Workshop 4: Visualizing and Analyzing Scientific Literature with *CiteSpace*

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Configuring CiteSpace
Time Slicing
Network Modeling and Pruning
Test Drive
Questions and Discussions
CREATE A PROJECT
Creating a new project in CiteSpace.

Project Title: ISSI 2009 Workshop
Project Home: C:\Users\IBM
Data Directory: C:\Users\IBM

Project settings:
- Enable Alias List: on
- Enable Export Space: on
- Enable Export Matrices: off
- Save Merged Slice: off
- Noun Phrase: Maximum Words: 4
- Maximum GML Node Label Length: 16

Language: English

Run time: 3978 milliseconds.

Merged network: Nodes=315, Links=1442
Exclusion List: 0
Network modeling ends at Sat Mar 07 16:48:03 EST 2009.
CiteSpace 2.2.R1 (c) 2003-2009 Xiaomei Chen ~ Home. C:\Users\JBM ~ C:\Users\JBM ~ C:\Users\JBM ~ C:\Users\JBM ~ C:\Users\JBM ~ C:\Users\JBM ~ C:\Users\JBM ~ C:\Users\JBM

Web of Science  
PubMed  
CiteSeer  

Projects  
New  
Complex Network Analysis 1980-2...  
More Actions ...  

Project Home: C:\Users\JBM\Data\Social Networks 1980-2008\project  
Data Directory: C:\Users\JBM\Data\Social Networks 1990-2000\data

GO!  
Stop  
Reset  
JVM Memory (K) 174080 Used (%) 37

Space Status

Process Reports

Time Slicing  
From 1995  
To 2008  
#Years Per Slice 1  
Entropy

Modeling  
Node Types  
Author  
Term  
Keyword  
Category  
Institution  
Country  
Cited Reference  
Cited Author  
Cited Journal

Term Sources  
Title  
Abstract  
Descriptors  
Identifiers

Term Selection  
None  
Noun Phrases  
Burst Phrases

Find Burst Phrases

Links  
Strength  
Cosine  
Scope  
Within Slices

Top N per slice  
Top N% per slice  
Threshold Interpolation  
Select Citers

Select top 30 most cited or occurred items from each slice.

Pruning  
Pathfinder  
minimum spanning tree  
Pruning sliced networks

Visualization  
Cluster View (Default)  
Time-zone View  
Show Networks by Time Slices  
Show Merged Network
<table>
<thead>
<tr>
<th>Cluster Size</th>
<th>Top 5 terms by tf-idf</th>
<th>Term by loglikelihood</th>
<th>Term by mutual information</th>
<th>Most frequent Citors</th>
</tr>
</thead>
<tbody>
<tr>
<td>43 8</td>
<td>(303.68) endothelial cell; (339.83) neutrophil; (303.68) reduced platelet count; (24) biological consequence</td>
<td>(24) biological consequence</td>
<td>(6) optical gap; (3) report optical gaps for ab initio gen...</td>
<td>(8) basic fibroblast growth factor (bfgf) is e...</td>
</tr>
<tr>
<td>111 8</td>
<td>(31.08) scale-free network; (24.55) complex metabolic network; (24.55) complex network</td>
<td>(4) dynamical model; (6) optical gap</td>
<td>(3) report optical gaps for ab initio gen...</td>
<td>(8) basic fibroblast growth factor (bfgf) is e...</td>
</tr>
<tr>
<td>39 8</td>
<td>(42.38) scale-free network; (24) biological consequence; (24.55) complex network</td>
<td>(4) brief report</td>
<td>(4) complex network</td>
<td>(3) report optical gaps for ab initio gen...</td>
</tr>
<tr>
<td>67 7</td>
<td>(137.6) coping strategy; (121.38) coping style</td>
<td>(1) chronic psychotic patient; (6) social network</td>
<td>(9) social network</td>
<td>(6) background: to date, only few data are...</td>
</tr>
<tr>
<td>31 6</td>
<td>(113.88) village community; (24) residential campus; (12) school</td>
<td>(24) residential campus</td>
<td>(24) residential campus</td>
<td>(6) the costs, nature, and benefits of resid...</td>
</tr>
<tr>
<td>92 6</td>
<td>(256.23) mucus secretion; (12) galanine</td>
<td>(6) neurokinin a and b are present in neur...</td>
<td>(9) social network</td>
<td>(6) neurokinin a and b are present in neur...</td>
</tr>
<tr>
<td>100 6</td>
<td>(37.96) functional outcome; (24) cellular behavior</td>
<td>(5) severe mental illness; (5) severe mental illness</td>
<td>(5) severe mental illness</td>
<td>(6) the costs, nature, and benefits of resid...</td>
</tr>
<tr>
<td>96 6</td>
<td>(56.94) tough boy; (55.68) tough girl</td>
<td>(4) elementary classroom</td>
<td>(1) background social networks are imp...</td>
<td>(3) this study examined subtypes of popul...</td>
</tr>
<tr>
<td>37 6</td>
<td>(23.72) numerical computation; (4) homogeneous network</td>
<td>(4) homogeneous network</td>
<td>(5) scale-free network</td>
<td>(2) a large computer program is typically d...</td>
</tr>
<tr>
<td>42 6</td>
<td>(18.56) different network to...</td>
<td>(2) act degree distribution</td>
<td>(4) complex network</td>
<td>(1) a model of epidemic spreading in a po...</td>
</tr>
<tr>
<td>44 6</td>
<td>(106.31) drug user; (102.5) person social network</td>
<td>(12) personal social network</td>
<td>(12) social network</td>
<td>(6) few studies have examined the current...</td>
</tr>
<tr>
<td>14 5</td>
<td>(92.8) inner-city neighborh</td>
<td>(5) hiv infection</td>
<td>(5) hiv infection</td>
<td>(5) relational and attribute data were colle...</td>
</tr>
<tr>
<td>23 5</td>
<td>(47.45) subpopulation size</td>
<td>(5) power law response</td>
<td>(5) power law response</td>
<td>(4) we propose an extended local-world e...</td>
</tr>
<tr>
<td>30 5</td>
<td>(111.36) sierpinski fractal; (14) average path length</td>
<td>(14) average path length</td>
<td>(14) average path length</td>
<td>(4) we propose an extended local-world e...</td>
</tr>
<tr>
<td>104 5</td>
<td>(24.31) fraction p; (16.79) l...</td>
<td>(4) largests connected cluster</td>
<td>(3) scale-free network; (3) scale-free network</td>
<td>(3) we study the tolerance of random netw...</td>
</tr>
<tr>
<td>34 5</td>
<td>(85.48) drug use; (56.94) drug;</td>
<td>(6) alcohol consumption</td>
<td>(5) injection drug user</td>
<td>(2) purpose: the nature of competing soci...</td>
</tr>
<tr>
<td>36 5</td>
<td>(28.47) firing synchronizati...</td>
<td>(6) scale-free feature</td>
<td>(3) small-world network; (2) small-world networks are highly cluste...</td>
<td>(2) small-world networks are highly cluste...</td>
</tr>
<tr>
<td>73 5</td>
<td>(37.96) supply chain distri...</td>
<td>(6) rich node</td>
<td>(3) complex network</td>
<td>(3) a new model for network generation is...</td>
</tr>
<tr>
<td>69 5</td>
<td>(23.72) construction comp...</td>
<td>(2) fad dynamic</td>
<td>(2) cooperation level</td>
<td>(2) we propose an information-based mo...</td>
</tr>
<tr>
<td>74 5</td>
<td>(70.62) mitochondrial; (62) mitochondrial</td>
<td>(12) mitochondrial</td>
<td>(12) mitochondrial</td>
<td>(12) mitochondrial</td>
</tr>
</tbody>
</table>
EXAMPLES

1. TERRORISM RESEARCH
2. INFORMATION SCIENCE
3. INFLUENZA PANDEMIC
4. SLOAN DIGITAL SKY SURVEY (SDSS)
1. Terrorism

• What are the questions to ask?
Link Walkthrough: 1999-1999

#12 smallpox vaccination policy

#13 biological terrorism

#14 DNA

#15 biochemical mechanism

#7 terrorist assault survivor

#16 susceptibility

#9 counter terrorism

#4 nuclear war

#5 brief group psychotherapy

#11 mental health

#6 terrorist attack
2. Information Science
Information Science
3. Influenza Pandemic
4. SDSS

#3 terrorist attack
#11 global environment
Questions and discussions