

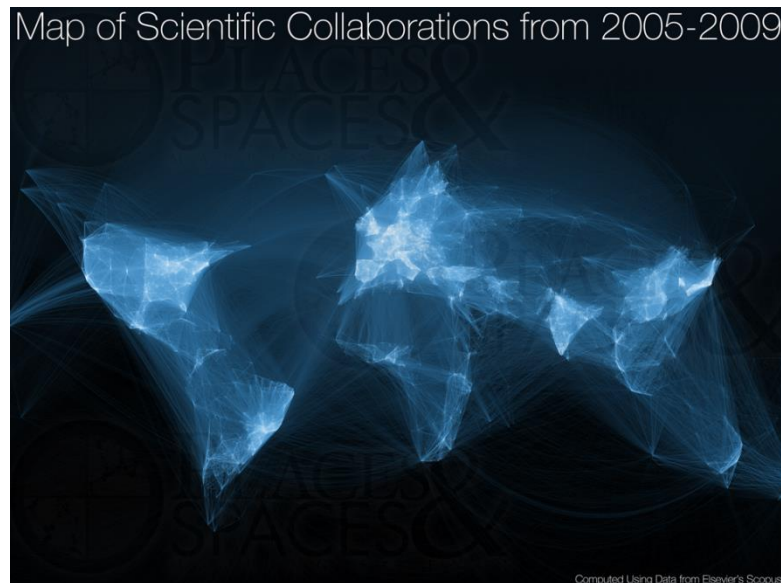
Analyzing the research output presented at European Networked Knowledge Organization Systems workshops (2000-2015)

Fakhri Momeni, Philipp Mayr
NKOS workshop @TPDL 2016
Hannover, Germany
September 9, 2016

<http://ceur-ws.org/Vol-1676/paper1.pdf>

Introduction

- **Research communities and topics evolve over time**
- **More researchers work more and more collaboratively**



By Olivier H. Beauchesne

Motivation

- **European NKOS network has held a long-running series of annual workshops at ECDL & TPDL**
- **NKOS research output has never been subject to analysis**
 - **Esp. the (informal) research output of the Europ. NKOS community**
- **Most workshop output has never published as formal publications**
 - **Except 4 special issues**
- **Having the 15th iteration of the workshop series we started to analyze the past research output**

NKOS workshop bibliography

- We checked all workshop published programmes and compiled a bibliography of past NKOS workshops
- Manual author name disambiguation of each author entries
- The bibliographic data as bibtex files are available

```
@inproceedings{ECDLDoerr2000,
author = {Martin Doerr},
title = {Thesaurus Mapping},
year = {2000},
venue = {European Conference on Digital
Libraries},
location = {Lisbon, Portugal},
url =
{http://nkos.slis.kent.edu/doerr_ecdl00abstract.ht
m}
}
```

```
@inproceedings{TPDLIndarto2013,
author = {Eko Indarto, Andrea Scharnhorst,
Marat Charlaganov},
title = {An Extensible Recommendation System to
support Trusted Digital Repositories},
year = {2013},
venue = {Theory and Practice of Digital Libraries},
location = {Valletta, Malta},
url = {https://at-
web1.comp.glam.ac.uk/pages/research/hypermedia
/nkos/nkos2013/content/NKOS2013_indarto.pdf}
```

NKOS workshop bibliography

This repository Search Pull requests Issues Gist

PhilippMayr / NKOS-bibliography Unwatch 2 Star 0 Fork 1

Code Issues 0 Pull requests 0 Wiki Pulse Graphs Settings

Bibliographies of NKOS workshops (2000-2015) and special issues (2001-2016) — Edit

49 commits 1 branch 0 releases 2 contributors

Branch: master New pull request Create new file Upload files Find file Clone or download

momenifi final revision Latest commit 4885714 6 days ago

paper-nkos16	final revision	6 days ago
.gitattributes	Added .gitattributes & .gitignore files	3 months ago
.gitignore	Added .gitattributes & .gitignore files	3 months ago
ECDL2000.bib	initial upload	3 months ago
ECDL2003.bib	initial upload	3 months ago
ECDL2004.bib	small fixe	2 months ago

<https://github.com/PhilippMayr/NKOS-bibliography>

NKOS workshop bibliography

venue	papers	authors
ECDL 2000	4	4
ECDL 2003	13	11
ECDL 2004	14	27
ECDL 2005	12	26
ECDL 2006	12	27
ECDL 2007	15	26
ECDL 2008	11	16
ECDL 2009	12	31
ECDL 2010	12	25
TPDL 2011	11	26
TPDL 2012	9	22
TPDL 2013	7	17
TPDL 2014	9	17
TPDL 2015	7	13

In total: 171 papers and 218 distinct authors

venue	papers	authors
JODI 2001 [5]	5	8
JODI 2004 [9]	5	15
NREV 2006 [10]	6	11
IJDL 2015 [6]	7	20

average 2.3 authors

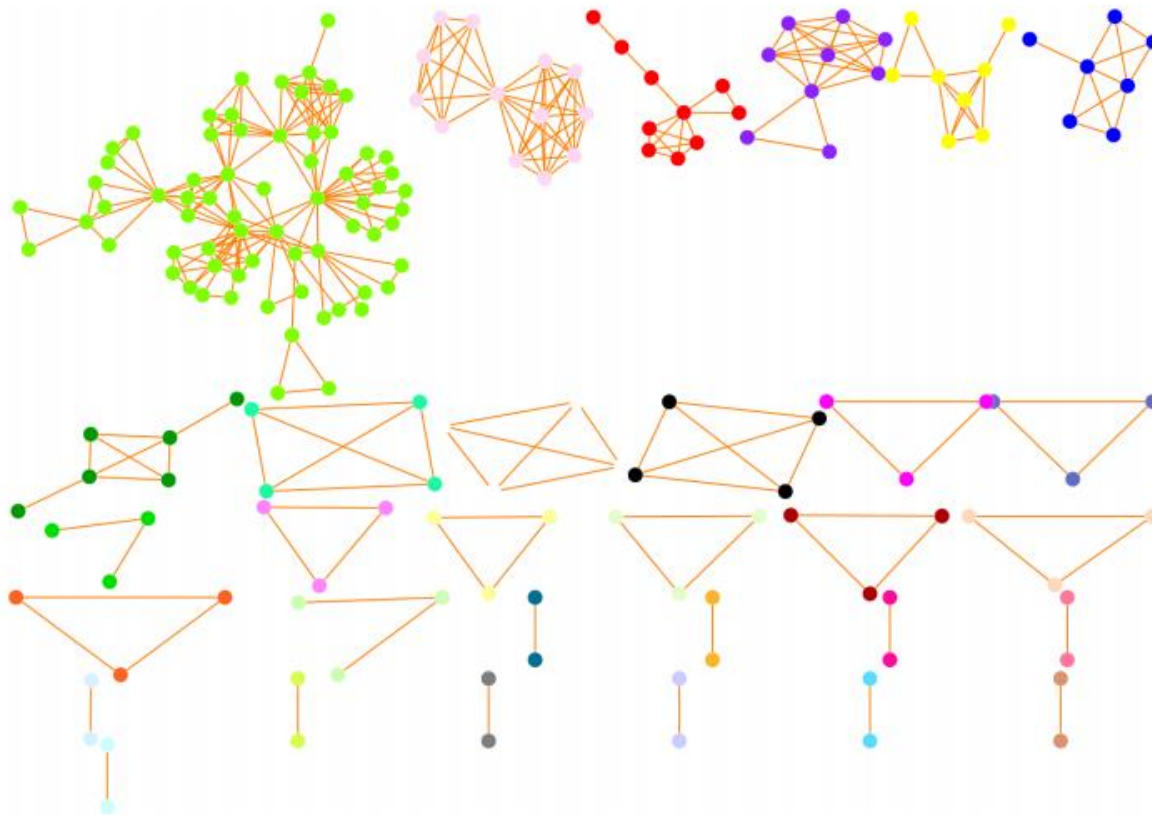
Average 1.9 authors per paper

TPDL 2016 – 7 papers

Analysis and Measures

- We describe the network with standard network analytic measures (implemented in Pajek)
- **Degree** is the number of nodes that a focal node is connected to and measures the involvement of the node in the network
- **Betweenness** assesses the degree to which a node lies on the shortest path between two other nodes and is able to funnel the flow in the network
- In the authorship-network the author with a high betweenness has a large influence on the transfer of information in the network

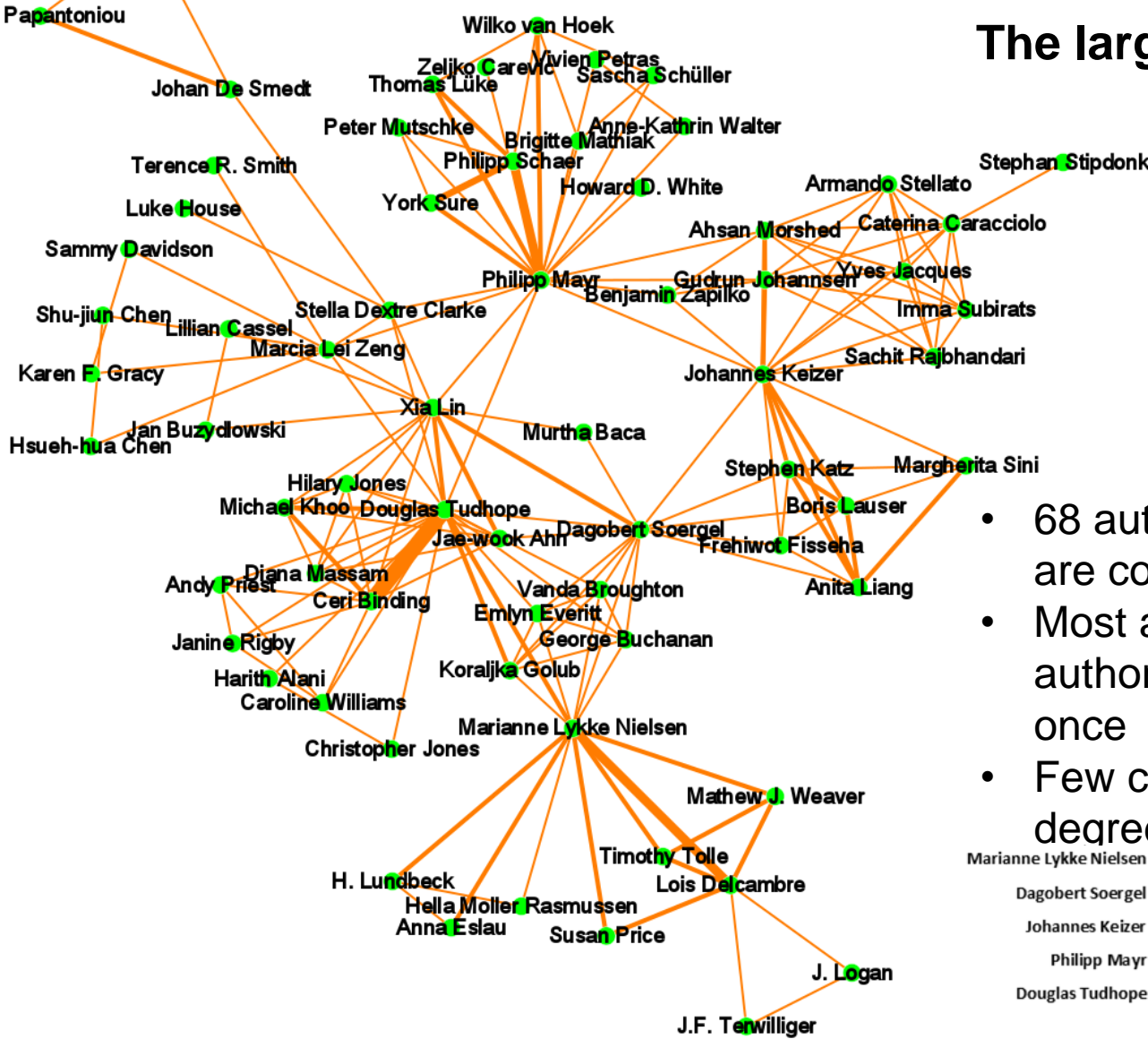
Results



- Each author has at least one co-author
- 31 components
- 33 authors with no co-authors
- One relatively large component, many smaller components and many isolated co-authorships or triples

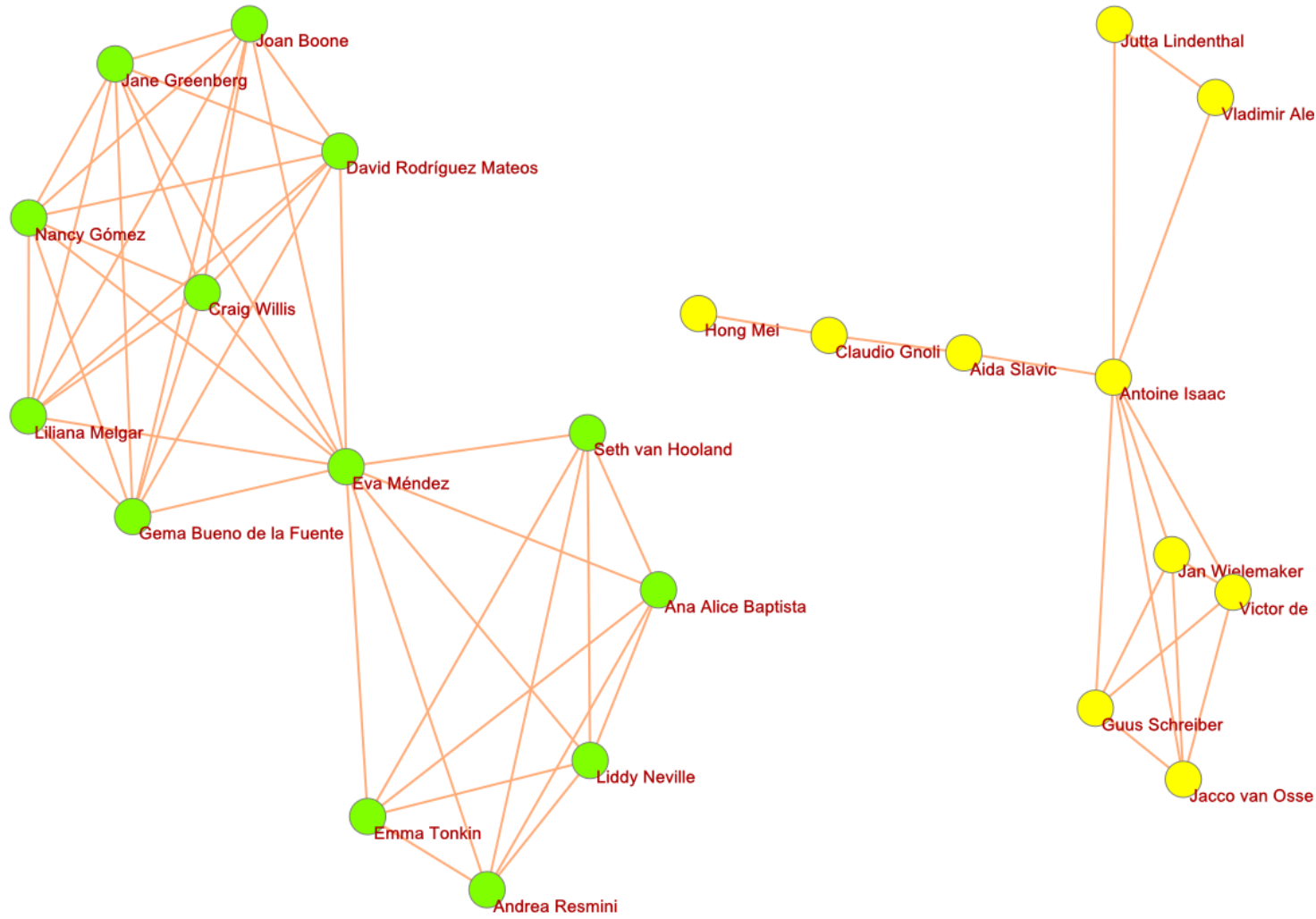
Fig. 1. Co-authorship network in the European NKOS community

The largest component



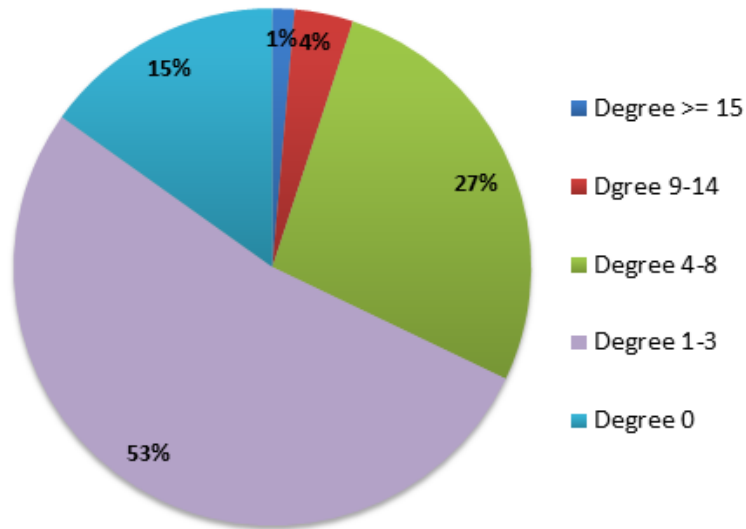
- 68 authors (31% of all authors) are connected
- Most authors have co-authored once
- Few central authors with high degree



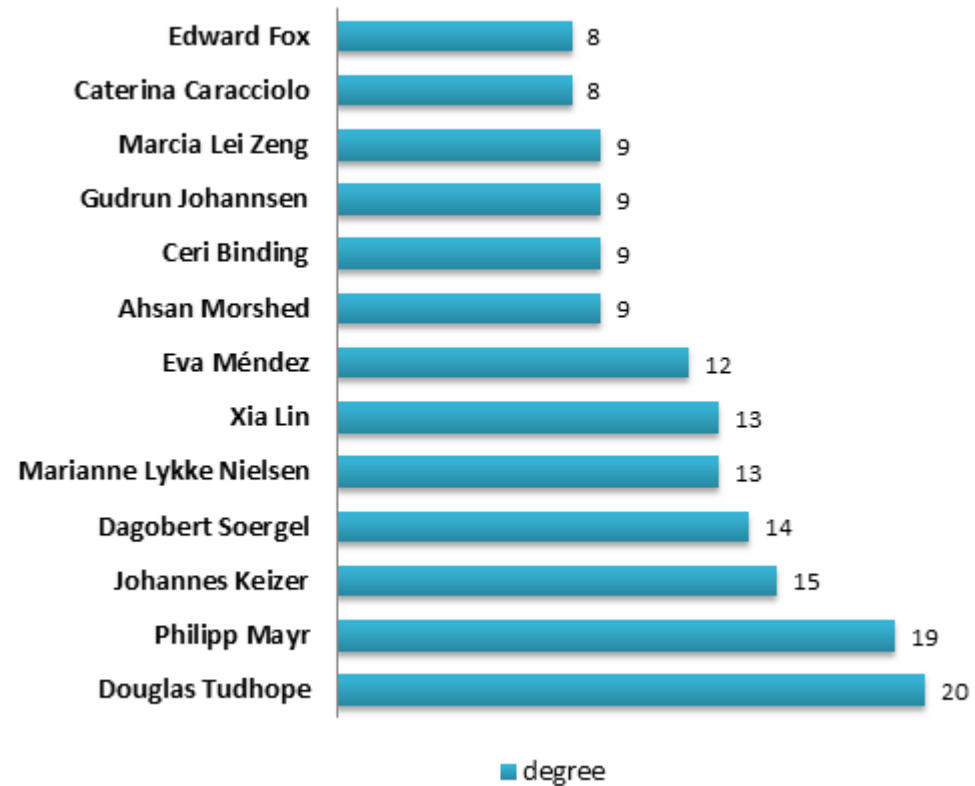


The next two largest components

Results

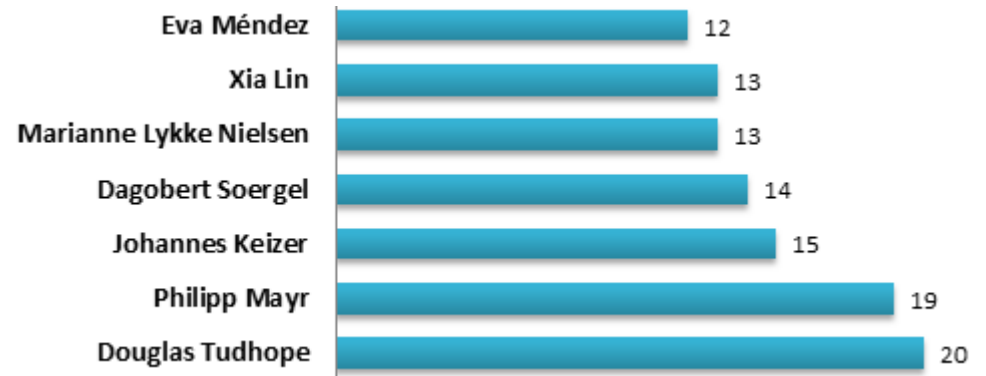
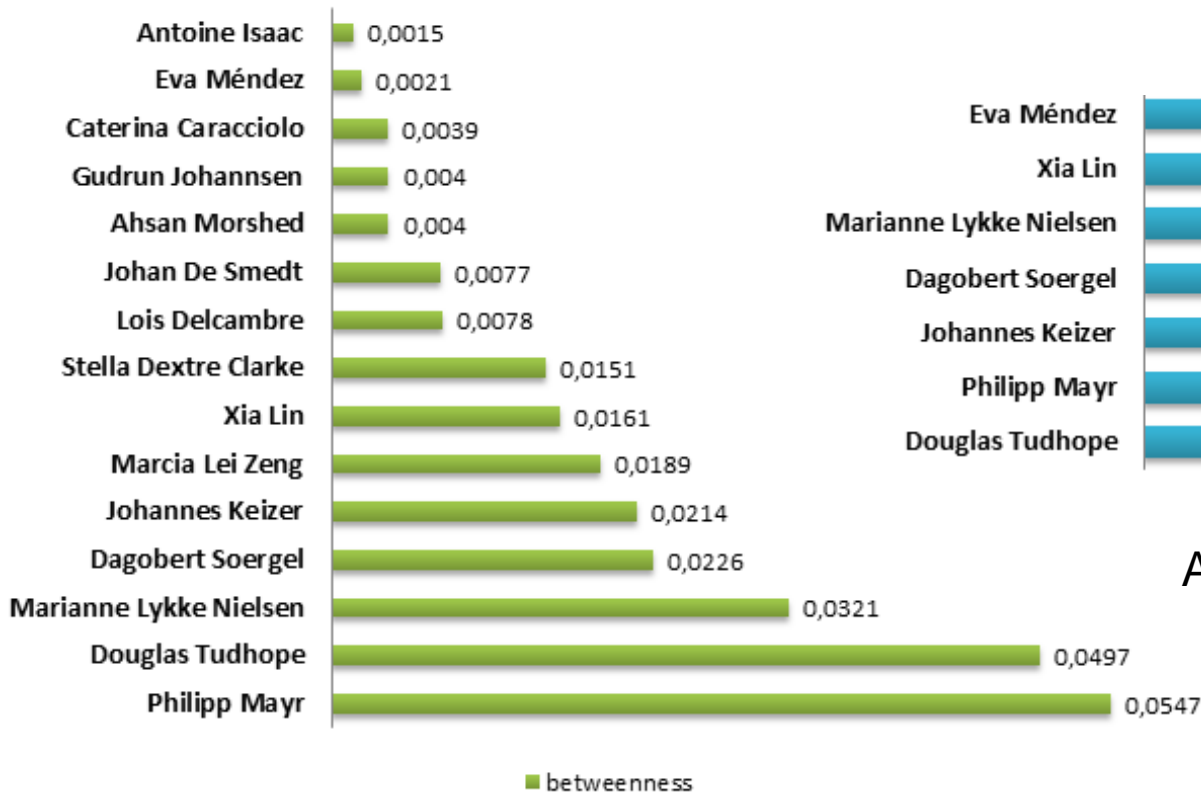


Distribution of degree numbers of authors in the network



Authors with high degree

Results



Authors with high degree

Conclusions

- Most authors with highest centrality (degree and betweenness) are in the largest component
- Typical coauthorship network with one relatively large component, many smaller components and many isolated co-authorships or triples
 - Typical for small communities
- NKOS workshops were successful in bringing researchers from different domains together

Limitations

- US NKOS community have not been included
- No bibliometric data available

Future Work

- Extend the analysis of the NKOS network
- Complement the data set
- Start the analysis of the development of topics in titles and abstracts of the presentations and papers
- Extracting central topics
- Connecting topics with authors
- Gather more formal publications and include citation data

Thank you!

- **Please consider to contribute to the NKOS Bibliography** <https://github.com/PhilippMayr/NKOS-bibliography>

Contact:

Philipp Mayr

GESIS - Leibniz Institute for the Social Sciences

Unter Sachsenhausen 6-8, 50667

Cologne, Germany

philipp.mayr@gesis.org