Bilginin Görselleştirilmesinde Sosyal Ağ Analizinin Kullanımı

Umut Al

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Sosyal Ağ Analizi
?????

Amaçlar

- Toplulukların yapısını incelemek
- Ağ yapılarını betimlemek
- Topluluklar arasında kolayca gözlemlenemeyen ilişkileri görselleştirmek
- Mevcut bağlantıları modellemek

Farklı Alanlarda Kullanım

- Sosyoloji
- Antropoloji
- Sosyal Psikoloji
- Ekonomi
- İletişim
- Matematik

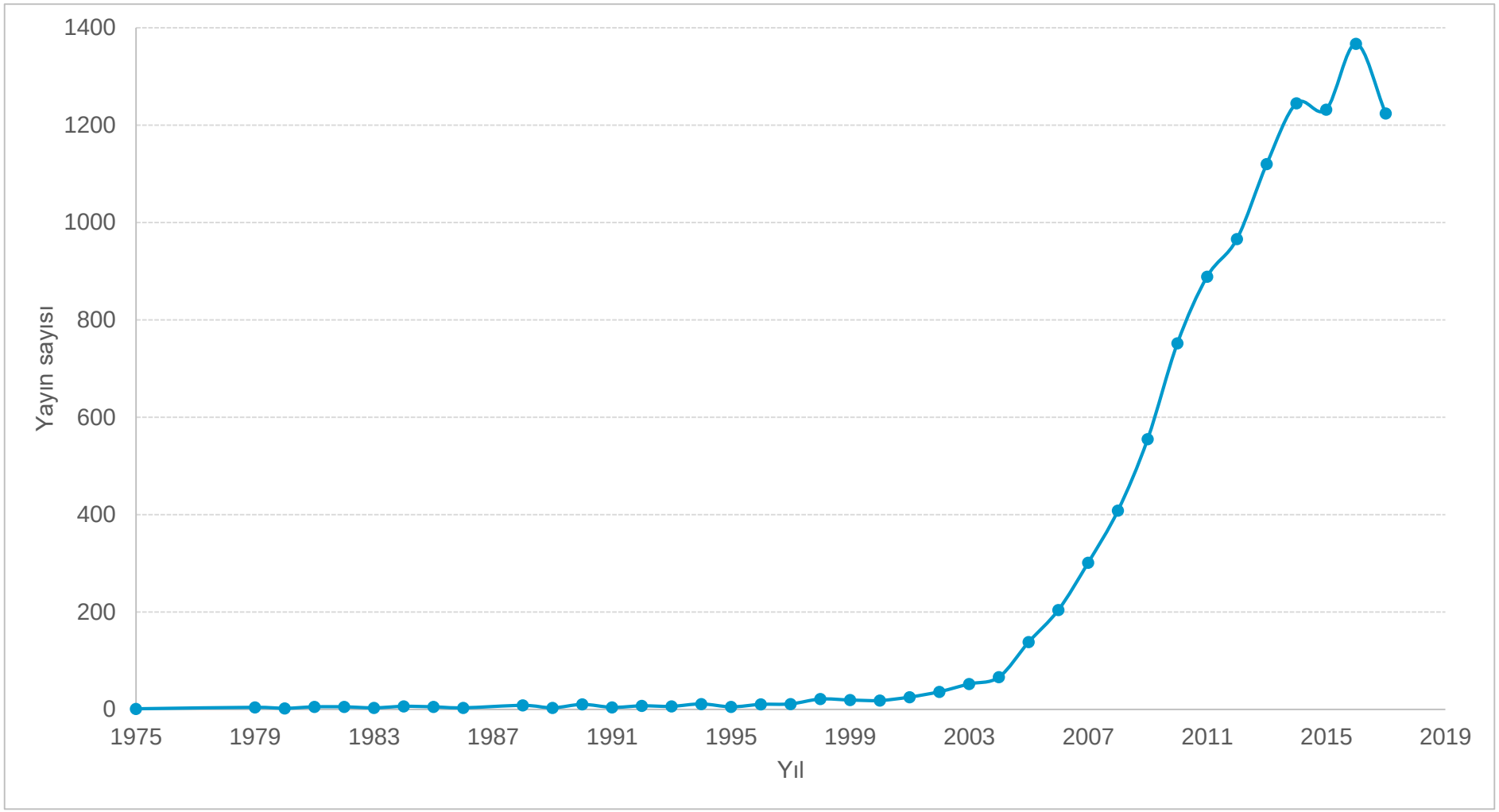
YÜKSEKÖĞRETİM KURULU BAŞKANLIĞI

Tez Merkezi

Tarama sonucunda 15 kayıt bulundu.

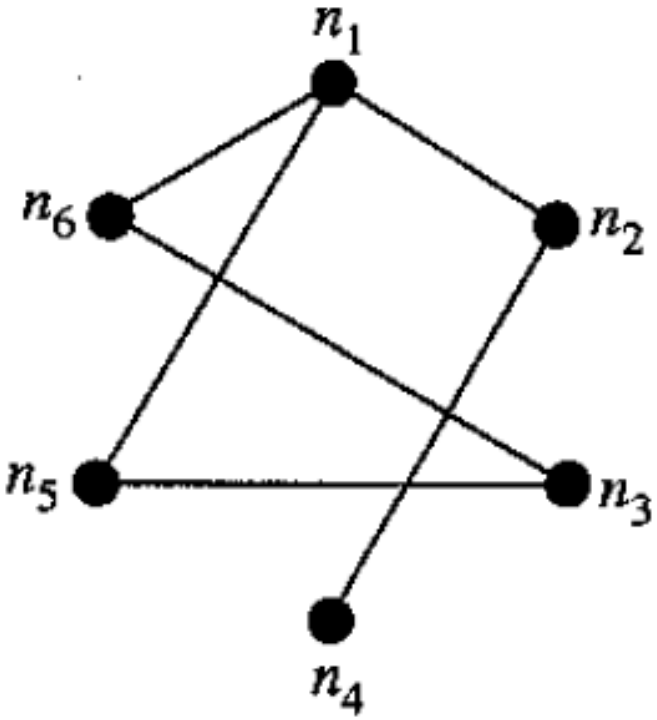
Tez No	Yazar	Yıl	Tez Adı (Orijinal/Çeviri)	Tez Türü	Konu
	Filtrele	2000..2014 =2(	Filtrele	Filtrele	Filtrele
389080	MEHMET ALDONAT BEYZATLAR	2015	Osmanlı Devleti'nin dış borçlarına yeni bir yaklaşım: Sosyal ağ analizi *A new approach to the Ottoman Empire's external debts: Social network analysis*	Doktora	Ekonomi = Economics
354720	HAMİD DERVİŞ	2014	Assessing the diffusion of nanotechnology in Turkey: A social network analysis approach *Türkiye' de nanoteknoloji yayılımının değerlendirilmesi: Bir sosyal ağ analizi yaklaşımı*	Doktora	Bilgi ve Belge Yönetimi = Information and Records Management
371690	BARTUĞ KEMAL AKGÜL	2014	Social network analysis of construction companies operating in international markets: The case of Turkish contractors *Yurt dışı pazarlarında çalışan inşaat şirketlerinin sosyal ağ analizi: Türk müteahhitlerinin durumu*	Yüksek Lisans	İnşaat Mühendisliği = Civil Engineering
327882	VİLDAN GÜLPINAR	2013	Yapay sinir ağları işleyişinin sosyal ağ analizi yardımı ile çözümlenmesi *Analyzing the process of the artificial neural networks by the help of the social network analysis*	Doktora	Ekonometri = Econometrics ; İstatistik = Statistics
306926	MEHMET AYDOĞAN	2012	Samsun ilinde organik ve konvansiyonel fındık yetiştiricilerinin gübre kullanımı konusundaki iletişim kaynaklarının sosyal ağ analizi ile karşılaştırılması *The comparision of the communication resources on fertilizer usage of organic and conventional hazelnut producers in Samsun province by social network analysis*	Yüksek Lisans	Bilim ve Teknoloji = Science and Technology ; Mühendislik Bilimleri = Engineering Sciences ; Ziraat = Agriculture
315917	BETÜL AKKOÇ	2012	Sosyal ağ analizi için bayes ağlarının kullanımı *The use of bayesian network for social network analysis*	Yüksek Lisans	Bilgisayar Mühendisliği Bilimleri-Bilgisayar ve Kontrol = Computer Engineering and Computer Science and Control
291163	HARUN KUDUĞ	2011	Sosyal ağ analizi ölçütlerinin iş ağlarına uyarlanması *Adapting social network analysis metrics to business networks*	Yüksek Lisans	Bilgisayar Mühendisliği Bilimleri-Bilgisayar ve Kontrol = Computer Engineering and Computer Science and Control
279831	KEMAL YÜCETİN	2011	Sosyal ağ analizi yöntemi ile ağızdan ağıza pazarlama etkisinin arttırılması: Veri setleri üzerinde uygulama *Enhancing the effects of word-of-mouth marketing with social network analysis method: Application on data sets*	Yüksek Lisans	İşletme = Business Administration
253901	HANİFE AKBAY DOĞAN	2010	Çevrimiçi toplulukların sosyal ağ analizi: Bir öğretmen forumu örneği *Social network analysis of online learning communities: A case of teachers? forum*	Yüksek Lisans	Eğitim ve Öğretim = Education and Training
255888	SALİFU ALHASSAN	2010	Do more people make the code more defect prone?: Social network analysis in oss projects *Fazla insan kod bozukluğa yol açar mi?: OSS projelerinin icindeki bir sosyal ağ analizi*	Yüksek Lisans	Bilgisayar Mühendisliği Bilimleri-Bilgisayar ve Kontrol = Computer Engineering and Computer Science and Control
271575	HAYATİ GÖNÜLTAŞ	2010	E-posta listelerinde metin kümeleme ve sosyal ağ analizi uyumu *Coherence between text clustering and social network analysis in e-mail lists*	Yüksek Lisans	Bilgisayar Mühendisliği Bilimleri-Bilgisayar ve Kontrol = Computer Engineering and Computer Science and Control
277401	MEHMET NESİP ÖĞÜN	2010	Profile of PKK as a terrorist organization: Social network analysis of its websites *PKK terör örgütünün profili: Web sitelerinin sosyal ağ analizi*	Doktora	Kamu Yönetimi = Public Administration ; Uluslararası İlişkiler = International Relations
270502	MEHMET SERDAR BİÇER	2010	Defect prediction using social network analysis on issue repositories *Sorun depolarında sosyal ağ analizi ile kusur tahmini*	Yüksek Lisans	Bilgisayar Mühendisliği Bilimleri-Bilgisayar ve Kontrol = Computer Engineering and Computer Science and Control
246823	CANSOY SOYDAN	2009	The development of a social network analysis software tool *Bir sosyal ağ analizi yazılım aracının geliştirilmesi*	Yüksek Lisans	Bilgisayar Mühendisliği Bilimleri-Bilgisayar ve Kontrol = Computer Engineering and Computer Science and Control
217153	DERYA FINDIK	2007	Turkish women's NGOS: A social network analysis *Türk kadın STK'ları: Sosyal ağ analizi*	Yüksek Lisans	Bilim ve Teknoloji = Science and Technology ; Sosyoloji = Sociology

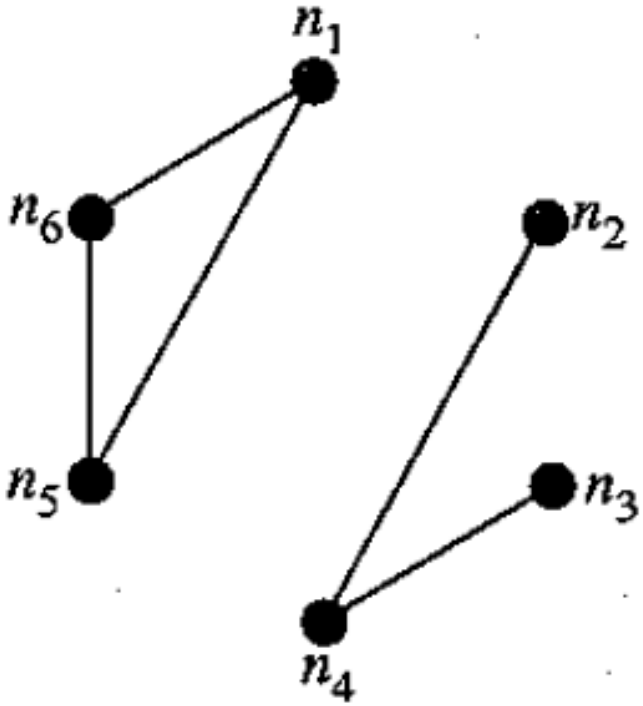
Sosyal Ağ Analizi Literatürü



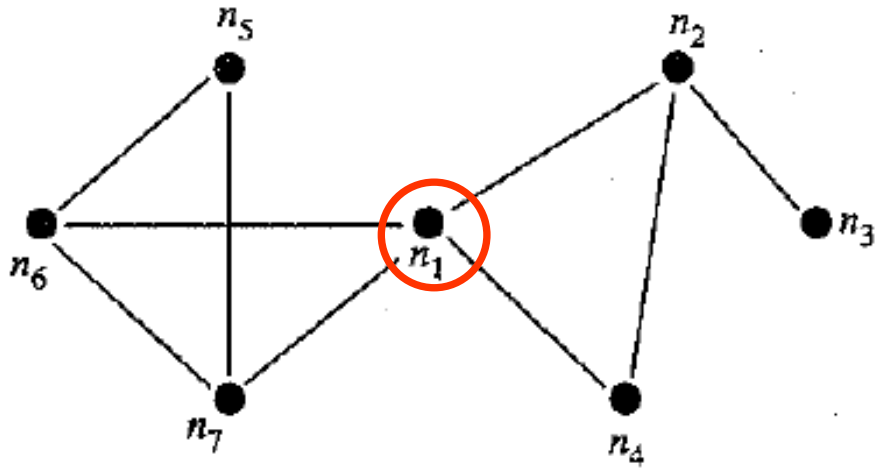
İlgili Kavramlar

Bağlantılı – Bağlantısız Ağlar

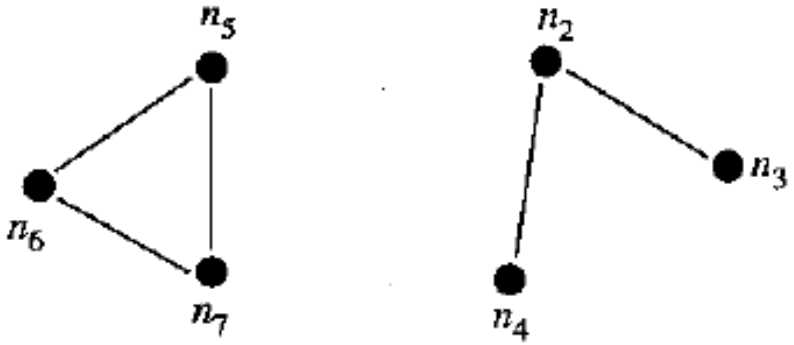




Ağdaki Düğümler (Nodes)

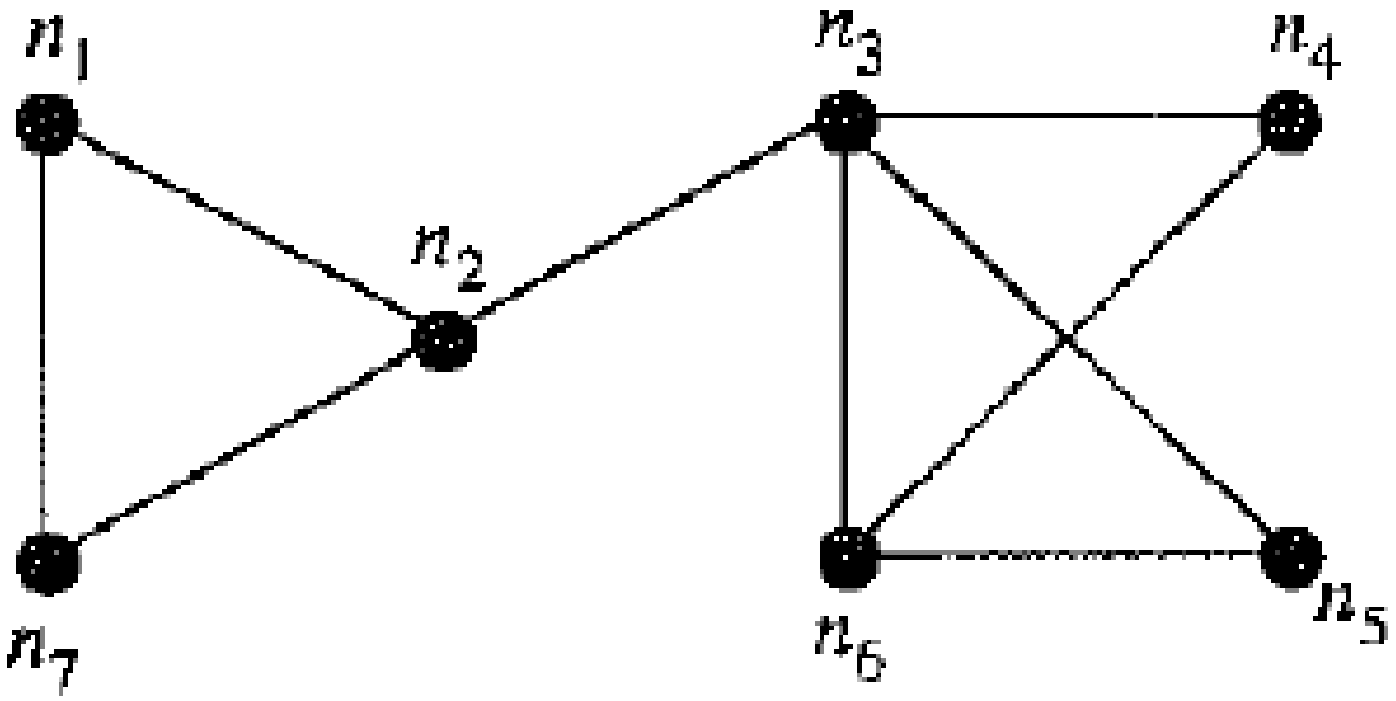


Node n_1 is a node cut, or cutpoint



The graph without node n_1

Köprüler



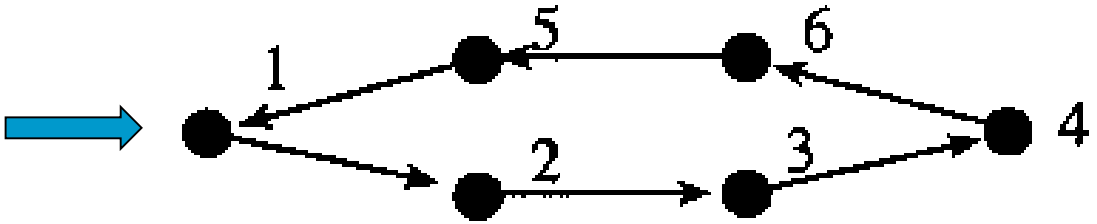
Line $(n_2\ n_3)$ is a bridge

Grafiklerdeki Bağlantı Türleri

Zayıf

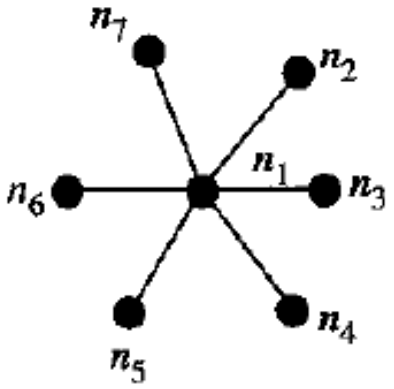
Tek yönlü

Güçlü



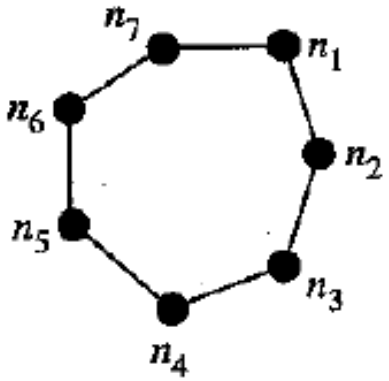
Tekrarlamalı

Matrisler ve Ağlar



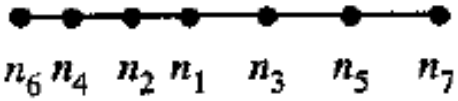
(a) Star graph

0	1	1	1	1	1	1
1	0	0	0	0	0	0
1	0	0	0	0	0	0
1	0	0	0	0	0	0
1	0	0	0	0	0	0
1	0	0	0	0	0	0
1	0	0	0	0	0	0



(b) Circle graph

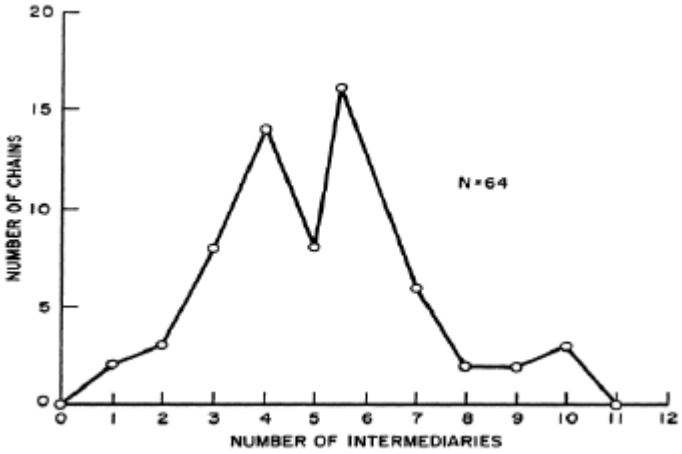
0	1	0	0	0	0	1
1	0	1	0	0	0	0
0	1	0	1	0	0	0
0	0	1	0	1	0	0
0	0	0	1	0	1	0
0	0	0	0	1	0	1
1	0	0	0	0	1	0



(c) Line graph

0	1	1	0	0	0	0
1	0	0	1	0	0	0
1	1	0	0	1	0	0
0	1	0	0	0	1	0
0	0	1	0	0	0	1
0	0	0	1	0	0	0
0	0	0	0	1	0	0

"Small-world" - Milgram Experiment



"Six Degrees of Separation"

Planetary-Scale Views on an Instant-Messaging Network*

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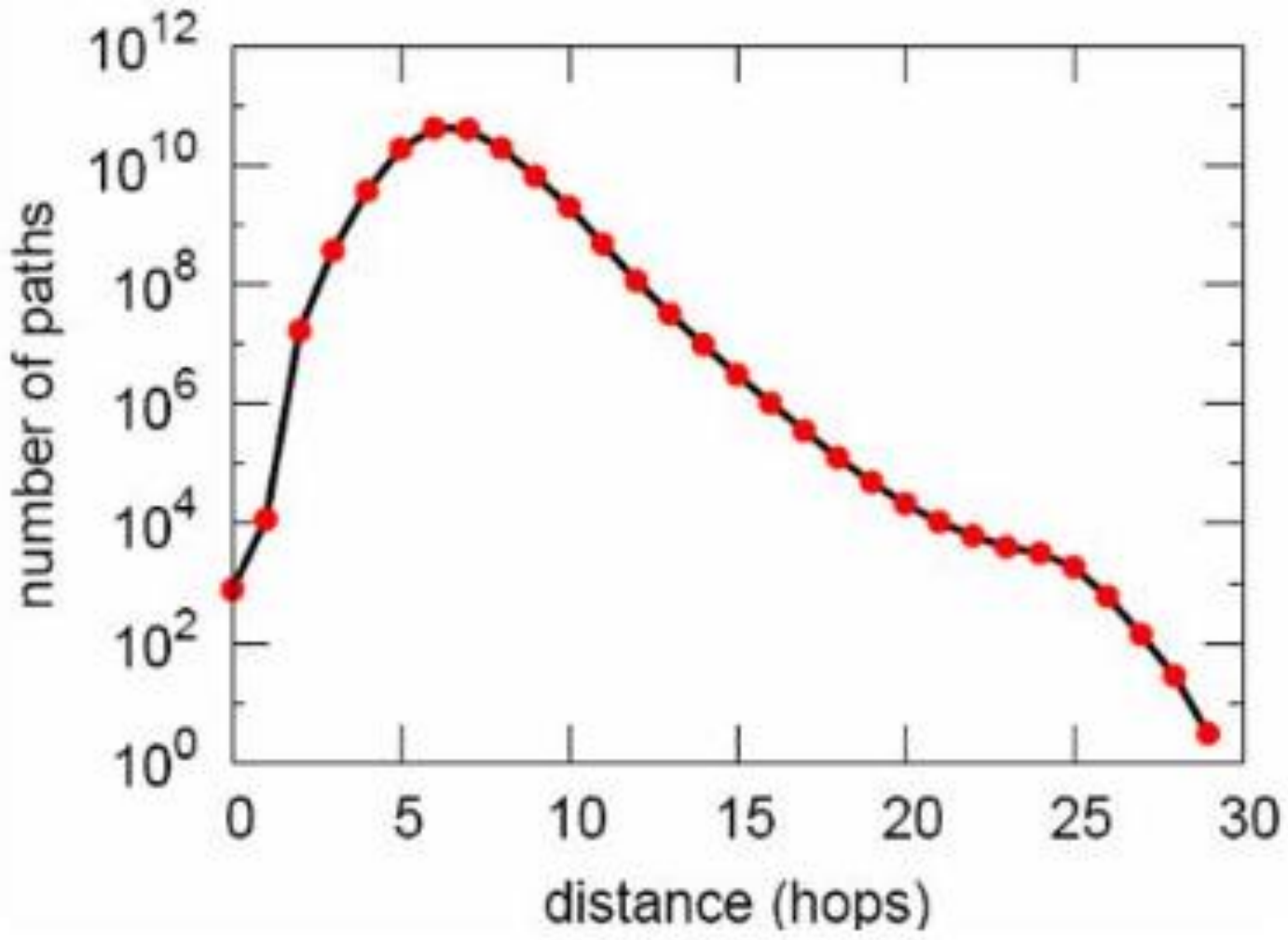
Microsoft Research Technical Report
MSR-TR-2006-186

June 2007

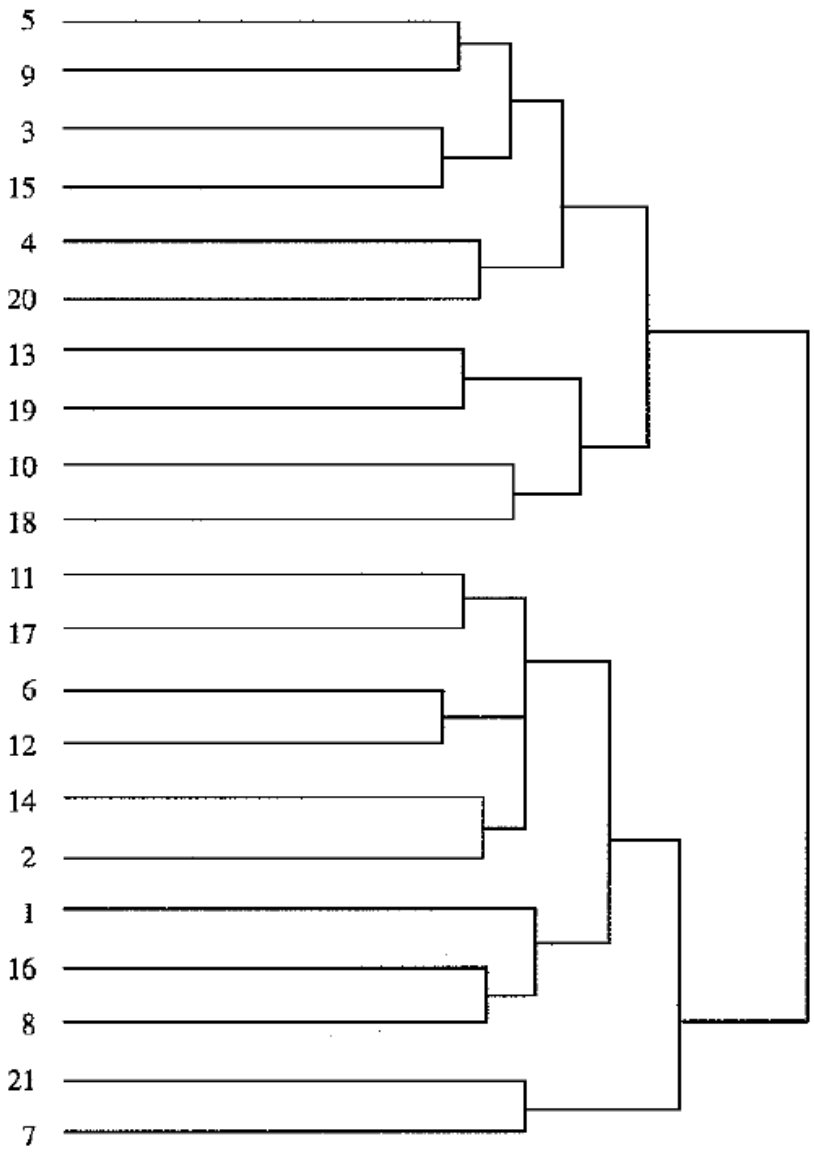
Abstract

We present a study of anonymized data capturing a month of high-level communication activities within the whole of the Microsoft Messenger instant-messaging system. We examine characteristics and patterns that emerge from the collective dynamics of large numbers of people, rather than the actions and characteristics of individuals. The dataset contains summary properties of 30 billion conversations among 240 million people. From the data, we construct a communication graph with 180 million nodes and 1.3 billion undirected edges, creating the largest social network constructed and analyzed to date. We report on multiple aspects of the dataset and synthesized graph. We find that the graph is well-connected and robust to node removal. We investigate on a planetary-scale the oft-cited report that people are separated by "six degrees of separation" and find that the average path length among Messenger users is 6.6. We also find that people tend to communicate more with each other when they have similar age, language, and location, and that cross-gender conversations are both more frequent and of longer duration than conversations with the same gender.

Six Degrees of Separation

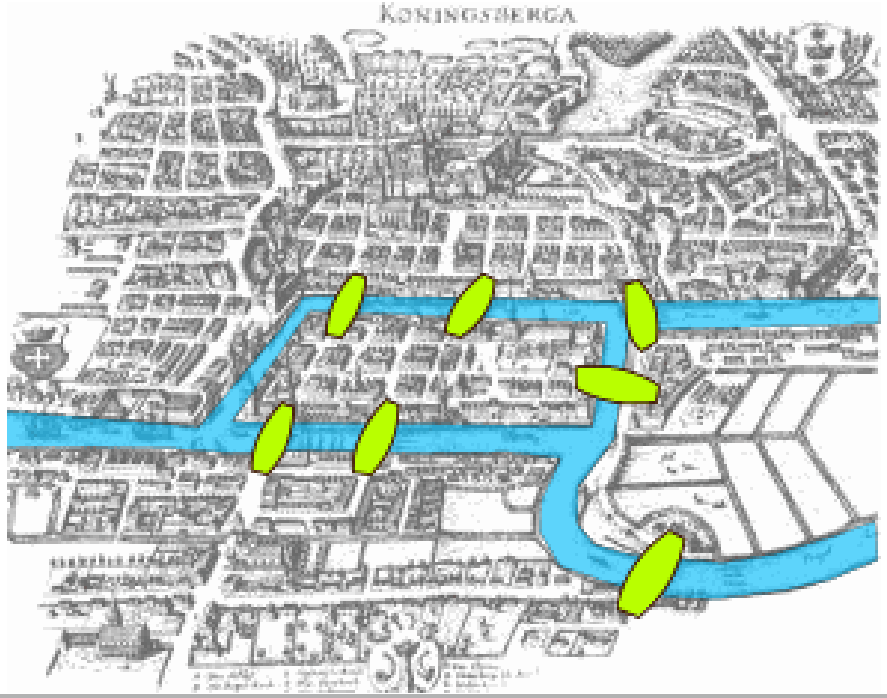


Dendogram ve Kümeleme



Çizge Kuramı

- Leonhard Euler
- Königsberg'in Yedi Köprüsü
- Aynı köprüden iki kez geçmeksizin yedi köprünün tümünden geçmek mümkün mü?



Merkezilik

- Derece (degree) merkeziliği
  - Bir birimin derece merkeziliği o birimin kaç tane bağlantıya sahip olduğunu gösterir.
- Yakınlık (closeness) merkeziliği
  - Yakınlık, bir birimin ağdaki diğer birimlere en kısa uzaklıklarının terslerinin toplamıdır. Aynı zamanda bir birimin ağdaki diğer birimlere ne kadar hızlı bağlanabileceğini yansıtır.
- Arasındalık (betweenness) merkeziliği
  - Bir birimin birbirleriyle doğrudan bağlantılı olmayan birimlerle ne düzeyde bağlantı içinde olduğunu gösterir.

Örnekler

Dedikodu Ağı

A Social Network Analysis of Positive and Negative Gossip in Organizational Life

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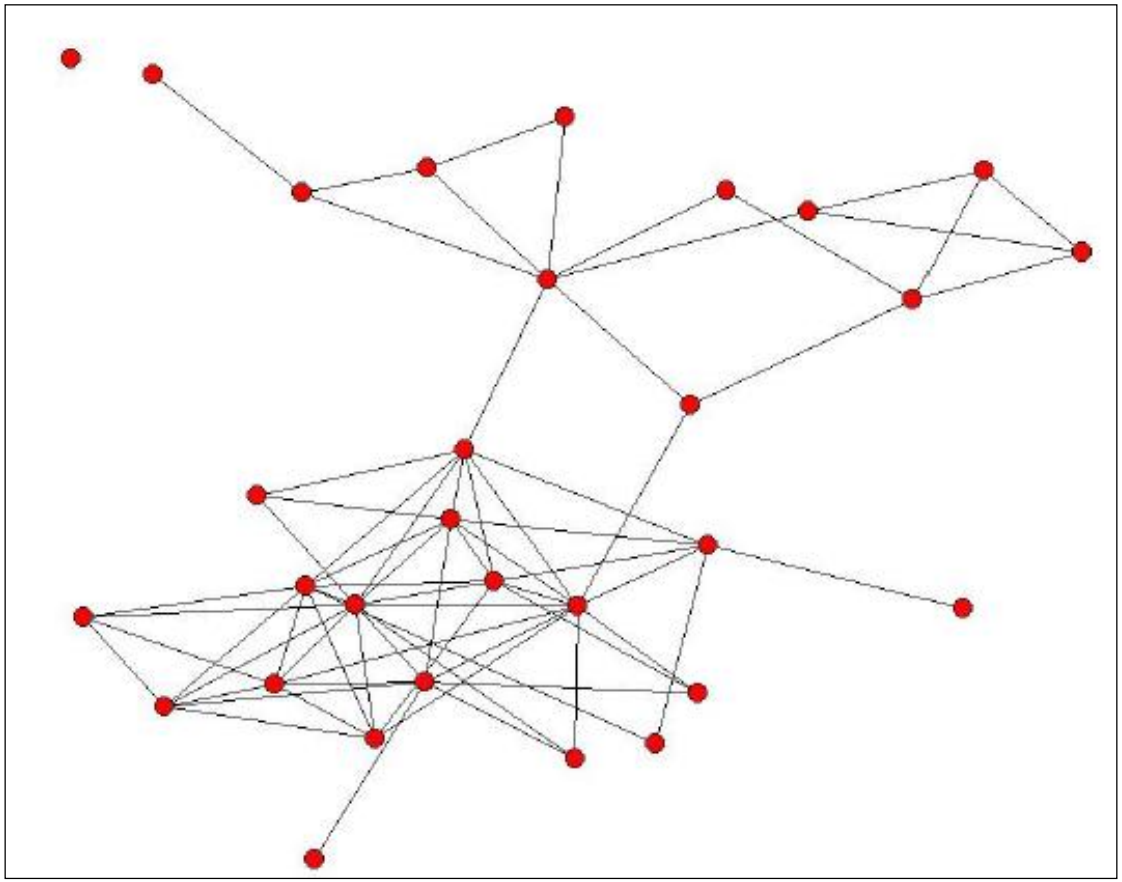
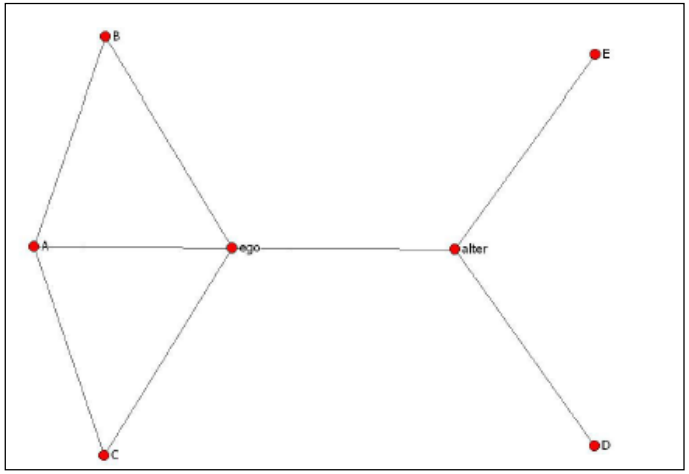
Dedikodu Ağı





Terörist Ağı

Knowledge Discovery and Information Visualization for Terrorist Social Networks

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3.1.1 Social Network Analysis – Centrality Measurement

The degree centrality is defined as the degree of a node normalized with the maximum degree of a network. Given a social network with n nodes, the degree centrality formulation is

$$degree\ centrality(u) = {degree\ of\ u}/{n-1} \tag{3.3}$$

The closeness centrality is measured by the distance from a node to all other nodes. Let the shortest distance of a path from u to v be $d(u,v)$. The closeness centrality formulation is

$$closeness\ \ centrality(u) = \frac{n-1}{\sum_{v=1}^{n} d(u,v)} \tag{3.4}$$

The betweenness centrality measures the control of a node over other pairs of nodes in a social network. Let p_{uv} be the number of shortest paths between u and v. The betweenness of w is defined as the number of shortest paths that pass w ($p_{uv}(w)$) normalized by the number total number of shortest paths of all pairs of nodes not including w. The betweenness centrality formulation is

$$betweenness\ \ centrality(w) = \frac{2\sum_{u<v} {p_{uv}(w)}/{p_{uv}}}{(n-1)(n-2)} \tag{3.5}$$

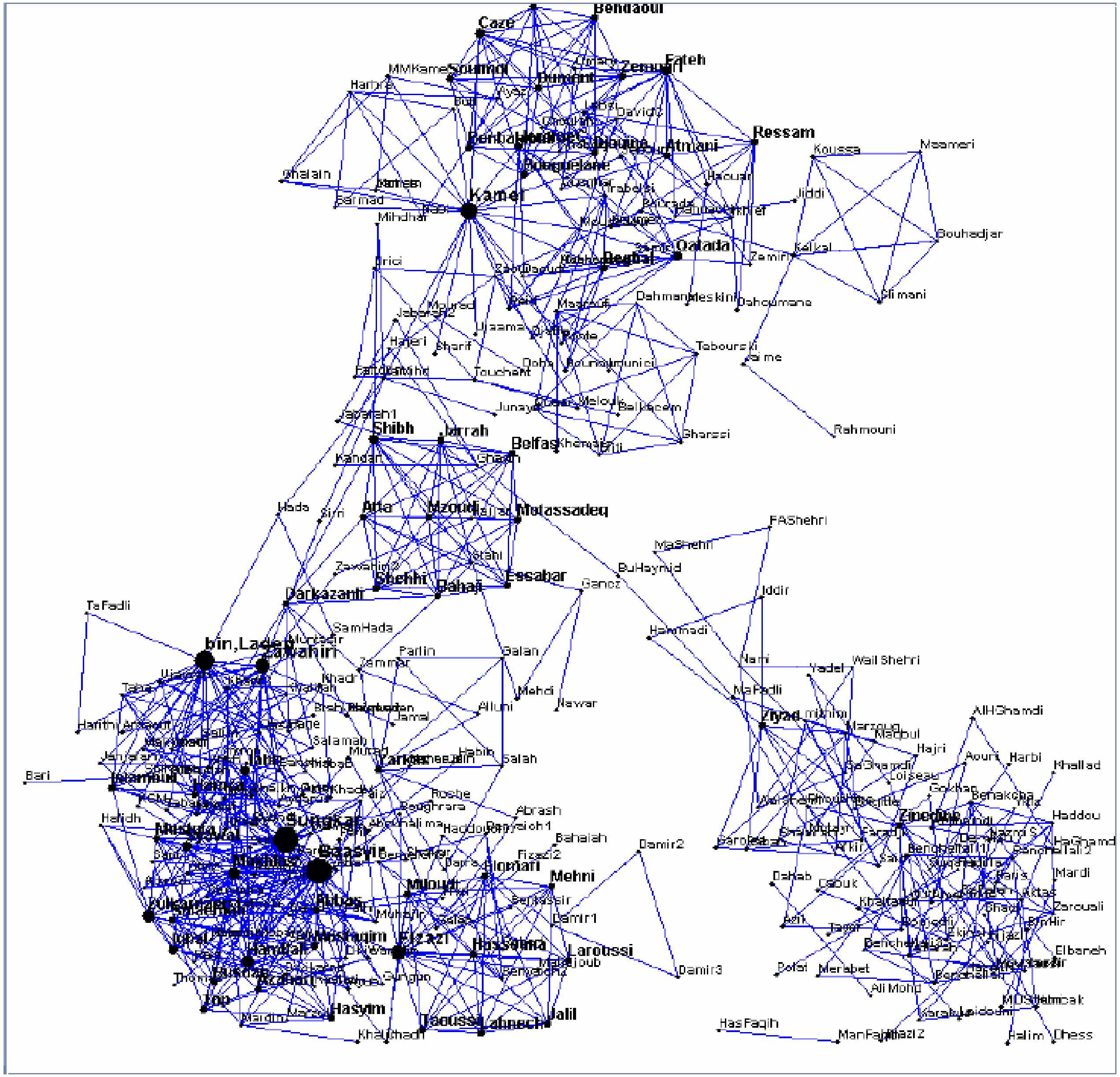

Fig. 3.1. The Global Salafi Jihad social network

Original Articles

Social Network Analysis of German Foreign Fighters in Syria and Iraq

Sean C. Reynolds & Mohammed M. Hafez

Pages 1-26 | Published online: 14 Feb 2017

Download citation https://doi.org/10.1080/09546553.2016.1272456 Check for updates

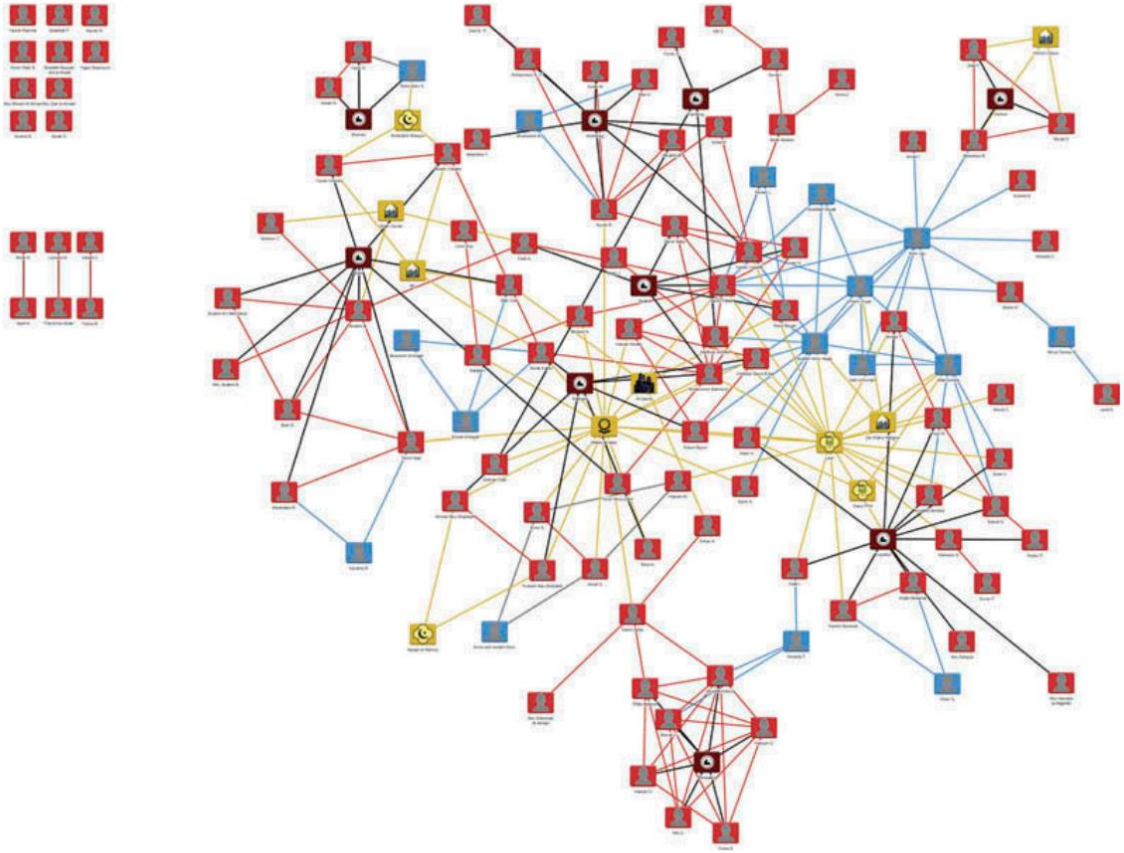

Figure 4. The German foreign fighter network.

ABSTRACT

Why do Westerners become foreign fighters in civil conflicts? We explore this question through original data collection on German foreign fighters in Syria and Iraq, and test three sets of hypotheses that revolve around socioeconomic integration, online radicalization, and social network mobilization. We conduct link analysis to map the network of German foreign fighters prior to their mobilization, and marshal evidence to assess the validity of competing explanations. We find only modest support for the integration deficit hypothesis, and meager support for the social media radicalization theory. Instead, the preponderance of evidence suggests that interpersonal ties largely drive the German foreign fighter phenomenon. Recruitment featured clustered mobilization and bloc recruitment within interconnected radical milieus, leading us to conclude that peer-to-peer networks are the most important mobilization factor for German foreign fighters.

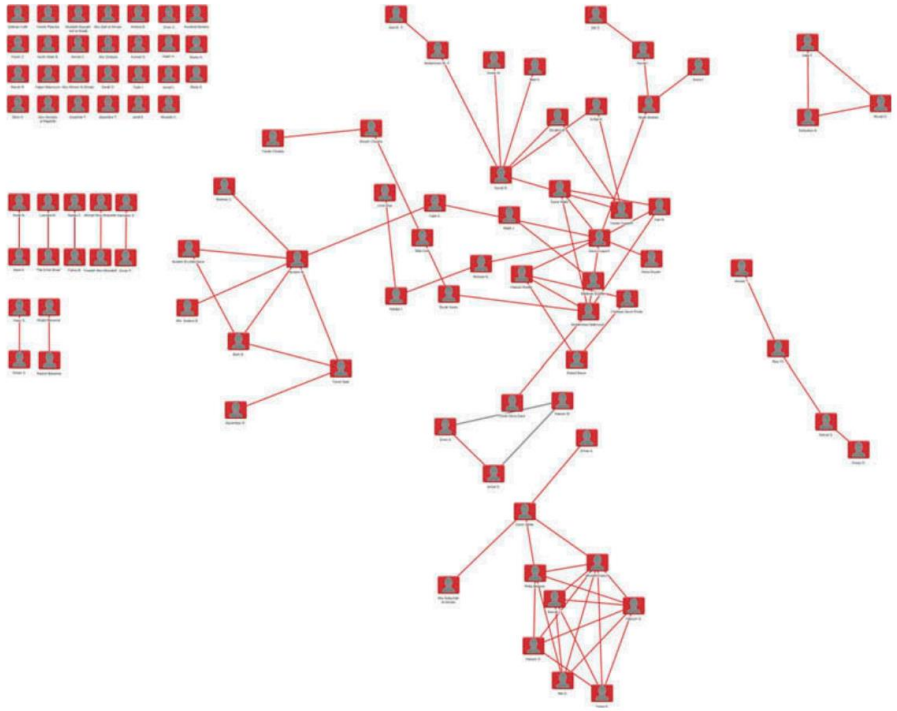

Figure 5. Personal connections among foreign fighters before travel.

Original Articles

Social Network Analysis of German Foreign Fighters in Syria and Iraq

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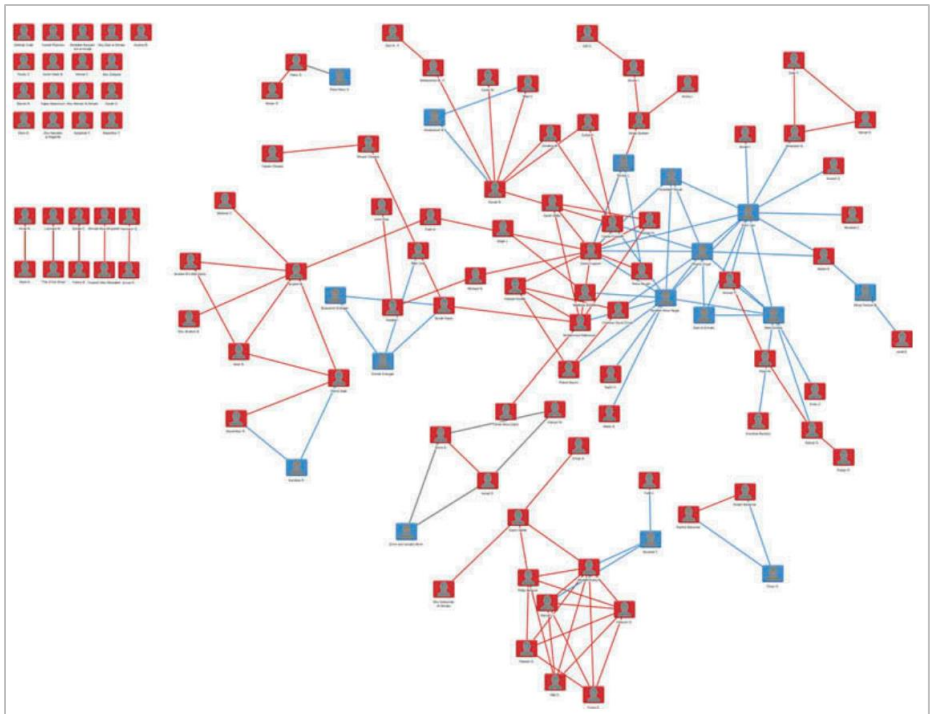
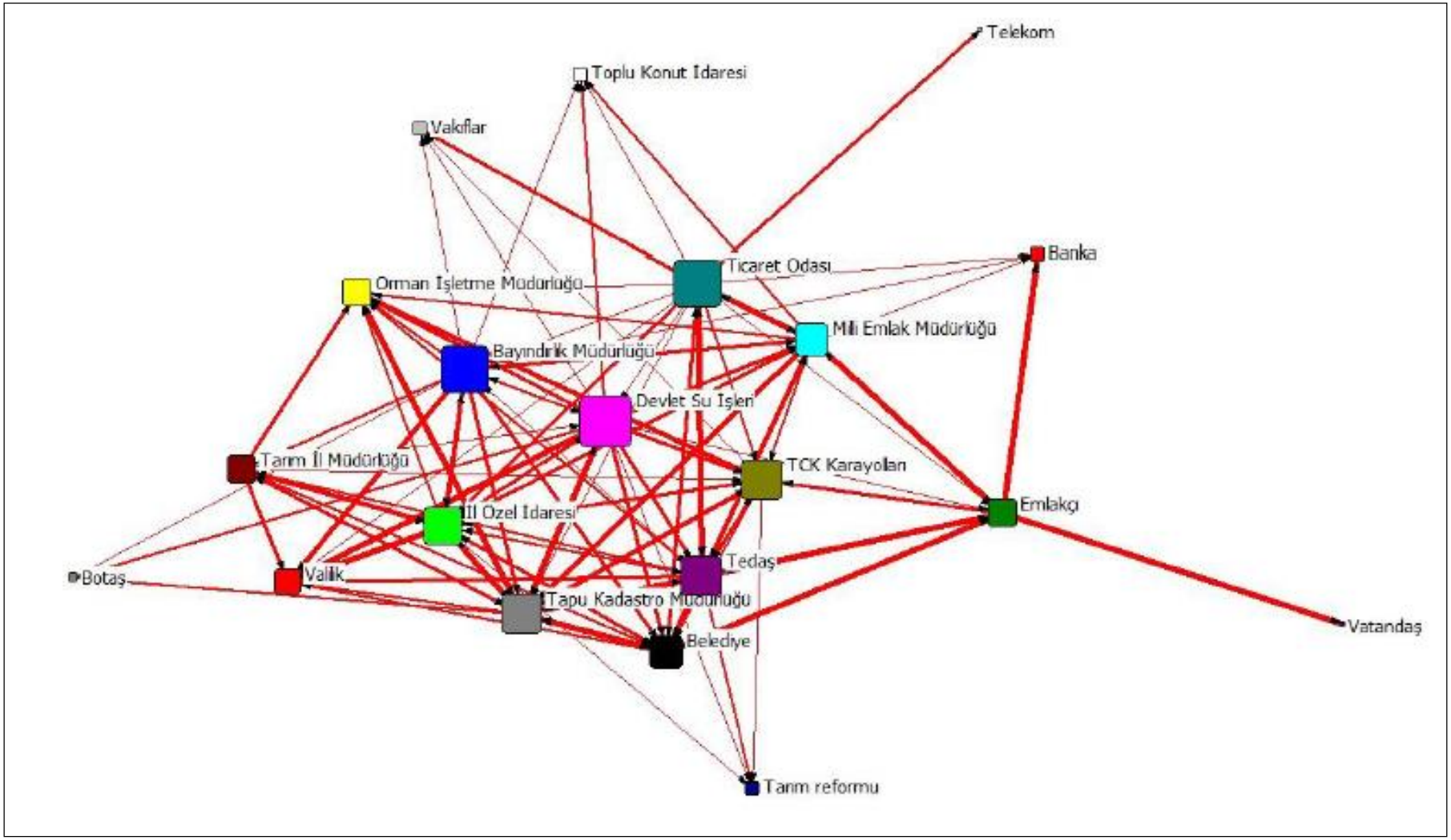


Figure 6. Foreign fighter links to recruiters, supporters, and salafist leaders.

Konumsal Veri Üzerine Sosyal Ağ Analizi (SAA): Afyonkarahisar Örneği

Konumsal veri ile işi olan disiplinlerin ağ içindeki ilişkilerini ölçmek için sorulan "Aşağıda adları geçen kurumlardan 1 yıl içinde ne sıklıkla konumsal veri alırsınız?" sorusundan elde edilen 0 ile 8 arasındaki sayısal değerler UCINET 6 programına aktarılarak derece değerlerine göre oluşan ağ elde edilmiştir



Aging Clin Exp Res (2017) 29:1173–1179
DOI 10.1007/s40520-017-0726-7

ORIGINAL ARTICLE

Social networks and health status in the elderly: the 'ANZIANI IN-RETE' population-based study

Luca Bianchetti[1] · Flaminio Squazzoni[2] · Niccolò Casnici[1] · Devis Bianchini[3] · Emirena Garrafa[4] · Claudia Archetti[2] · Valentina Romano[1] · Luca Rozzini[1] · Michele Melchiori[3] · Chiara Fiorentini[4] · Daniela Uberti[4] · Stefano Calza[4] · Alessandra Marengoni[1]

Abstract

Background Certain features of the social environment could maintain and even improve not only psychological well-being, but also health and cognition of the elderly.

Aims We tested the association between social network characteristics and the number of chronic diseases in the elderly.

Methods A randomized sample of the elderly population of Brescia, Italy, was evaluated ($N = 200$, age ≥ 65 years). We performed a comprehensive geriatric assessment, including information on socio-demographic variables (family, friendships, and acquaintance contacts). We measured each person's social network, i.e., degree, efficiency, and variety.

Results The sample included 118 women and 82 men, mean age 77.7 years. The mean number of chronic diseases was 3.5. A higher social network degree, i.e., more social connections, was associated with fewer diseases. We also found that having more contacts with people similar to each

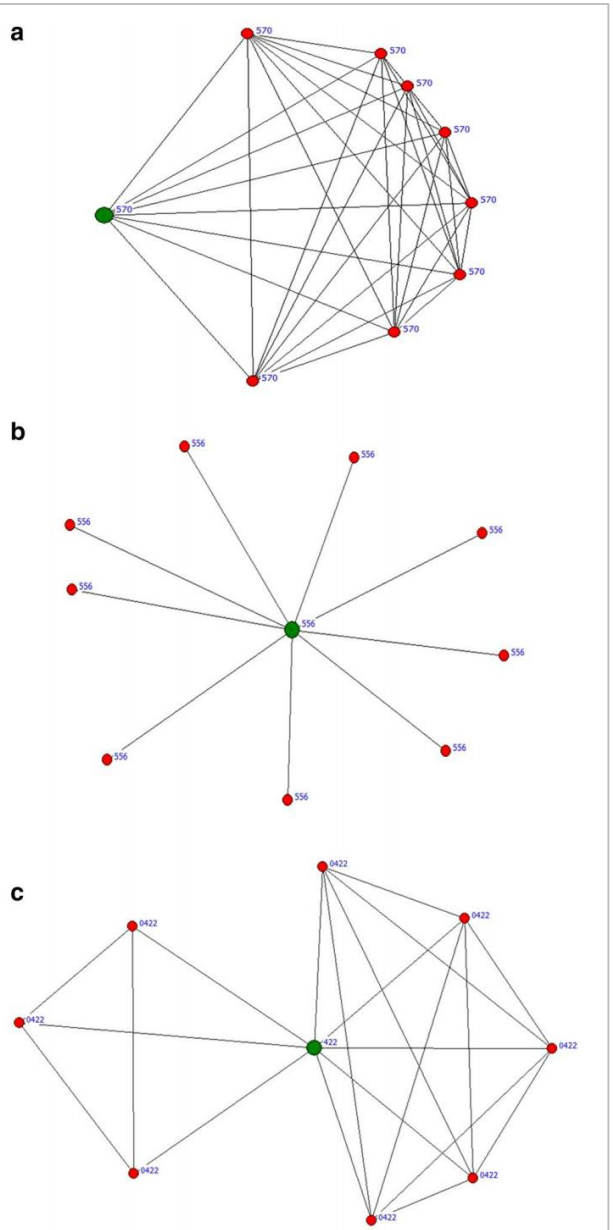
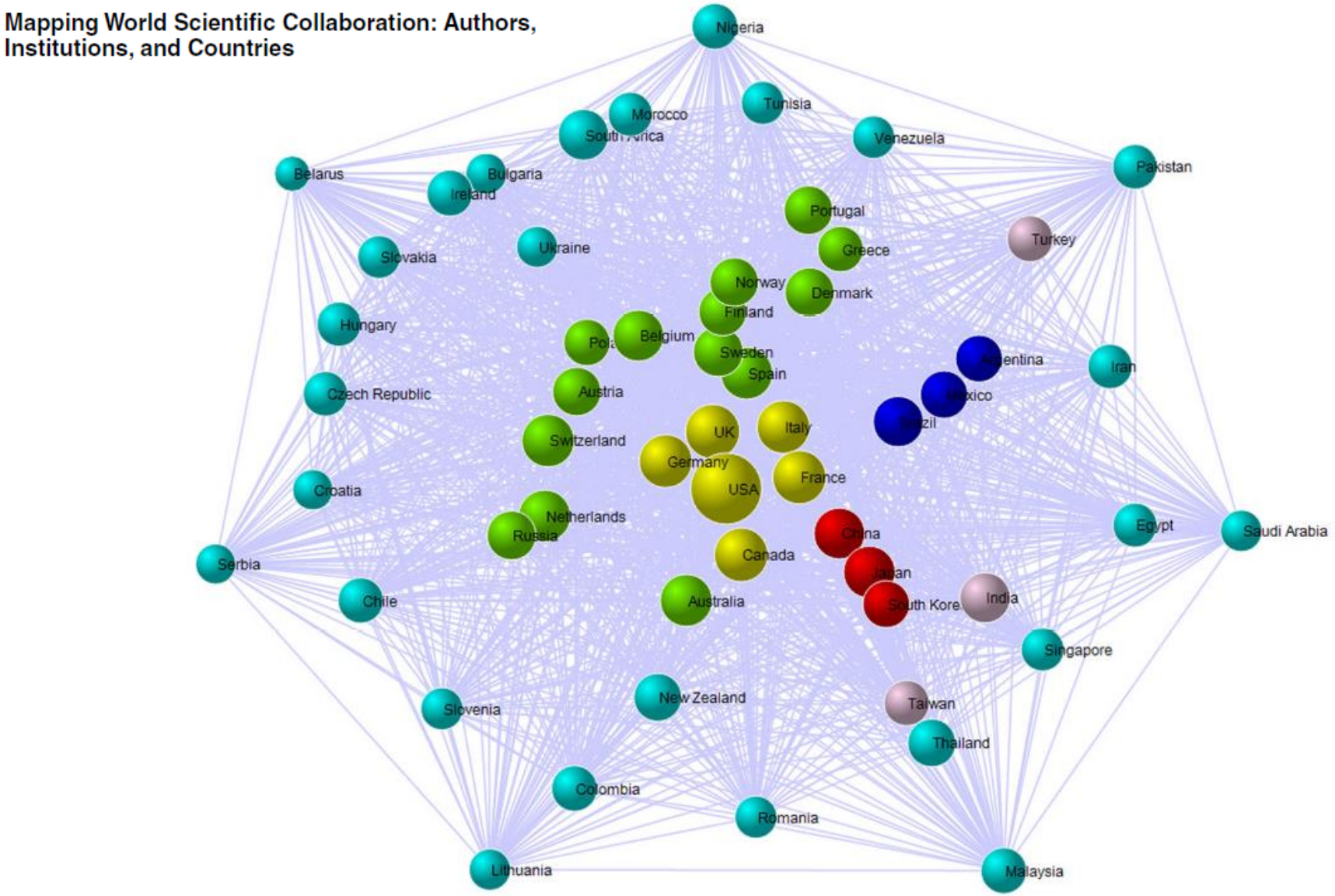
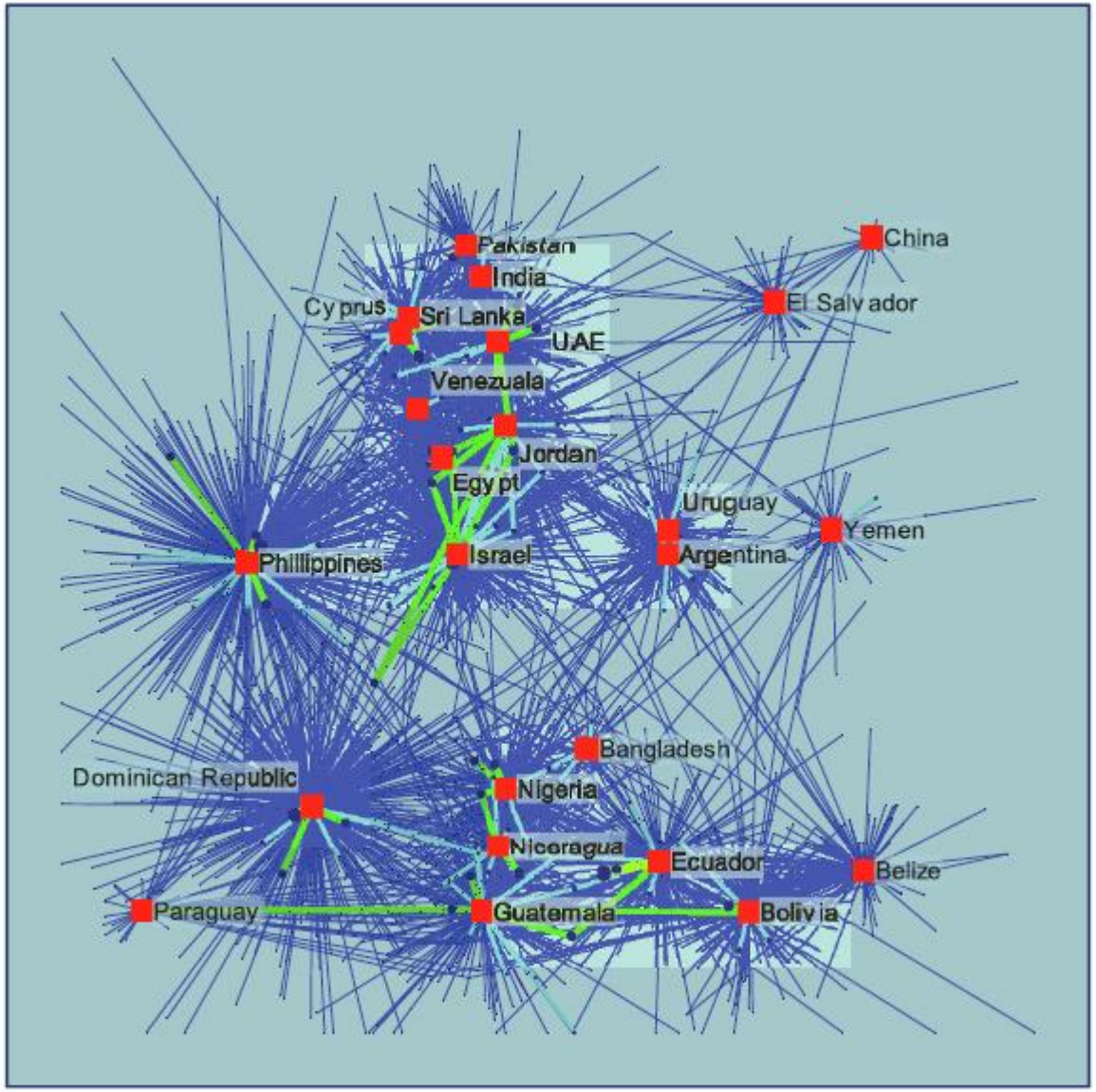


Fig. 1 **a** Example of a 'closed' social network. **b** Example of an 'open' social network. **c** Example of a 'mixed' social network

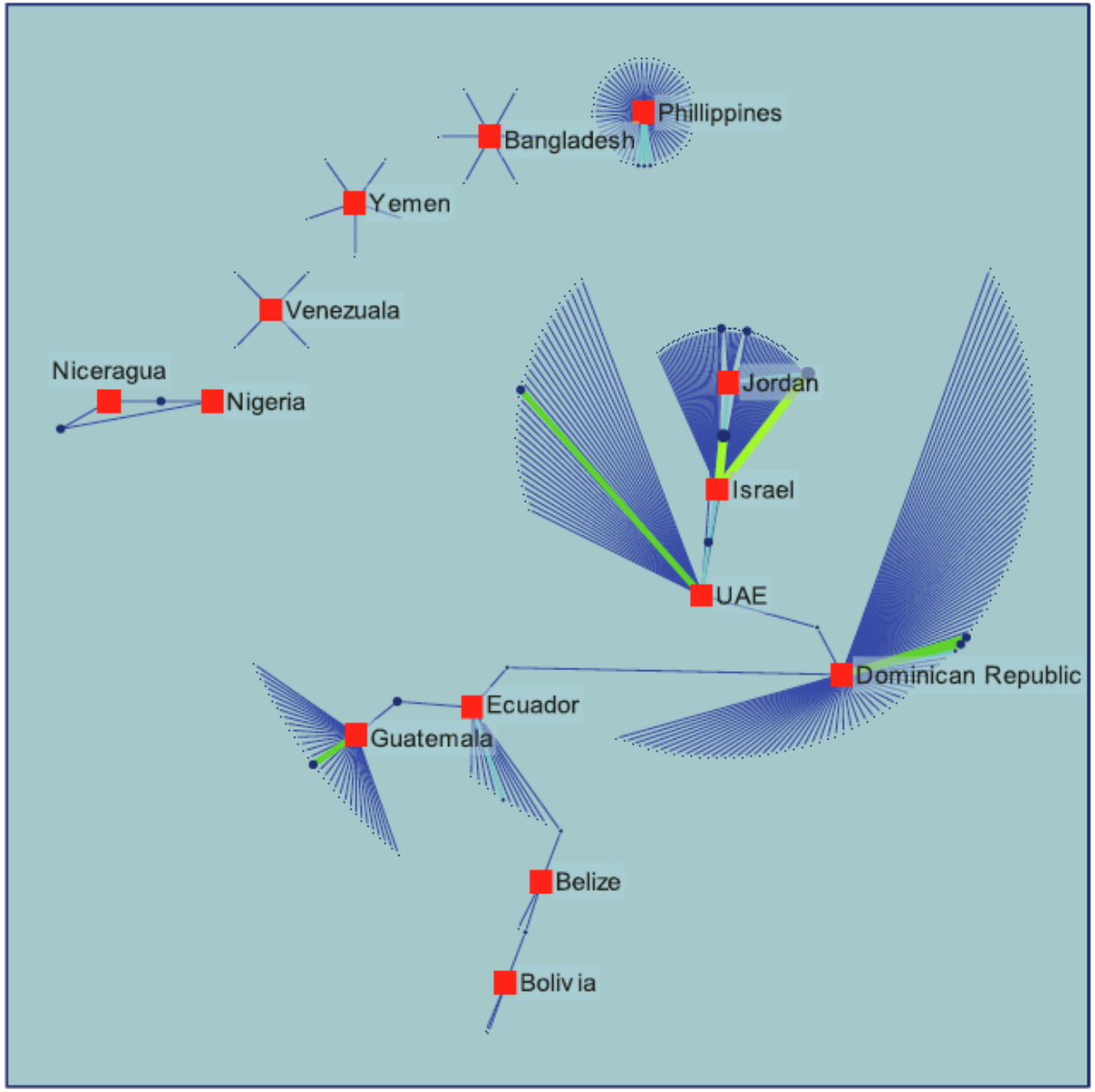
Bilimsel İşbirliği Ağı



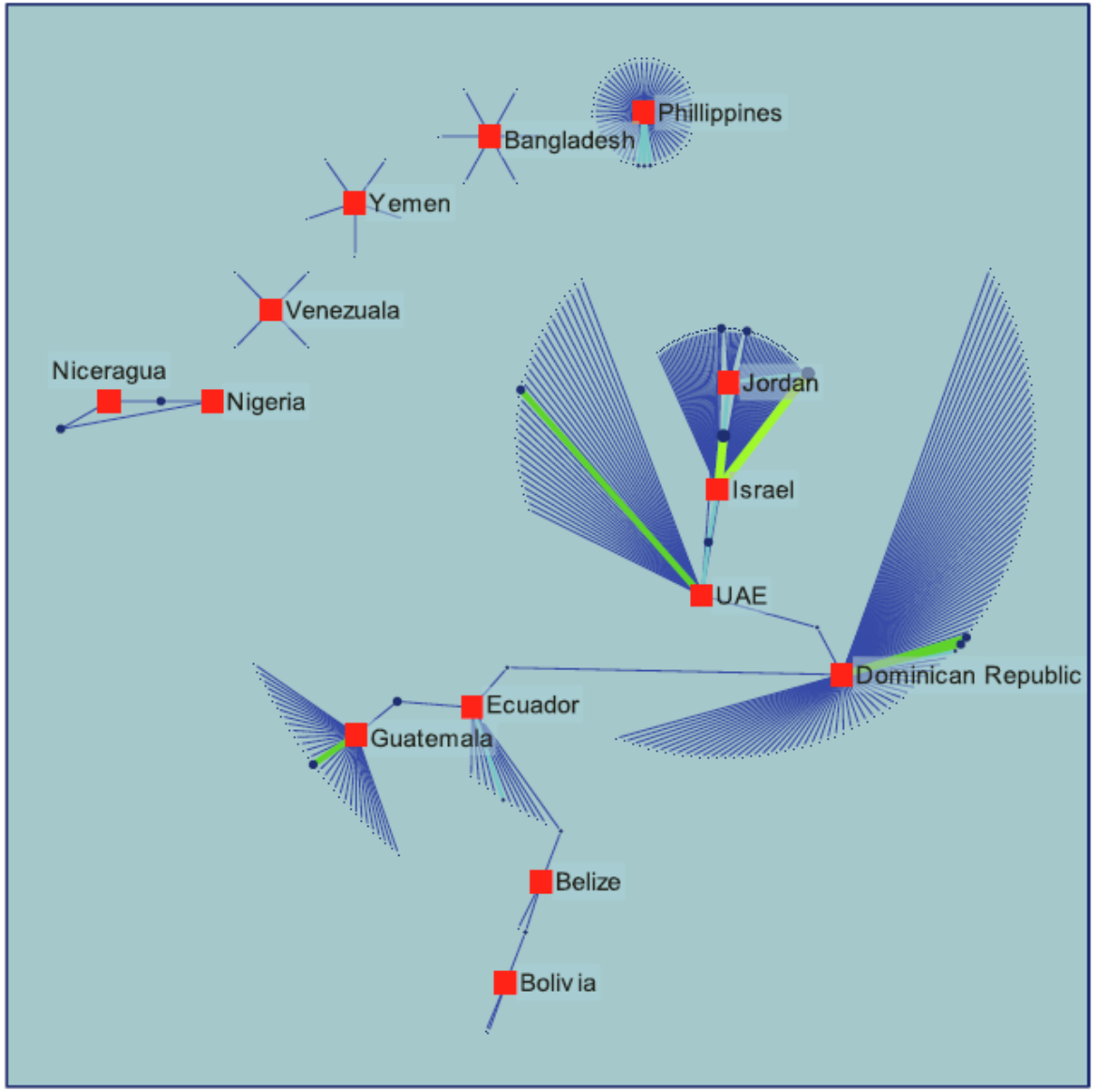
Uluslararası Aramalar



Uzun Süreli Uluslararası Aramalar



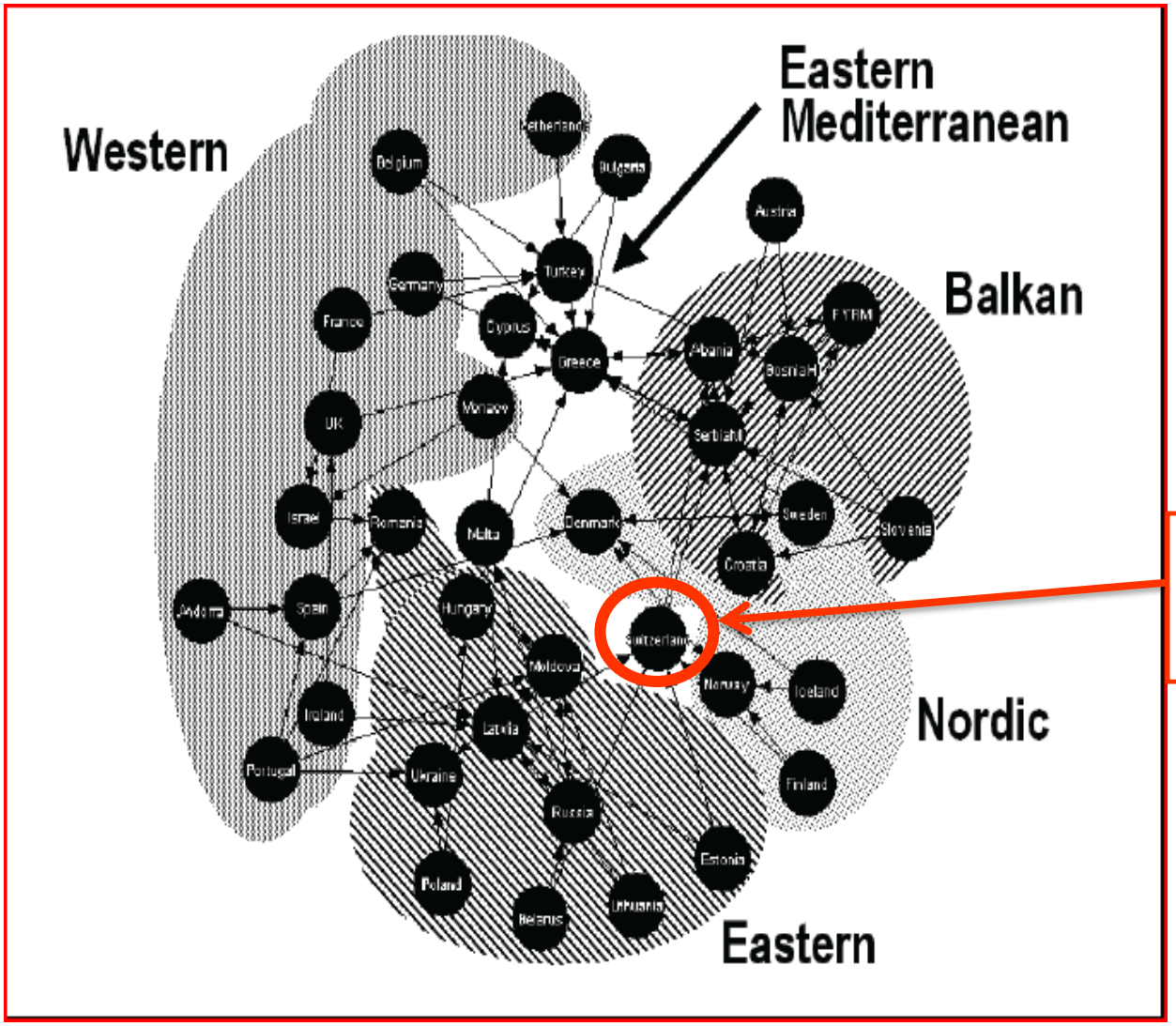
İsrail-Ürdün-Birleşik Arap Emirlikleri



The Eurovision Song Contest as a 'Friendship' Network

Anthony Dekker

Australian Defence Science and Technology Organisation (DSTO)



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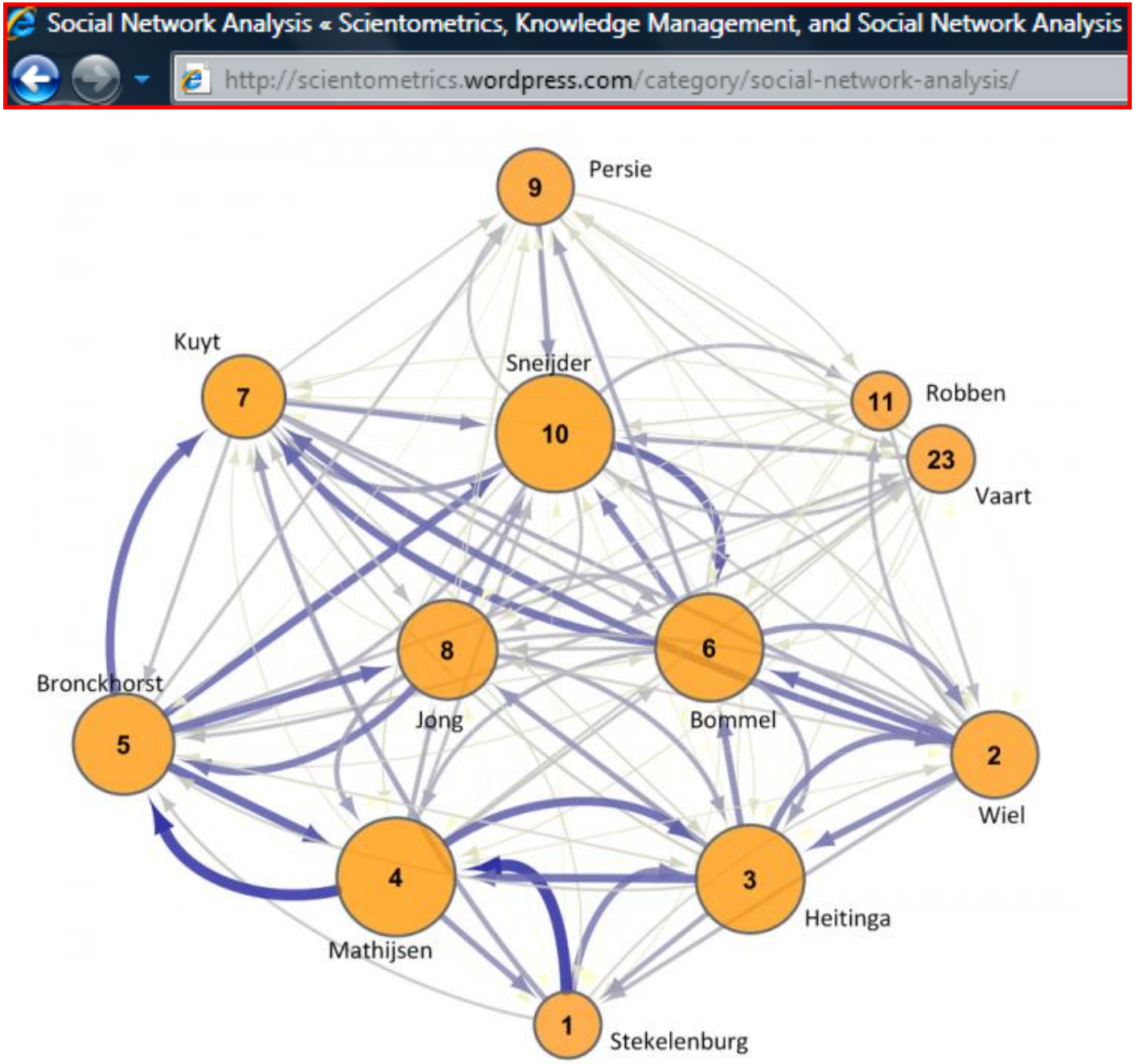
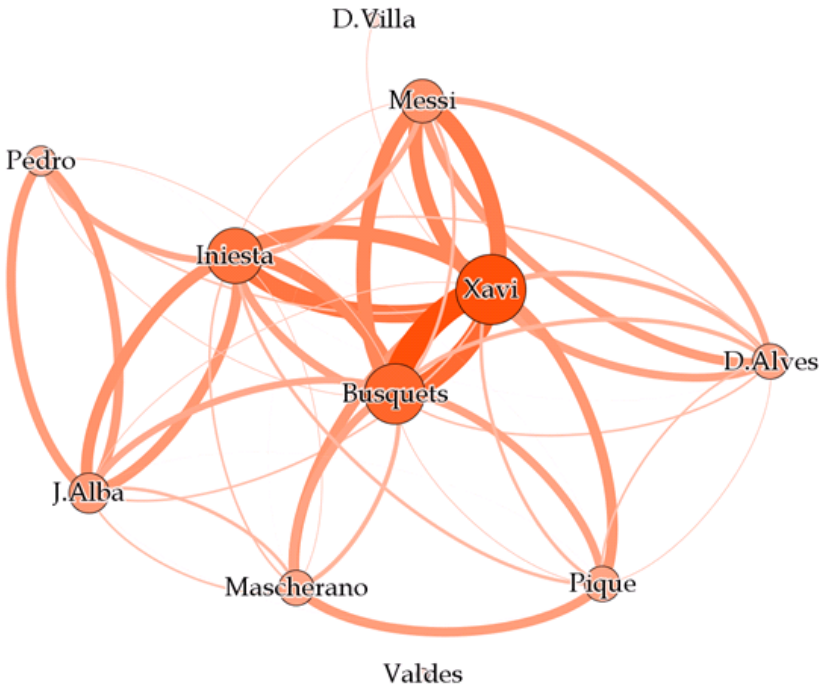
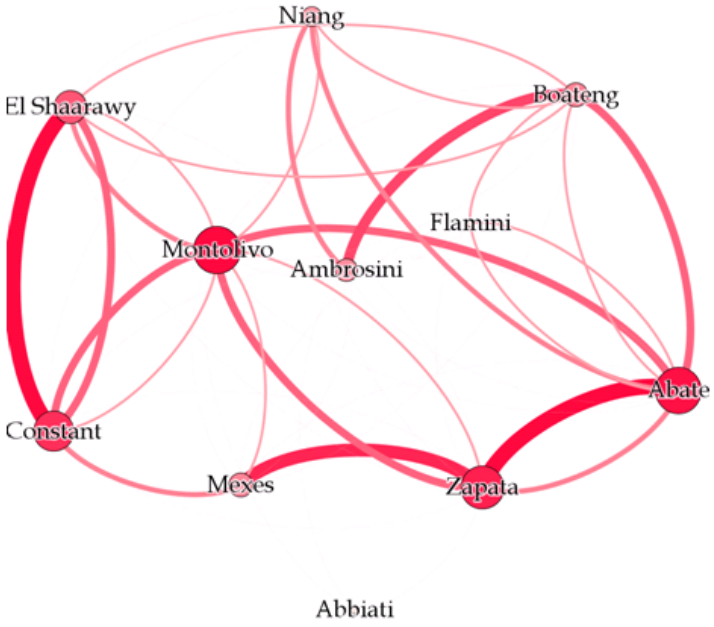

Social Network Analysis « Scientometrics, Knowledge Management, and Social Network Analysis
http://scientometrics.wordpress.com/category/social-network-analysis/
9
Persie
Kuyt
7
Sneijder
10
11
Robben
23
Vaart
8
Jong
6
Bommel
Bronckhorst
5
2
Wiel
4
Mathijsen
3
Heitinga
1
Stekelenburg

https://scientometrics.files.wordpress.com/2013/03/b_20130312_barca_milan_combined.png



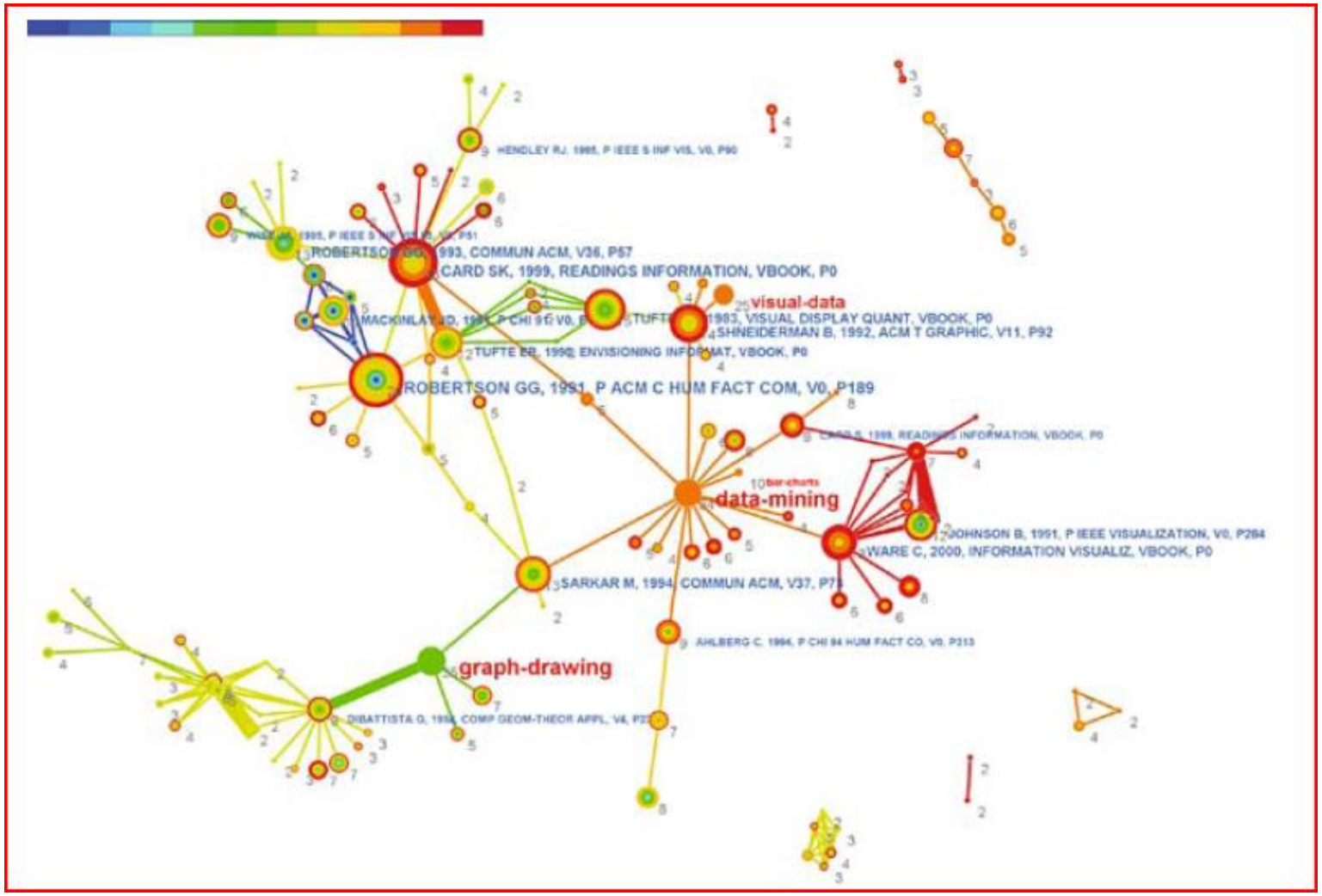


Barcelona 4:0 AC Milan
12 March 2013

Chaomei Chen

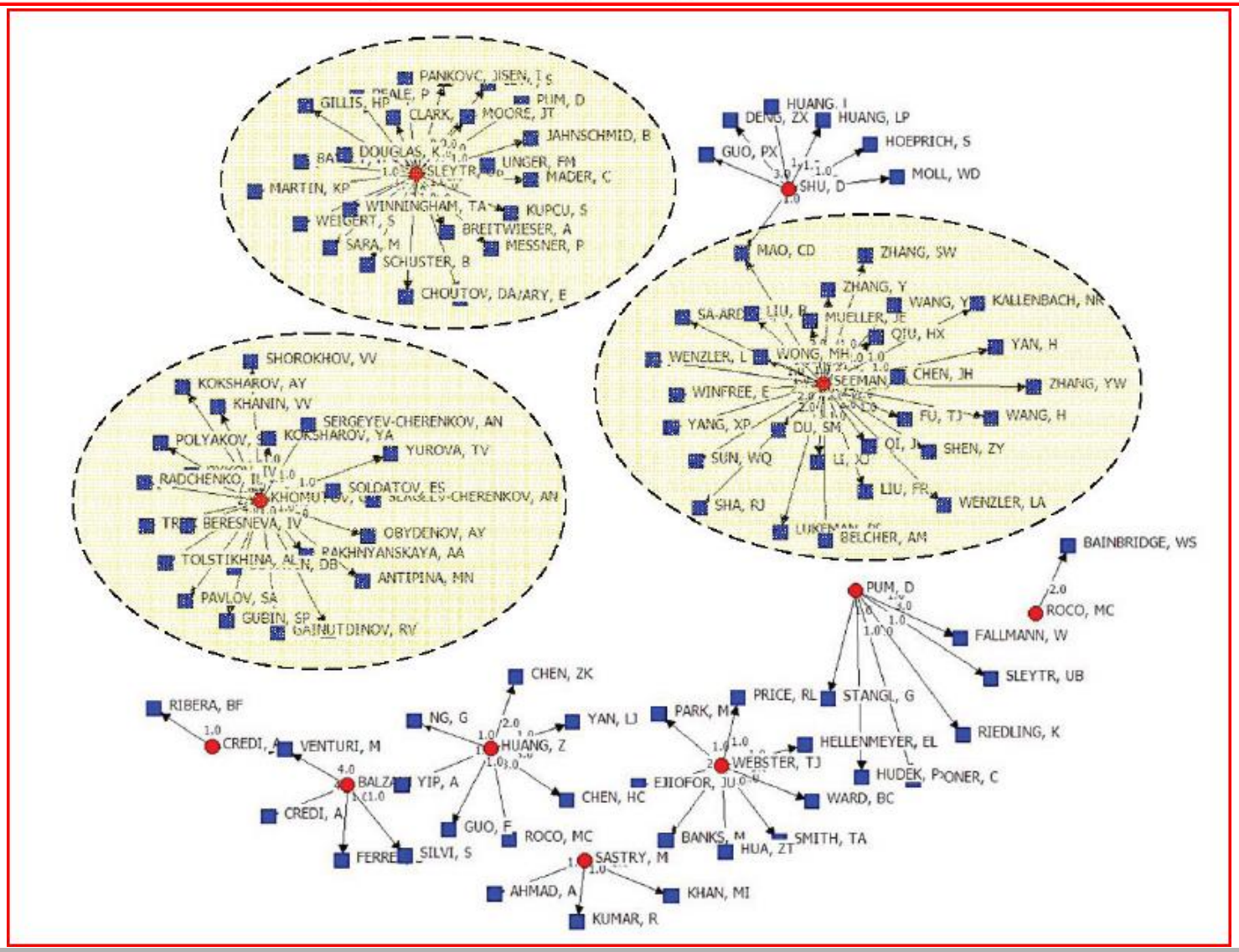
Information Visualization

Beyond the Horizon

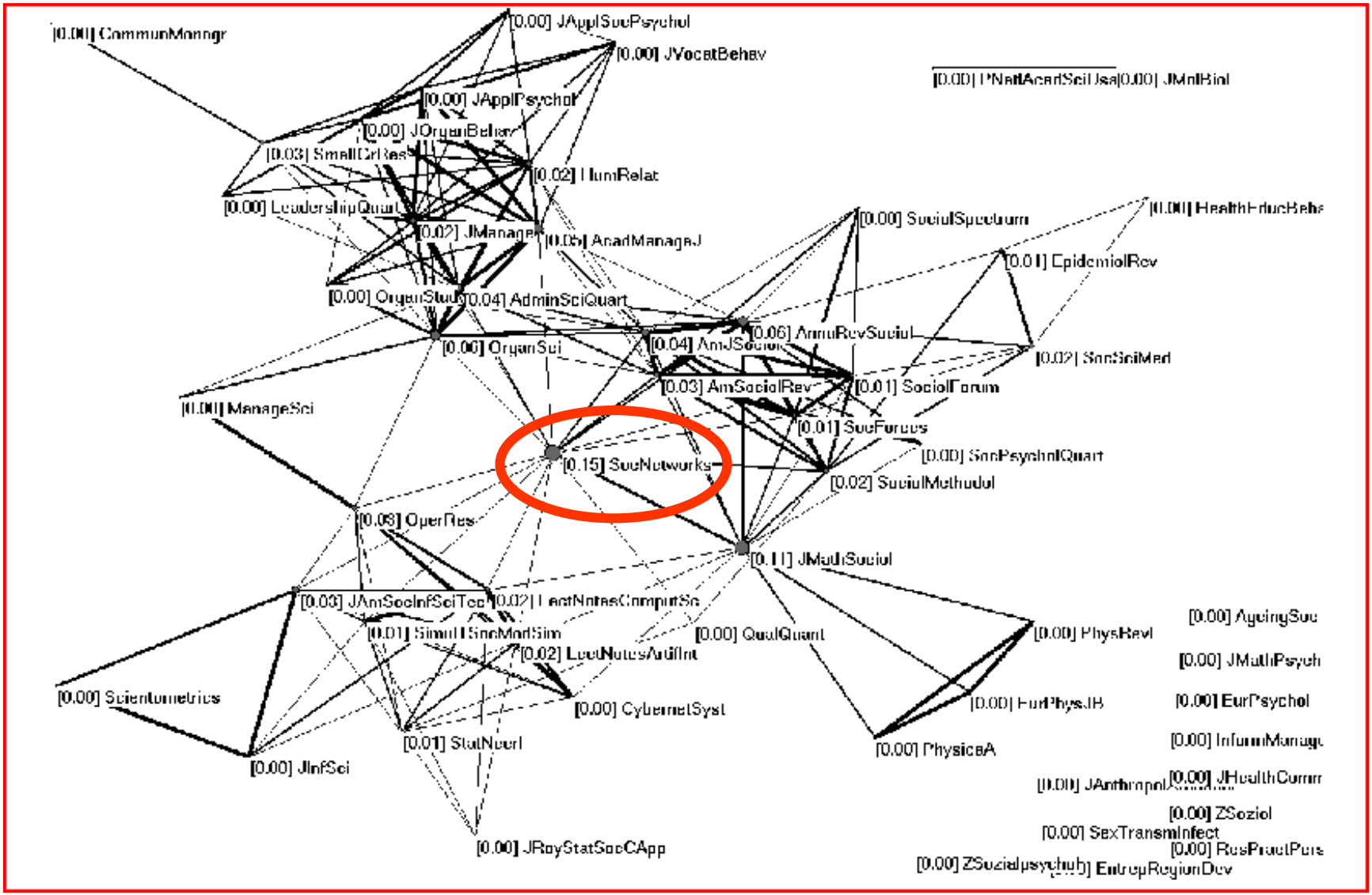


Bibliometrics and Social Network Analysis of the Nanotechnology Field

Guillermo Rueda, Pisek Gerdsri, Dundar F. Kocaoglu
Department of Engineering and Technology Management, Portland State University, USA

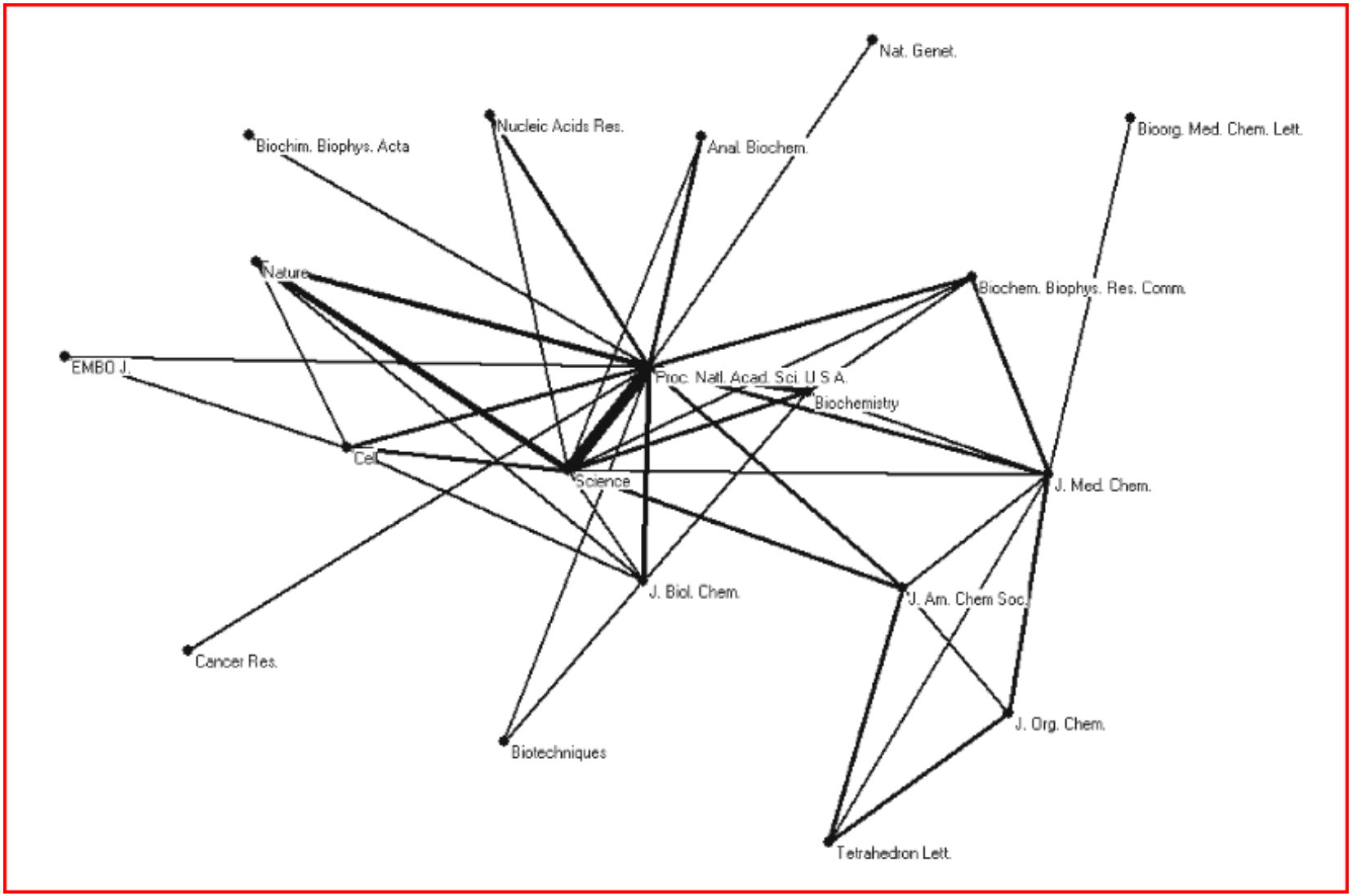


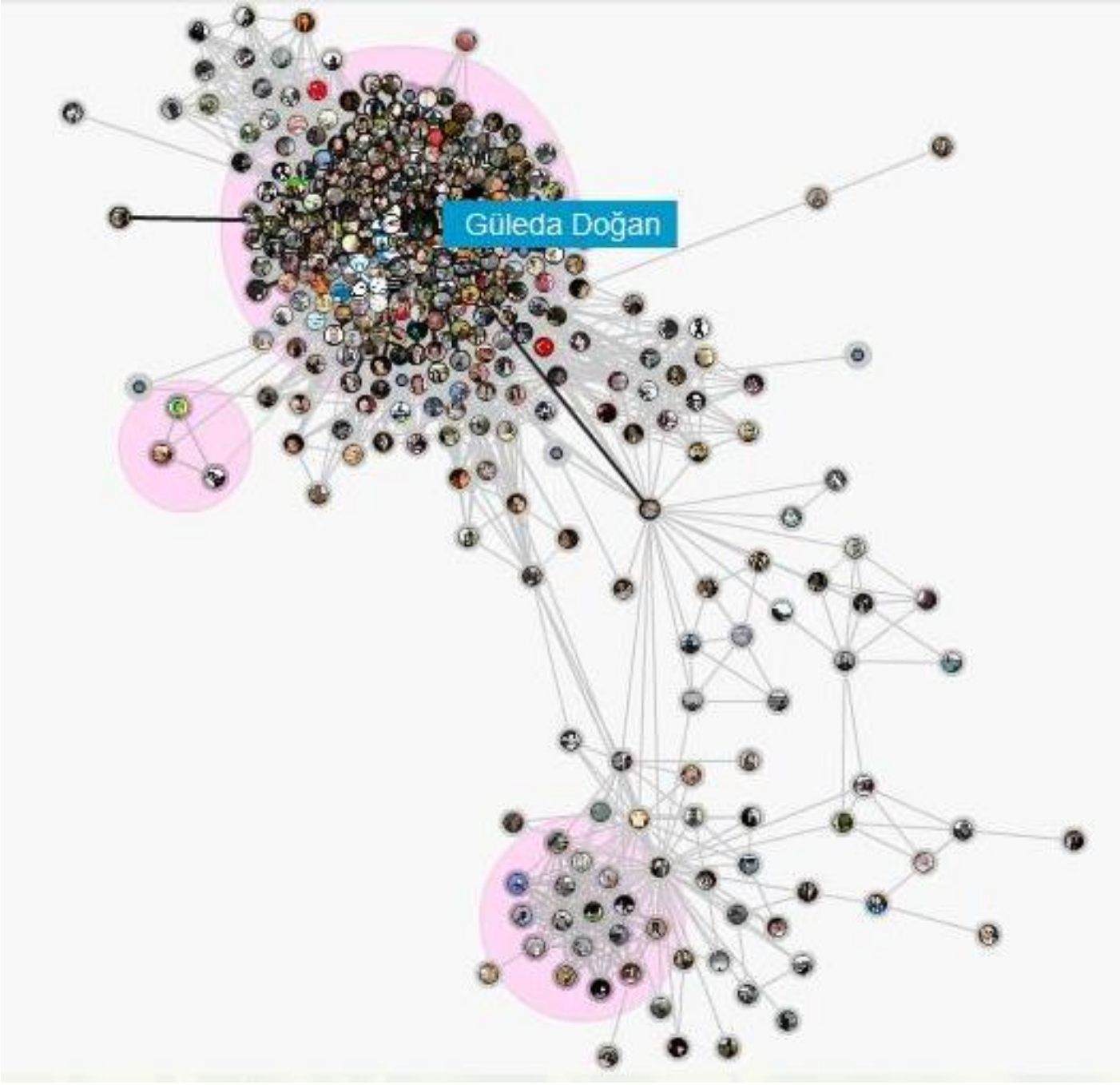
Betweenness Centrality as an Indicator of the Interdisciplinarity of Scientific Journals



Networks of scientific journals: An exploration of Chinese patent data

XIA GAO,[a] JIANCHENG GUAN[b]




Güleda Doğan

Türkiye'nin Bilimsel Yayınlarının Sosyal Ağ Analizi Yöntemiyle Değerlendirilmesi

Proje No: 110K044

Doç. Dr. Umut AL
Yrd. Doç. Dr. Umut SEZEN
Öğr. Gör. Dr. İrem SOYDAL

Mayıs 2012
ANKARA

Yararlanılan Kaynaklar

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