

# Analysis of Peer Review data from WoS

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**PEERE**

Split – June 16-18, 2015

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- 2 Distributions
- 3 Citations
- 4 Collaboration
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Journal of Irreproducible Results, 32(1988)2, 24

**Current version of slides:**

<http://vlado.fmf.uni-lj.si/pub/slides/peerreview.pdf>

To the **Web of Science** (WoS) we put a query "peer review\*". We get 17053 hits (from Web of Science Core Collection, in May 2015).

The first analysis revealed many papers without WoS descriptions having large indegrees in the citation network. We manually searched for each of them (with indegree larger or equal 20) and if found added it into the data set.

After some iterations, we finally constructed a data set used in this analysis. Using a program WoS2Pajek we transformed it into a collection of networks: cite, WA, WJ, WK; partitions DC (DC= a work w has (1) / has not (0) a WoS description), year (publication year); and CSV file titles with basic data about works with DC=1.

Peer Review  
from WoSV. Batagelj,  
A. Ferligoj

Data

Distributions

Citations

Collaboration

To do

References

PT J  
 AU Dipple, H  
 Evans, B  
 TI The Leicestershire Huntington's disease support group: a social network  
 analysis  
 SO HEALTH & SOCIAL CARE IN THE COMMUNITY  
 LA English  
 DT Article  
 C1 Rehabil Serv, Troon Way Business Ctr, Leicester LE4 9HA, Leics, England.  
 RP Dipple, H, Rehabil Serv, Troon Way Business Ctr, Sandringham  
 Suite, Humberstone Lane, Leicester LE4 9HA, Leics, England.  
 CR BORGATTI SP, 1992, UCINET 4 VERSION 1 0  
 FOLSTEIN S, 1989, HUNTINGTONS DIS DISO  
 SCOTT J, 1991, SOCIAL NETWORK ANAL  
 NR 3  
 TC 3  
 PU BLACKWELL SCIENCE LTD  
 PI OXFORD  
 PA P O BOX 88, OSNEY MEAD, OXFORD OX2 ONE, OXON, ENGLAND  
 SN 0966-0410  
 J9 HEALTH SOC CARE COMMUNITY  
 JI Health Soc. Care Community  
 PD JUL  
 PY 1998  
 VL 6  
 IS 4  
 BP 286  
 EP 289  
 PG 4  
 SC Public, Environmental & Occupational Health; Social Work  
 GA 105UP  
 UT ISI:000075092200008  
 ER

Peer Review  
from WoS

V. Batagelj,  
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Data

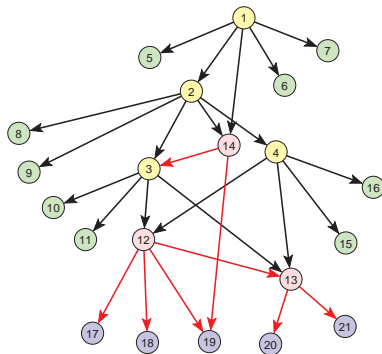
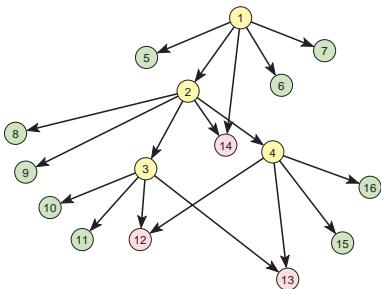
Distributions

Citations

Collaboration

To do

References



yellow – hits for the query,  $DC = 1$   
 red – manually added,  $DC = 1$   
 green, blue – referenced only,  $DC = 0$



```
>>> End of processing of WoS file
number of works      = 580263
number of authors    = 248725
number of journals    = 33210
number of keywords    = 30627
number of records     = 17219
number of duplicates = 15
works + titles       : titles.csv
works index file:    vtxIndex.txt
```

**\*\*\* FILES:**

```
year of publication partition: C:/Users/batagelj/work/Python/WoS/peere\Year.clu
described / cited only partition: C:/Users/batagelj/work/Python/WoS/peere\DC.clu
number of pages vector: C:/Users/batagelj/work/Python/WoS/peere\NP.vec
citation network: C:/Users/batagelj/work/Python/WoS/peere\Cite.net
works X journals network: C:/Users/batagelj/work/Python/WoS/peere\WJ.net
works X keywords network: C:/Users/batagelj/work/Python/WoS/peere\WK.net
works X authors network: C:/Users/batagelj/work/Python/WoS/peere\WA.net
finished: Sun May 31 12:12:57 2015
```

We removed multiple links and loops from networks. The cleaned citation network has  $n = 580263$  nodes and  $m = 690881$  arcs.

# Degree distributions in citation network

Peer Review  
from WoS

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Data

Distributions

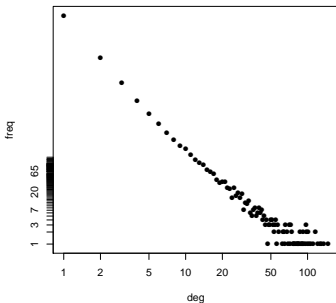
Citations

Collaboration

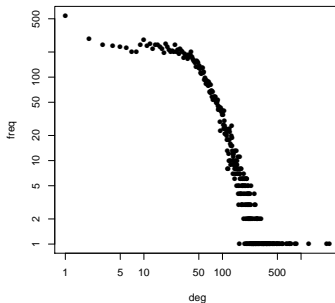
To do

References

indeg distribution



outdeg distribution



There are 13130 nodes with  $indeg = 0$ , 564990 nodes with  $outdeg = 0$ , and 1931 nodes with  $DC = 1$  and  $outdeg = 0$ .



## The most cited works in the field:

rank	node	freq	work	title
2	8038	136	PETERS_D[1982]5:187	Peer-review practices of psychological journals - the fate of accepted, published articles, submitted again
3	11484	130	STROUP_D[2000]283:2008	Meta-analysis of observational studies in epidemiology - A proposal for reporting
5	2474	121	DEBSIMON_R[1986]7:177	Metaanalysis in clinical-trials
6	11441	116	EGGER_M[1997]315:629	Bias in meta-analysis detected by a simple, graphical test
8	2324	111	CICCHETTI_D[1991]14:119	The reliability of peer-review for manuscript and grant submissions - A cross-disciplinary investigation
9	11589	106	EASTERBER_P[1991]337:867	Publication bias in clinical research
10	16564	103	HORROBIN_D[1990]263:1438	The philosophical basis of peer-review and the suppression of innovation
11	28831	101	VANROOYE_S[1999]318:23	Effect of open peer review on quality of reviews and on reviewers' recommendations: a randomised trial
14	14524	98	HIRSCH_J[2005]102:16569	An index to quantify an individual's scientific research output
15	12	98	MCNUTT_R[1990]263:1371	The effects of blinding on the quality of peer-review - A randomized trial
16	8035	97	ZUCKERMAN_H[1971]9:66	Patterns of evaluation in science - Institutionalisation, structure and functions of referee system
17	27745	97	GOODLEE_F[1998]280:237	Effect on the quality of peer review of blinding reviewers and asking them to sign their reports - A randomized controlled trial
18	22	97	JADADA_A[1996]17:1	Assessing the quality of reports of randomized clinical trials: Is blinding necessary?
19	39712	96	HIGGINS_J[2003]327:557	Measuring inconsistency in meta-analyses
20	28825	93	JUSTICE_A[1998]280:240	Does masking author identity improve peer review quality? - A randomized controlled trial
21	20285	92	LOCK_S[1985]:	A Difficult Balance: Editorial Peer Review in Medicine
22	8725	92	COLE_S[1981]214:881	Chance and consensus in peer-review
23	4801	91	MOHER_D[1999]354:1896	Improving the quality of reports of meta-analyses of randomised controlled trials: the QUOROM statement
24	8005	90	MAHONEY_M[1977]1:161	Publication prejudices: An experimental study of confirmatory bias in the peer review system
25	7052	88	LANDIS_J[1977]33:159	Measurement of observer agreement for categorical data
26	28829	87	VANROOYE_S[1998]280:234	Effect of blinding and unmasking on the quality of peer review - A randomized trial
28	28823	85	BLACK_N[1998]280:231	What makes a good reviewer and a good review for a general medical journal?
29	12555	84	GOODMAN_S[1994]121:11	Manuscript quality before and after peer-review and editing at annals of internal-medicine
30	11603	83	SCHERER_R[1994]272:158	Full publication of results initially presented in abstracts - A metaanalysis
31	75648	82	MOHER_D[2009]6:1000097	Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement
32	208162	80	HIGGINS_J[2011]:	Cochrane Handbook for Systematic Reviews of Interventions
33	25019	78	CHUBIN_D[1990]:	Peerless Science: Peer Review and U. S. Science Policy
34	33410	77	KRONICK_D[1990]263:1321	Peer-review in 18th-century scientific journalism

Works with names [ANONYMO(2011):, ..., WORLD\_H(2009):, ..., U\_S(2011):, ..., WHO(2008):, ..., were removed from the lists.



# Most cited books

Peer Review  
from WoS

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Data



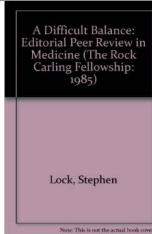
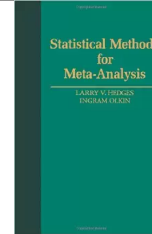
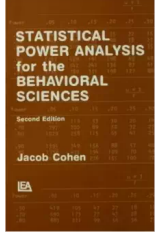

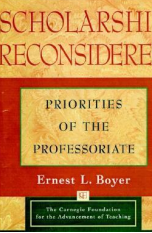
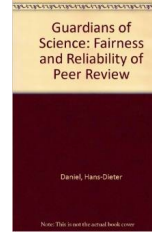
Distributions

Citations

Collaboration

To do

References

 <p><b>1967 (43)</b></p>	 <p><b>1973 (50)</b></p>	 <p><b>1985 (92)</b></p>	 <p><b>1985 (65)</b></p>
 <p><b>1988 (126)</b></p>	 <p><b>1990 (78)</b></p>	 <p><b>1990 (52)</b></p>	 <p><b>1993 (50)</b></p>

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Data

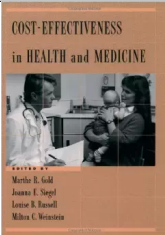
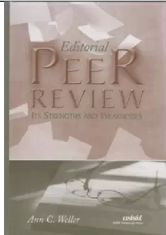
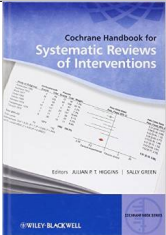

Distributions

Citations

Collaboration

To do

References

 <p><b>COST-EFFECTIVENESS in HEALTH and MEDICINE</b></p> <p>EDITED BY Martha B. Gold Joanna E. Siegel Louise K. Baxwill Miliza C. Weinstein</p> <p>1996 (58)</p>	 <p><i>Editorial</i> <b>PEER REVIEW</b> ITS STRENGTHS AND WEAKNESSES</p> <p>Ann C. Weller</p> <p>2001 (51)</p>	 <p><b>Cochrane Handbook for Systematic Reviews of Interventions</b></p> <p>EDITORS JULIAN P T HIGGINS   SALY GREEN</p> <p>© WILEY-BLACKWELL</p> <p>2008 (55)</p>	<p><b>Cochrane Handbook for Systematic Reviews of Interventions</b></p>  <p>THE COCHRANE COLLABORATION<sup>®</sup></p> <p>Version 5.1.0 (updated March 2011)</p> <p>Editors Julian PT Higgins and Sally Green</p> <p>Handbook information: Peer Review process Peer Review methods for Cochrane reviews Statistical methods Additional material</p> <p>2011 (80)</p>
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# CiteAll outdeg best

## Most citing works

Peer Review  
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Data

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References

rank	node	outdeg	work	title
1	290441	2306	GOLDSTEI_R(2010)53-4343	Heat transfer-A review of 2004 literature
2	175921	2127	GOLDSTEI_R(2010)53-4397	Heat transfer-A review of 2005 literature
3	5541	1259	HILLIS_L(2011)58-E123	2011 ACCF/AHA Guideline for Coronary Artery Bypass Graft Surgery
4	6068	872	LEVINE_G(2011)58-E44	2011 ACCF/AHA/SCAI Guideline for Percutaneous Coronary Intervention
5	144032	837	DELEON_G(2007):1	Trematode parasites (Platyhelminthes) of wildlife vertebrates in Mexico
6	1585	747	ADAMS_H(2007)38-1655	Guidelines for the early management of adults with ischemic stroke - A guideline from the American Heart Association
7	4415	729	GOLDSTEI_L(2011)42-517	Guidelines for the Primary Prevention of Stroke A Guideline for Healthcare Professionals From the American Heart Association
8	525591	711	WILLHITE_C(2014)44-1	Systematic review of potential health risks posed by pharmaceutical, occupational and consumer exposures to metallic and nanoscale aluminum, ...
9	132542	710	SMITH_J(2012)17-510	Single-Case Experimental Designs: A Systematic Review of Published Research and Current Standards
10	211490	671	AKSULU_A(2010)11-576	A Comprehensive Review and Synthesis of Open Source Research
11	492189	651	MILLER_C(1990)62-700	Groundwater - A review of the 1989 literature
12	3943	586	GOLDSTEI_L(2006)37-1583	Primary prevention of ischemic stroke - A guideline from the American Heart Association
13	313264	577	FLEGAL_A(2013)43-1869	All the Lead in China
14	15310	569	GOLDSTEI_L(2006)113-8873	Primary prevention of ischemic stroke - A guideline from the American heart Association
15	199315	538	EVANS_E(2004)19-775	Atomic spectrometry update. Advances in atomic emission, absorption and fluorescence spectrometry and related techniques
16	4714	533	ROACH_E(2008)39-2644	Management of stroke in infants and children - A scientific statement from a special writing group of the American Heart Association
17	23743	517	SANTEN_R(2010)95-57	Postmenopausal Hormone Therapy: An Endocrine Society Scientific Statement
18	6565	505	GORELUCK_P(2011)42-2672	Vascular Contributions to Cognitive Impairment and Dementia A Statement for Healthcare Professionals From the American Heart Association
19	285306	493	HILLIS_L(2011)58-2584	2011 ACCF/AHA Guideline for Coronary Artery Bypass Graft Surgery: Executive Summary A Report of the American College of Cardiology Foundation
20	115699	492	HILLIS_L(2012)143-4	2011 ACCF/AHA guideline for coronary artery bypass graft surgery: Executive summary

It can be fitted with lognormal distribution:

```
> setwd("C:\\Users\\batagelj\\work\\Python\\WoS\\peere")
> years <- read.table(file="Year1.clu",header=FALSE,skip=2,
  colClasses="character")$V1
> y <- as.numeric(years)
> t <- table(y[!is.na(y)])
> year <- as.integer(names(t))
> freq <- as.vector(t[1950<=year & year<=2015])
> y <- 1950:2015
> plot(y,freq)
> model <- nls(freq~c*dlnorm(2016-y,a,b),start=list(c=350000,a=2,b=0.7))
> model
Nonlinear regression model
  model: freq ~ c * dlnorm(2016 - y, a, b)
  data: parent.frame()
           c           a           b
5.846e+05 2.610e+00 6.703e-01
residual sum-of-squares: 41585580

Number of iterations to convergence: 7
Achieved convergence tolerance: 8.066e-06
> lines(y,predict(model,list(x=2016-y)),col='red')
```

$$\sum freq = 569233$$

# Citation year distribution

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Data

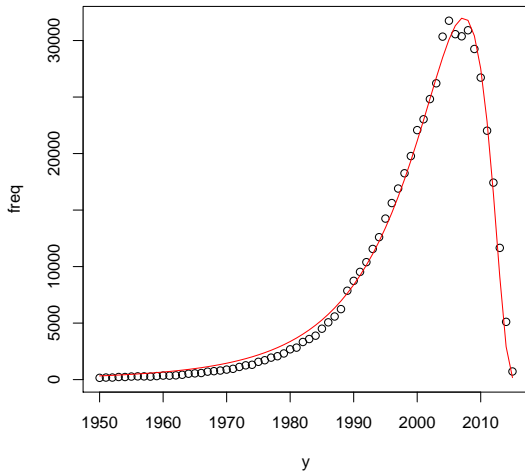
Distributions

Citations

Collaboration

To do

References



Peer Review  
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Data

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References

Rank	Deg	Id	Rank	Deg	Id
1	202	[ANONYMO_	23	20	ZHANG_L
2	57	BORNMANN_L	24	20	CALLAHAM_M
3	50	SMITH_R	25	20	WILLIAMS_A
4	46	ALTMAN_D	26	20	COHEN_J
5	45	DANIEL_H	27	19	KAISER_M
6	42	MOHER_D	28	19	SQUIRES_B
7	40	LEE_J	29	19	BROWN_C
8	36	CURTIS_K	30	19	BROWN_R
9	33	BROWN_D	31	18	FONTANAR_P
10	33	RENNIE_D	32	18	HOLLY_L
11	30	LEE_S	33	18	MARSHALL_E
12	29	SMITH_J	34	18	WILSON_D
13	29	JOHNSON_J	35	17	KENNEDY_D
14	28	REYES_H	36	17	BJORK_B
15	25	JOHNSON_C	37	17	YANG_Y
16	24	WANG_J	38	17	KIM_Y
17	22	ANDERSON_P	39	17	RESNICK_D
18	22	LEE_M	40	17	SMITH_S
19	22	ADAMS_J	41	17	WANG_H
20	22	CHENG_J	42	17	ANDERSON_J
21	21	SMITH_M	43	17	THOMPSON_A
22	21	WILLIAMS_J	44	16	MUMMANEN_P



# Weighted indegree of normalized WAD

Authors with the largest contribution to the field

Peer Review  
from WoS

V. Batagelj,  
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References

Rank	Value	Id	Rank	Value	Id
1	202.0000	[ANONYMO_	23	9.0000	KOSTOFF_R
2	26.7833	BORNMANN_L	24	9.0000	LIESEGAN_T
3	19.4500	DANIEL_H	25	8.8510	JOHNSON_J
4	17.5000	MARSHALL_E	26	8.7871	SMITH_J
5	15.8537	SMITH_R	27	8.6429	FONTANAR_P
6	14.6538	SQUIRES_B	28	8.6185	ANDERSON_M
7	14.5333	CHENG_J	29	8.5000	ROY_R
8	14.4237	RENNIE_D	30	8.3333	CHUBIN_D
9	13.8350	ALTMAN_D	31	8.3333	CICCHETT_D
10	13.0357	REYES_H	32	8.3333	DONOVAN_S
11	11.0000	GARFIELD_E	33	8.0332	MOHER_D
12	10.7565	JOHNSON_C	34	7.6440	WILLIAMS_A
13	10.6667	WELLER_A	35	7.4634	LUNDBERG_G
14	10.5758	BROWN_C	36	7.3659	JONES_A
15	10.5242	COHEN_J	37	7.3333	DOUGHERT_M
16	10.5000	MERVIS_J	38	7.3333	WALSH_J
17	9.9838	LEE_J	39	7.1658	ADAMS_J
18	9.6167	CURTIS_K	40	7.0000	ABBOTT_A
19	9.5333	ROUKIS_T	41	7.0000	KAISER_J
20	9.4167	BJORK_B	42	6.9167	MAUNSELL_J
21	9.3762	CALLAHAM_M	43	6.8770	JOHNSON_D
22	9.3314	BROWN_D	44	6.5760	WANG_J

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Rank	Freq	Id	Rank	Freq	Id
1	286	BMJ OPEN	26	52	BEHAV BRAIN SCI
2	281	JAMA-J AM MED ASSOC	27	50	J SEX MED
3	157	SCIENCE	28	49	J GEN INTERN MED
4	144	SCIENTOMETRICS	29	46	AM J PREV MED
5	142	NATURE	30	46	MED EDUC
6	135	BRIT MED J	31	45	RES EVALUAT
7	128	PLOS ONE	32	44	ENVIRON HEALTH PERSP
8	94	ACAD MED	33	43	CLIN THER
9	88	SCIENTIST	34	42	J AM DENT ASSOC
10	77	LEARN PUBL	35	42	ANN EMERG MED
11	72	J UROLOGY	36	42	AM J ROENTGENOL
12	72	CAN MED ASSOC J	37	41	CLIN ORTHOP RELAT R
13	66	ARCH PATHOL LAB MED	38	41	CURR MED RES OPIN
14	66	ANN PHARMACOTHER	39	41	J MED INTERNET RES
15	65	ABSTR PAP AM CHEM S	40	41	NUCLEIC ACIDS RES
16	65	J AM COLL RADIOL	41	41	*****
17	65	LANCET	42	40	J SCHOLARLY PUBL
18	62	CUTIS	43	40	BMC PUBLIC HEALTH
19	62	ANN INTERN MED	44	39	PLAST RECONSTR SURG
20	58	ANN ALLERG ASTHMA IM	45	38	J PROSTHET DENT
21	57	PEDIATRICS	46	36	BMC HEALTH SERV RES
22	57	NEW ENGL J MED	47	36	OBSTET GYNECOL
23	53	MED J AUSTRALIA	48	36	J MANIP PHYSIOL THER
24	52	CHEM ENG NEWS	49	35	AM J SURG
25	52	J NANOSCI NANOTECHNO	50	35	CRIT CARE MED

Peer Review  
from WoS

V. Batagelj,  
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References

Rank	Freq	Id	Rank	Freq	Id
1	6350	review	26	928	outcome
2	3561	peer	27	921	assessment
3	2074	research	28	906	medical
4	1845	quality	29	785	program
5	1693	health	30	785	intervention
6	1533	systematic	31	783	education
7	1416	peer-review	32	782	cancer
8	1330	journal	33	756	model
9	1309	care	34	745	evaluation
10	1282	management	35	739	practice
11	1214	trial	36	730	child
12	1123	publication	37	719	control
13	1106	therapy	38	698	scientific
14	1096	patient	39	657	medicine
15	1081	study	40	650	guideline
16	1073	impact	41	640	performance
17	1064	use	42	617	process
18	1050	science	43	608	controlled-trial
19	1037	clinical	44	605	effect
20	1012	disease	45	598	factor
21	1009	randomize	46	588	disorder
22	1005	literature	47	582	surgery
23	1003	analysis	48	545	meta-analysis
24	980	treatment	49	542	woman
25	943	risk	50	541	prevention

To solve the boundary problem we manually added some “missing” works and removed nodes with  $DC = 0$  and  $indeg < 3$  – obtaining the network CiteB. The SPC method used for its analysis requires that the citation network is acyclic. Determining strong components in CiteB we see that our network is not acyclic. We transform it into an acyclic network, AcyclicNet, using the Preprint transformation. It has  $n = 35822$  nodes and  $m = 103882$  arcs.

In the network we compute the SPC weights and on their basis determine the Main path, the CPM path and link islands [20 200].

Islands labels:

16(1) : 198	3 : 153	12 : 140	6(4) : 52
9(2) : 45	1 : 43	11(3) : 36	14(6) : 30
5 : 28	7 : 27	10 : 27	2 : 23
13(7) : 22	15(8) : 22	8(5) : 20	4 : 20

picture (extract): size

Peer Review  
from WoS

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Data

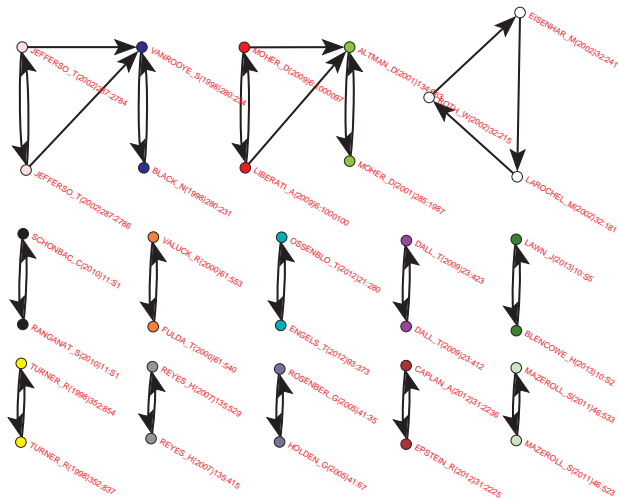
Distributions

Citations

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References



# SPC – Main Path and CPM path

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Data

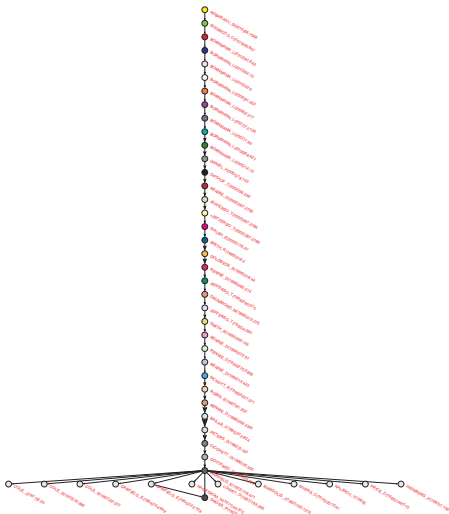
Distributions

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To do

References

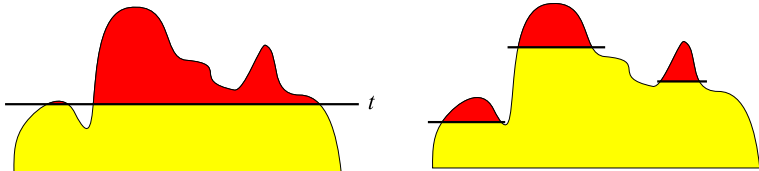


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The subgraph  $\mathcal{H} = (C, \mathcal{E}|_C)$  induced by the set  $C \subseteq \mathcal{V}$  is a  *$p$ -core at level  $t \in \mathbb{R}$*  iff  $\forall v \in C : t \leq p(v, C)$  and  $C$  is a maximal such set.

Ordinary *core*:  $p(v, C) = \text{deg}_{\mathcal{H}}(v)$

*$ps$ -core*:  $p(v, C) = \sum_{u \in C} w(v, u)$ ,  $w(v, u)$  is the weight of link  $(v, u)$

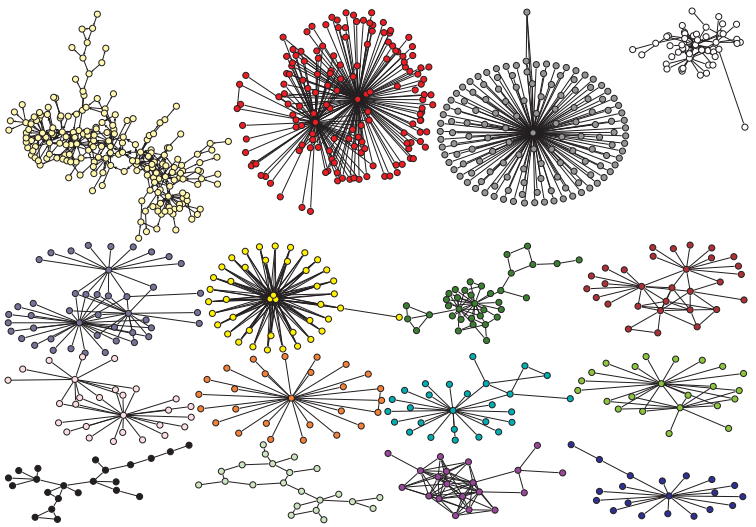


# SPC islands [20 200]

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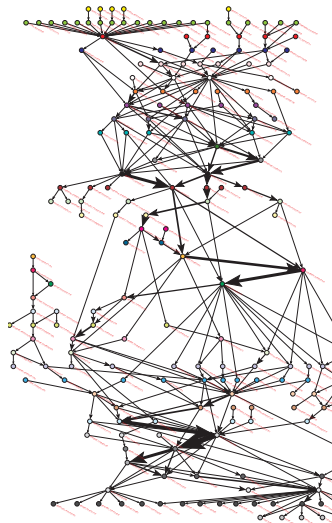
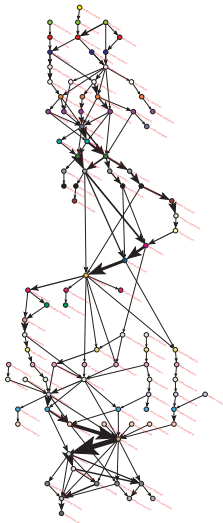
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# SPC – Island5 ( $10^7$ ) and Island8 ( $10^6$ )

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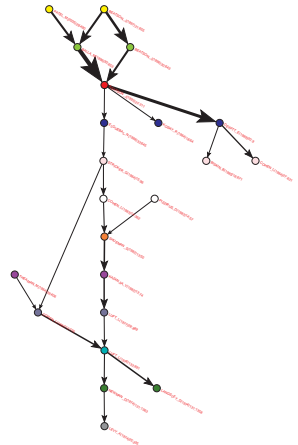
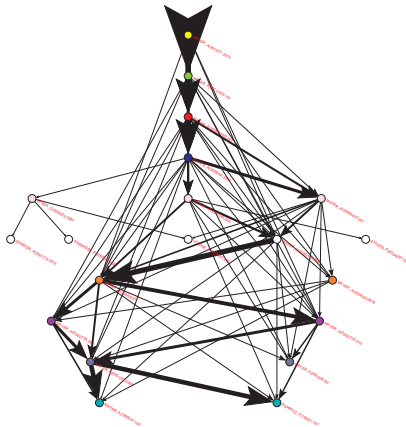
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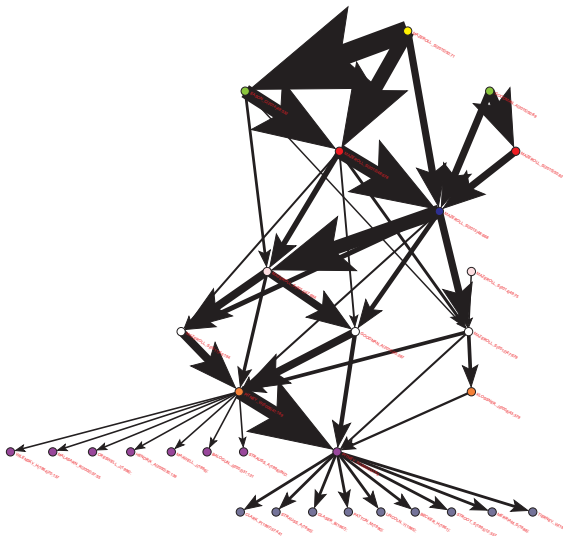
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# SPC – Island2 ( $10^8$ ), Island3 ( $10^7$ ), Island4 ( $10^7$ ) and Island7 ( $10^8$ )

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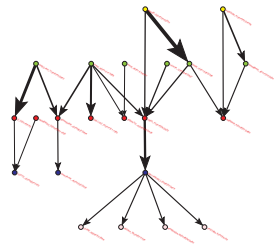
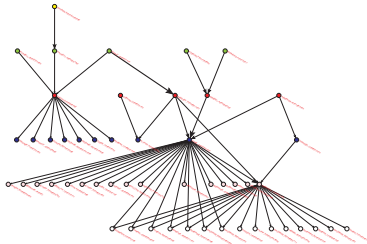
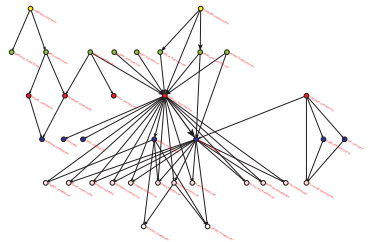
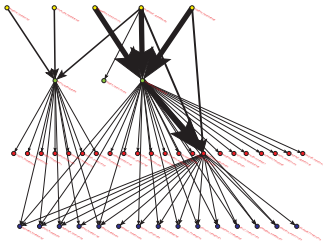
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$$Co = WA^T * WA$$

$$N =$$

$$Cn = N^T * N$$

$$Aci = WA^T * Cite * WA$$

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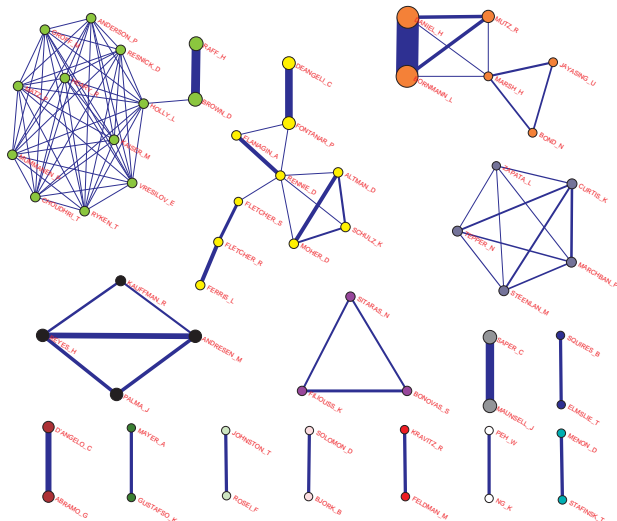
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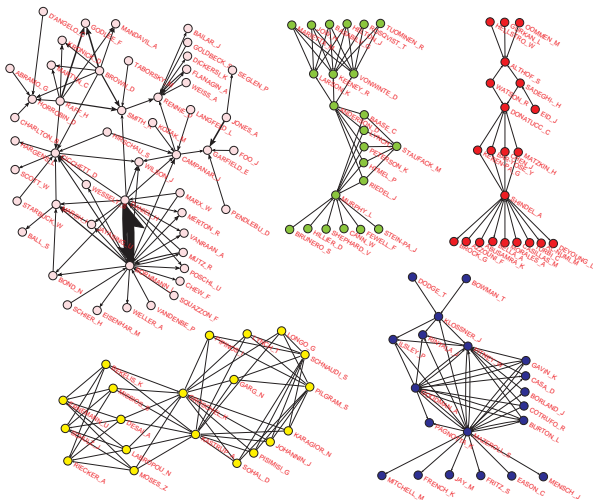




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Aci cut

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KK

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JaJ

temporal

SPC node islands



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Vladimir Batagelj, Patrick Doreian, Anuška Ferligoj and Nataša Kejžar: Understanding Large Temporal Networks and Spatial Networks: Exploration, Pattern Searching, Visualization and Network Evolution. Wiley Series in Computational and Quantitative Social Science. Wiley, October 2014.



Wouter De Nooy, Andrej Mrvar, Vladimir Batagelj: Exploratory Social Network Analysis with Pajek; Revised and Expanded Second Edition. Structural Analysis in the Social Sciences, Cambridge University Press, September 2011.



Wikipedia: [Peer review](#)

- Morda bi veljalo poskusiti dodati članke z  $indeg \geq 15$  in primerjati rezultate – stabilnost, smiselnost dodajanja, ...  
20/163, 19/180, 18/208, 17/261, 16/310, 15/371, 14/454, 13/541, 12/648, 11/796, 10/1009, 9/1257
- Odstraniti imena del [ANONYMO(2011):, ..., WORLD\_H(2009):, ..., U\_S(2011):, ..., WHO(2008):, ..., pred analizami.
- Objava v: Journal of Informetrics, Scientometrics, JAMA