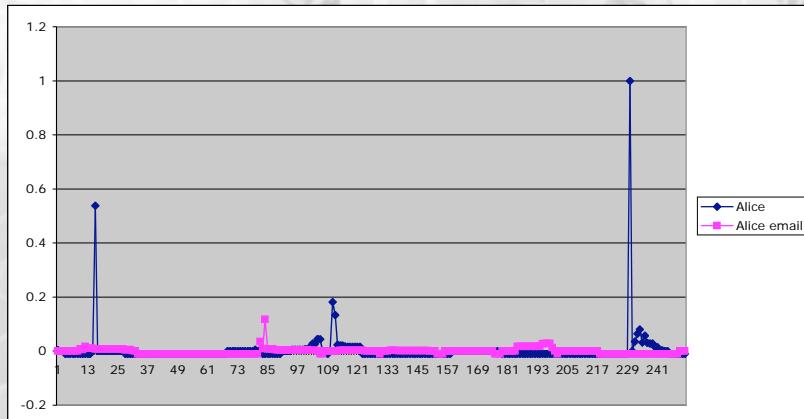
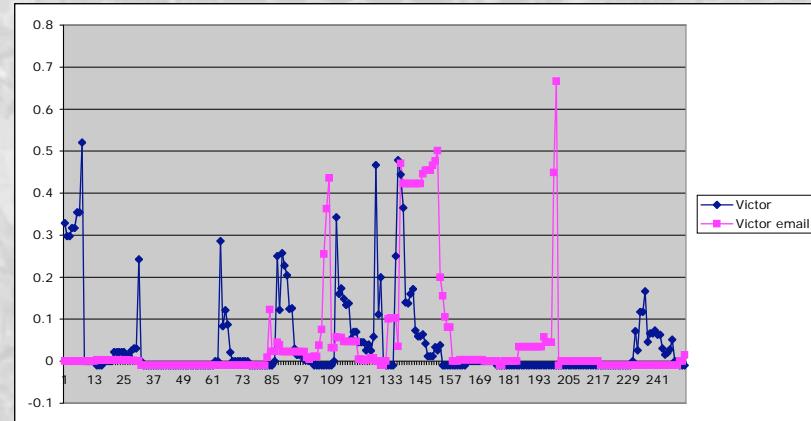
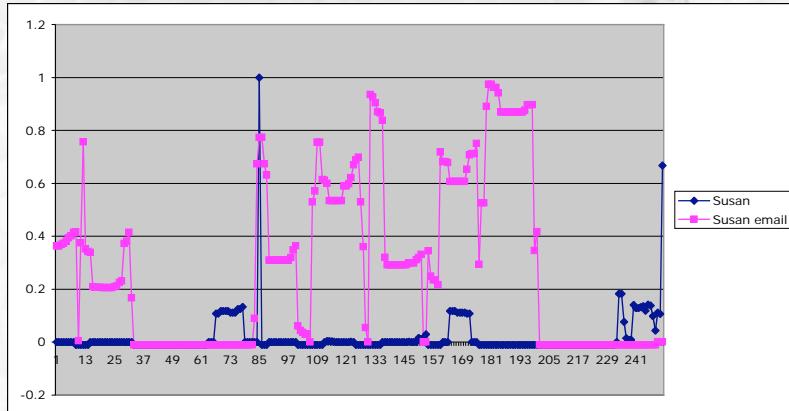


# Oscillating Centrality Indicates Creativity



high oscillation = high creativity  
low oscillation = high performing

# E-mail (purple) and f2f/IR (blue) betweenness can (but must not) differ

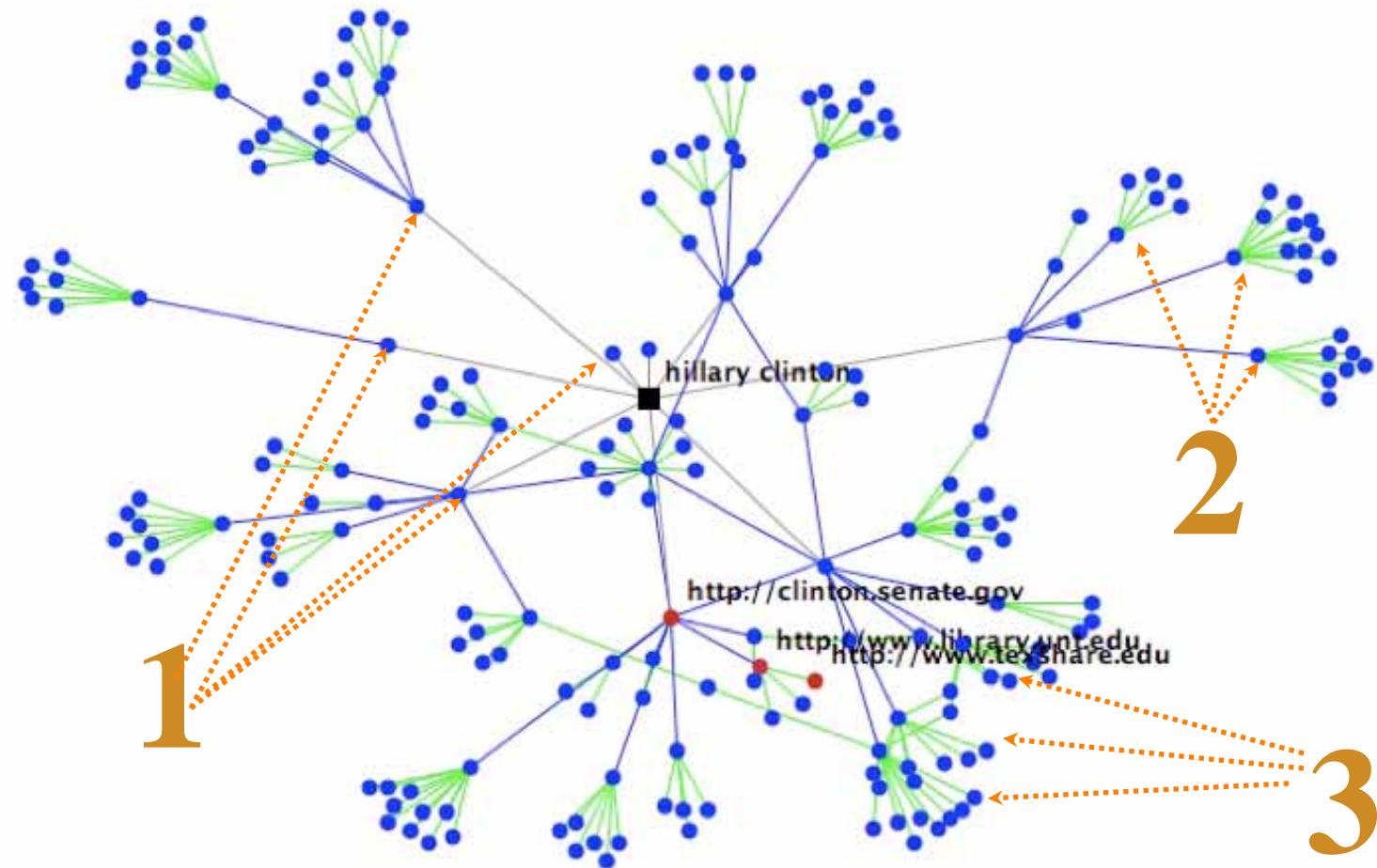


# Coolhunting



# How Degree-of-separation-search works...

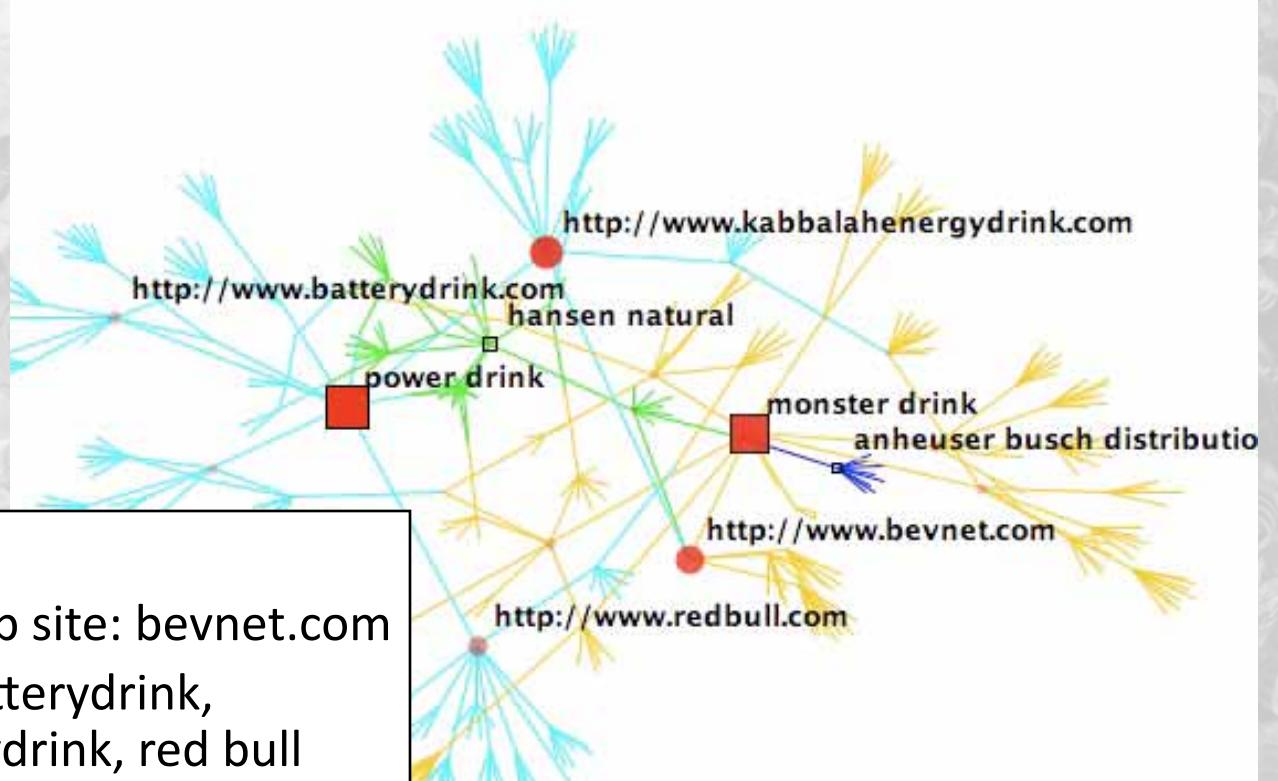
Build the “social network” of returned Web sites



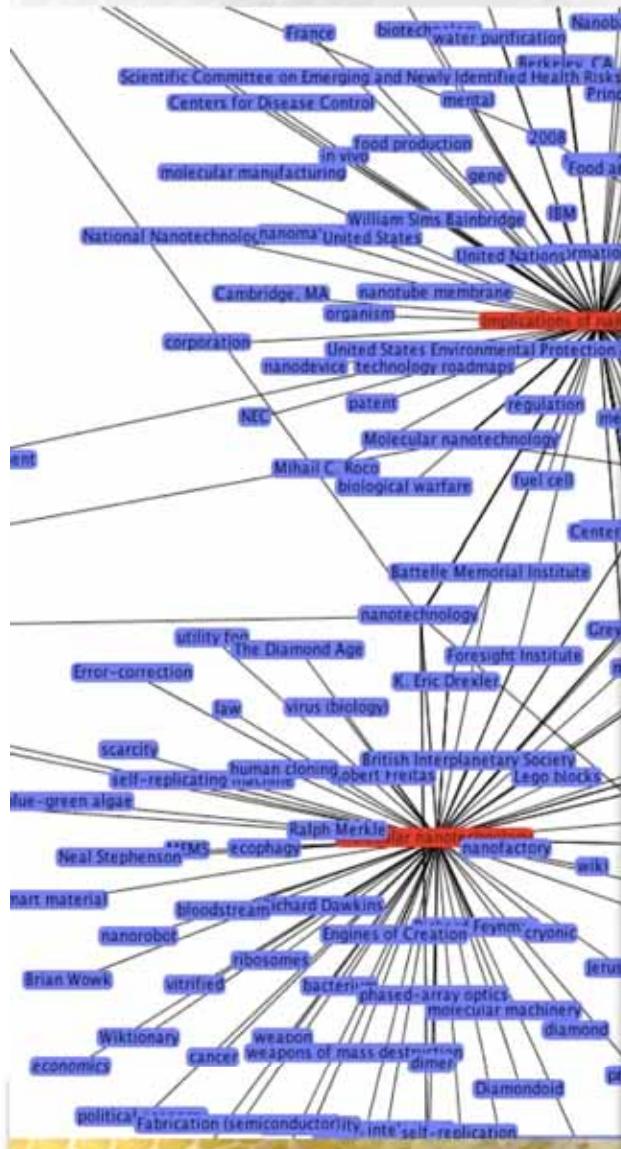
# Predicting Drink Sales

## Results

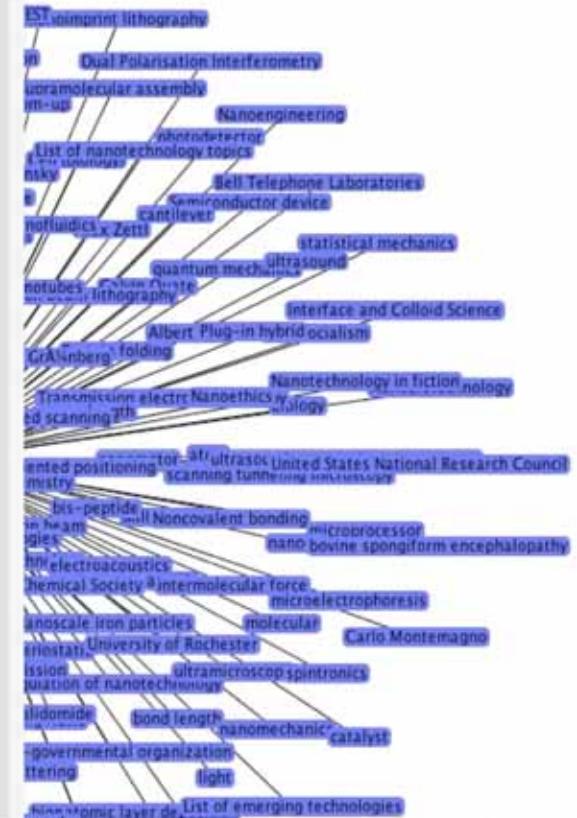
1. main blog & Web site: [bevnet.com](http://www.bevnet.com)
2. competitors: batterydrink, kabbalahenergydrink, red bull
3. Relative importance:
  1. Power
  2. Monster
  3. Kabbalah
  4. Red Bull
  5. Battery



# Nanotechnology Taxonomy



atomic  
molecular  
nanometer  
Semiconductor device  
molecular self-assembly  
Nanomaterials  
Molecular nanotechnology  
implications of nanotechnology  
List of nanotechnology applications  
Nanomedicine  
Nanoelectronics  
Nanotoxicology  
Grey goo  
regulation of nanotechnology  
bond length  
DNA  
Cell (biology)  
Mycoplasma  
Molecule  
self-assembly  
molecular recognition  
Gold  
Miller index  
scanning tunneling microscopy  
atom  
statistical mechanics  
quantum mechanics  
.....



Taxonomy autogenerated by ArtReCat

Source: Wikipedia

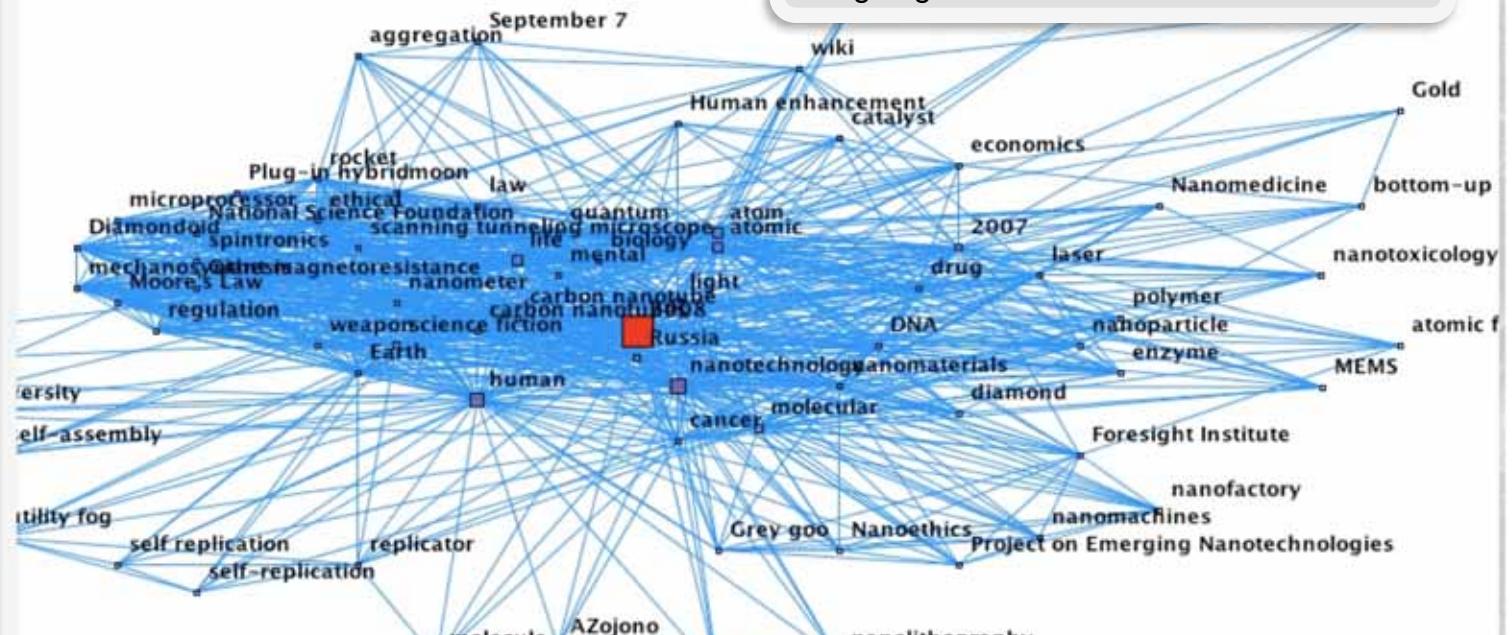
# Information Template “Nanotechnology” applied on all blogs

## Information Template nanotechnology

atomic  
quantum  
atom  
economics  
nanomaterials  
life  
molecular  
Earth  
Russia  
science fiction  
human  
light  
biology  
bottom-up  
nanometer  
ethical  
cancer  
drug  
spintronics  
Nanomedicine  
scanning tunneling  
microscope  
nanoparticle  
replicator  
molecule  
DNA  
Foresight Institute  
carbon nanotubes

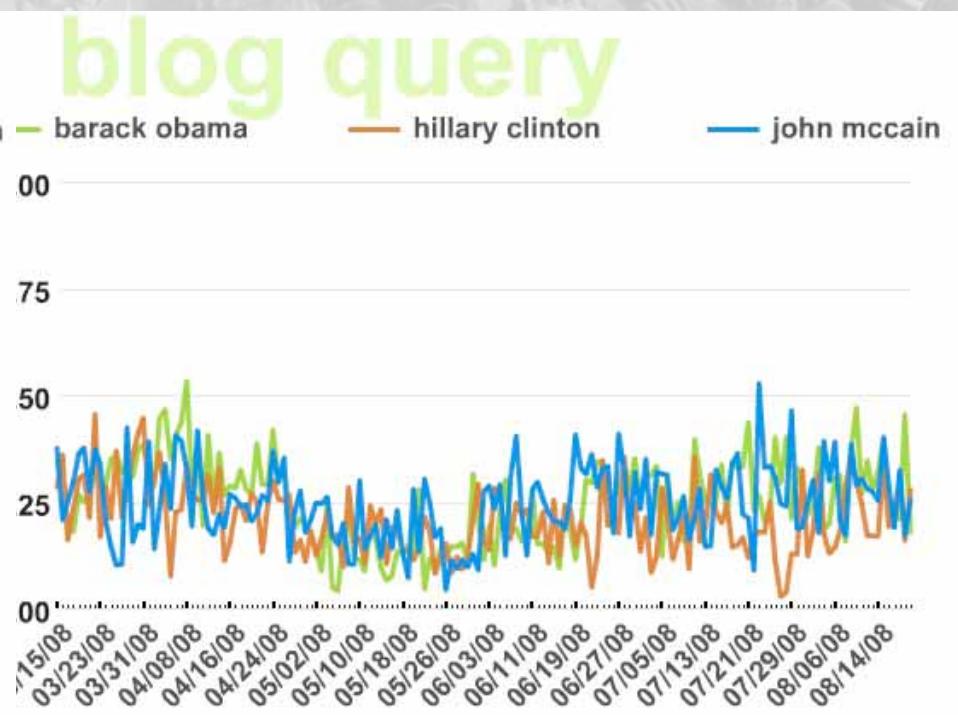
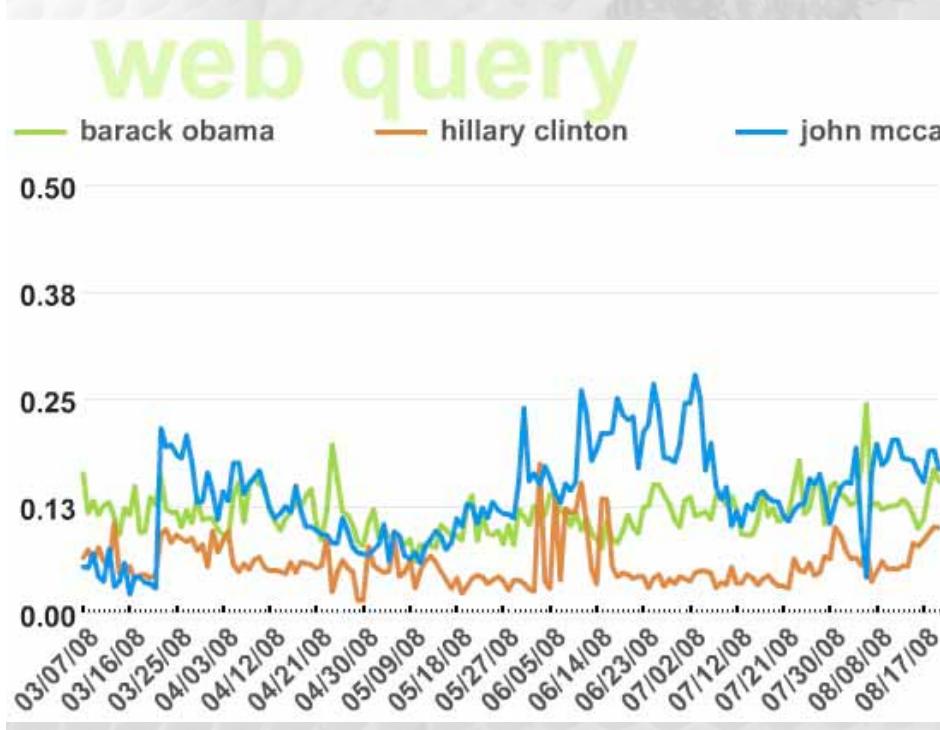
## Insights

Increasing in importance (2008 in center)  
Human benefits key  
Regulation and ethics major concerns  
Drugs against cancer





# Web and Blogs correspond to Real World



# Predicting Movie Success

online-forum Internet Movie Database

- influential people & sentiment analysis
- Predicts success at the box office.

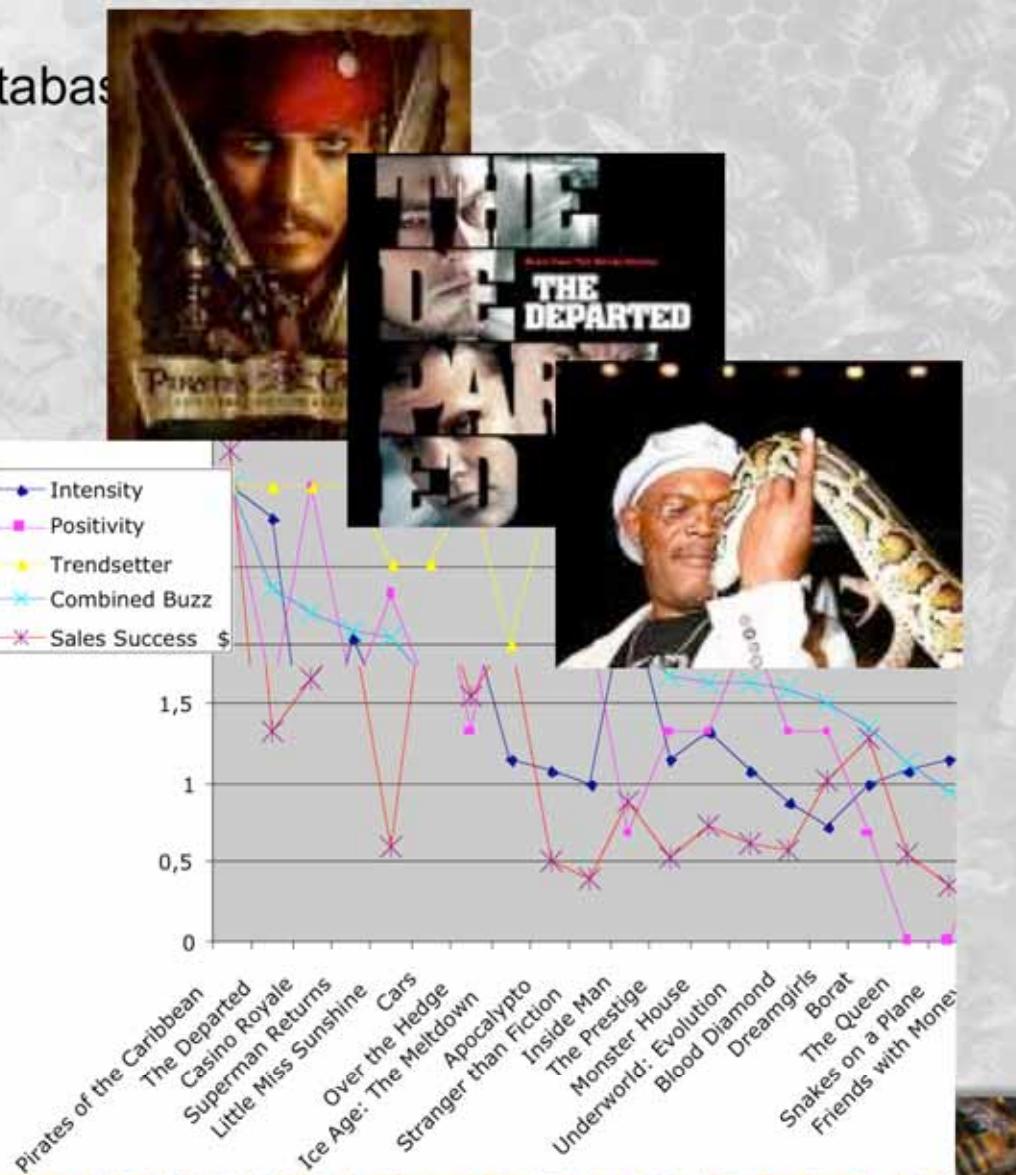
The screenshot shows the IMDB homepage. At the top, there's a banner for the University of Phoenix. Below it, the IMDB logo and a search bar. The main navigation menu includes Home, Top Movies, Photo, Independent Film, Browse, and Help. A search bar with the placeholder "search All" is present. On the left, there's a sidebar for "Message Boards" with a link to "Start New Topic" and "Add to Favorites". The main content area displays a list of movie titles with their posters and brief descriptions. At the bottom, there's a section for "Upcoming Box Office Releases - January thru April 2007".

## Message Boards

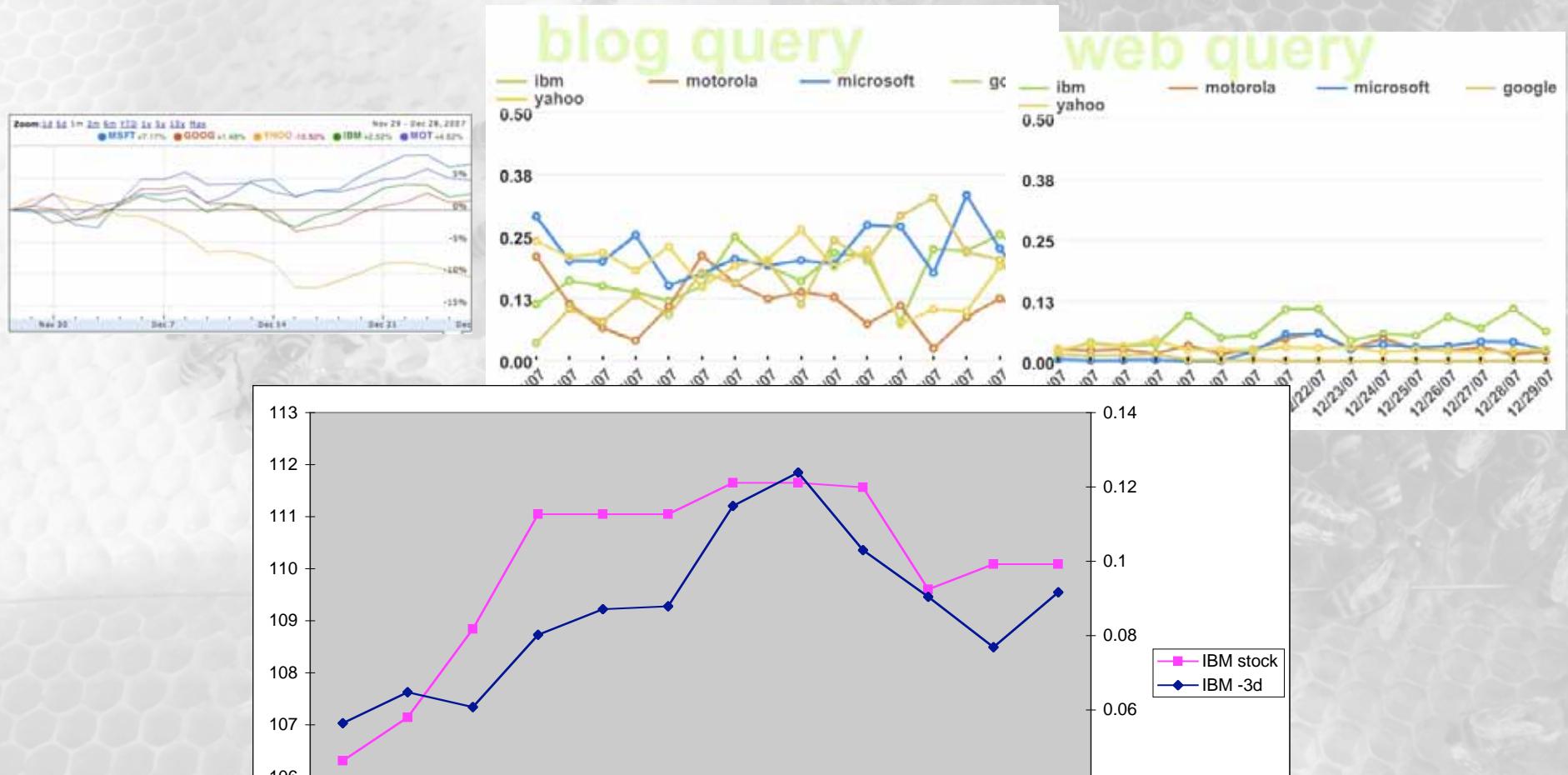
Visit the IMDBPro.com Message Boards and discuss a wide variety of entertainment industry topics with other members of the IMDBPro.com community. Recent message board postings include: [Abbey of Thelema now accepting resumes/heads/shorts](#), [Looking for only serious actresses](#), [ACTRESS NEEDED FOR FEATURE TNALE HEAD](#) [Mark](#).

## Board: Previews And Reviews

Subject	Started by	Replies	Latest Posting
My must see movie's in 2007	Liamcheckycrops	17	2 hours ago
ON THE LOI	UncleBigDaddy	0	4 hours ago
Best movie of the year	mexicomatic122693	51	11 hours ago
Comic book movies	cobb	19	11 hours ago
The Departed	oldsmagnus	1	16 hours ago
Predict Upcoming Box Office Failures - January thru April 2007 Edition	joebuck50403	32	16 hours ago



# Stock trends

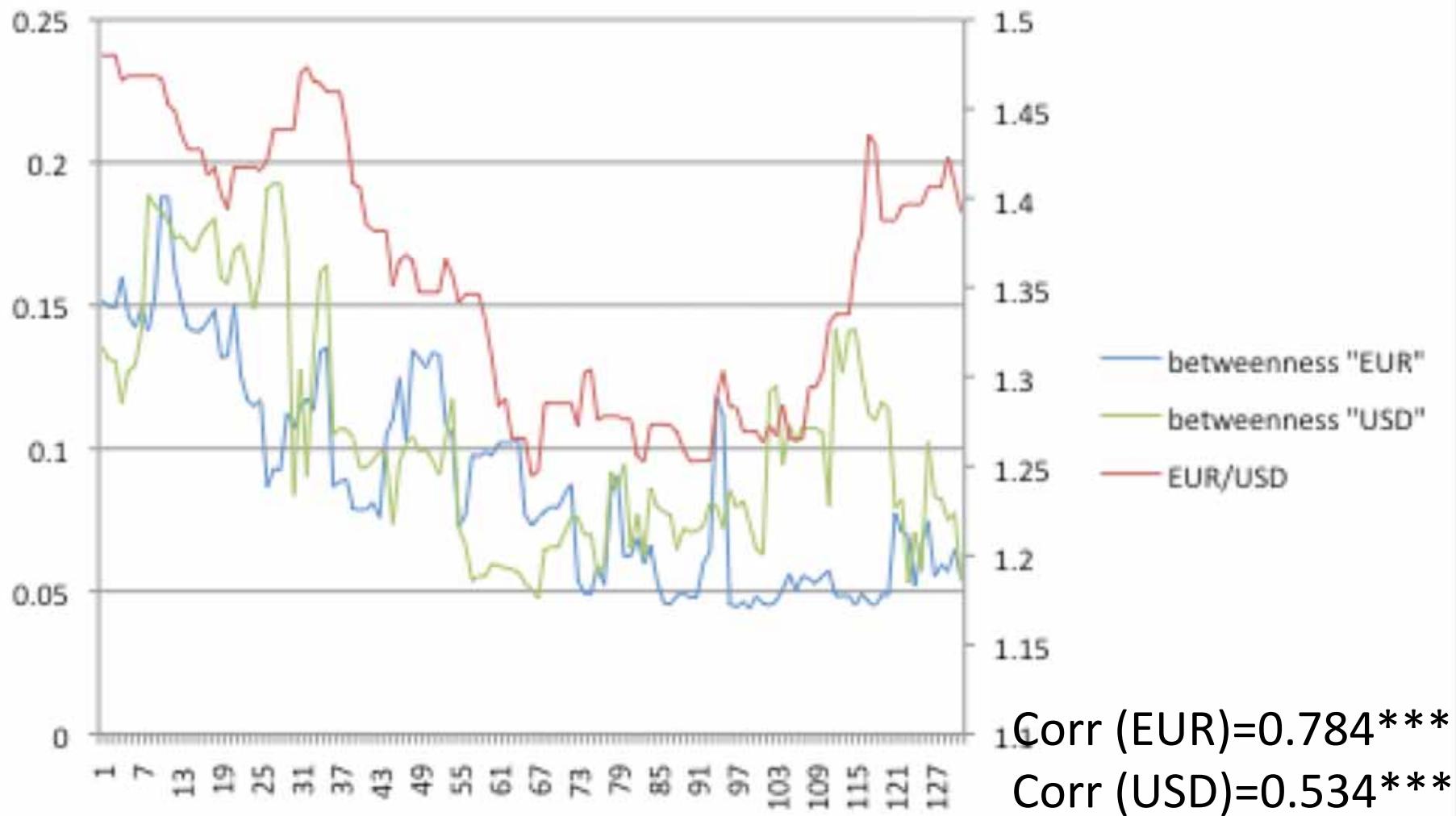


For example IBM:

Web & Blog predict stock trend by 1-3 days ( $R=0.822^{***}$ )

# “euro currency” and “us dollar currency”

7/18/08 to 12/31/08



# Thank You

Tom Allen  
Robin Athey  
Hans Brechbuhl  
Scott Cooper  
Marius Cramer  
Marco DeMaggio  
Scott Dynes  
Marc Egger  
Eric Esser  
Kai Fischbach  
Hauke Führes  
Julia Gluesing  
Francesca Grippa  
George Herman  
Bill Ives  
Eric Johnson  
Adriaan Jooste  
Min-Hyung Kang  
Jonas Krauss  
Casper Lassenius  
Rob Laubacher  
Yared Kidane  
Charles Leiserson  
Fillia Makedon  
Tom Malone  
Pascal Marmier

Stefan Nann  
Daniel Olguin Olguin  
Daniel Oster  
Maria Paasivaara  
Sandy Pentland  
John Quimby  
Johannes Putke  
Ornit Raz  
Renaud Richardet  
Ken Riopelle  
Detlef Schoder  
Thomas Schmalberger  
Shosta Sulonen  
David Verrill  
Christoph Von Arb  
Ben Waber  
JoAnn Yates  
Wayne Yuhasz  
Antonio Zilli  
Yan Zhao



<http://www.ickn.org>  
<http://www.swarmcreativity.net>  
pgloor@mit.edu