

Exploring Science for Sustainability

...using publications and network analysis

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The idea of the project

Exploring **S4S** using a data-driven approach
going from **people** to **authors** to **publications**
to **content** and back



Using this data to gain insights which can
be used in the future

Who is part of S4S?

Website tags



A screenshot of a website profile page for A.F. (Anne) Nelissen MSc. The page has a yellow header section containing a photo of Anne Nelissen, her name, title ('Policy Adviser'), and department ('Science Operational management Onderzoek- en Valorisatiebeleid'). Below this is a grey sidebar with links for 'Profile', 'Contact', and 'Research areas'. The 'Research areas' link is circled in red.

A.F. (Anne) Nelissen MSc

Policy Adviser

Science
Operational management
Onderzoek- en Valorisatiebeleid

Profile

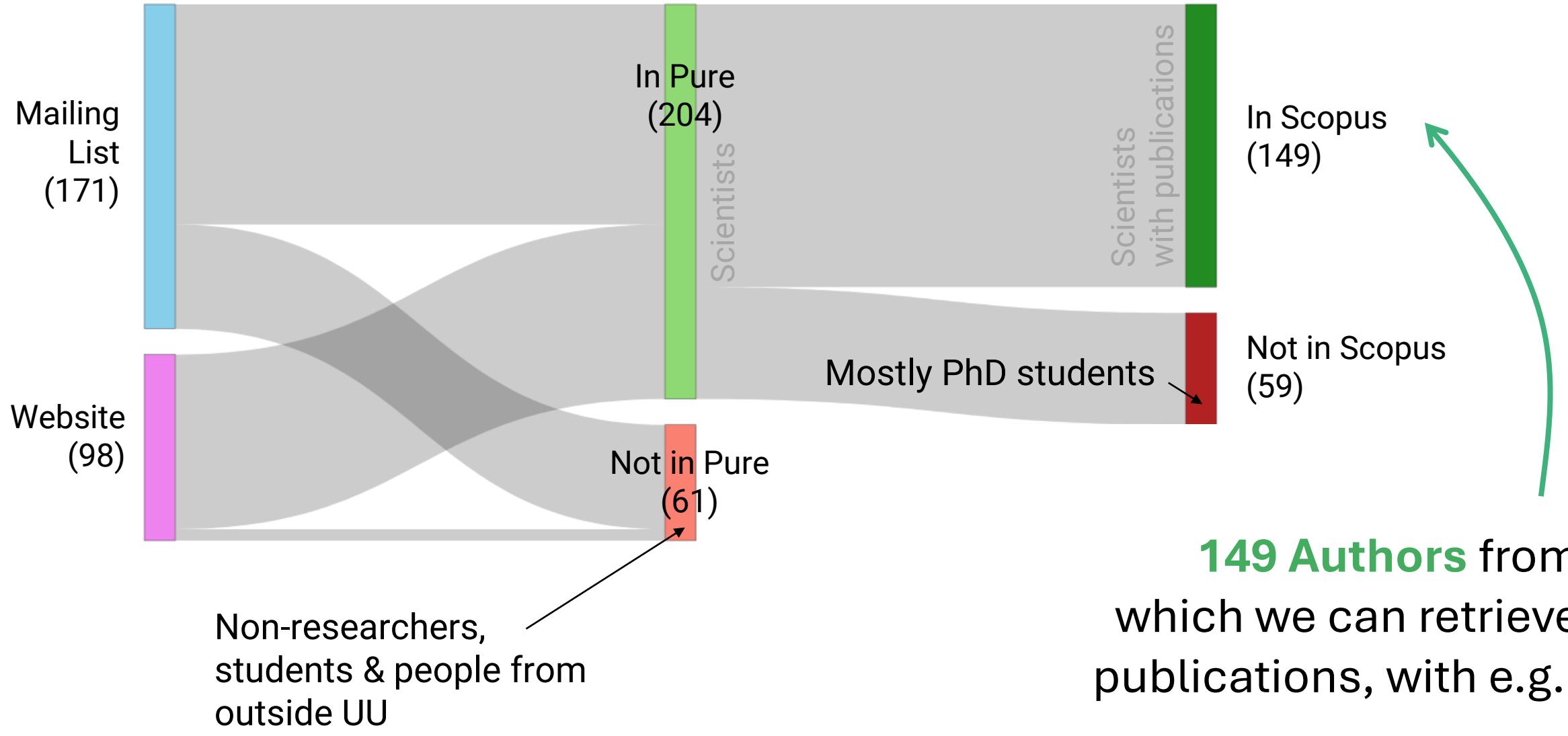
Contact

Research areas

PtS - Science for Sustainability

Mailing list

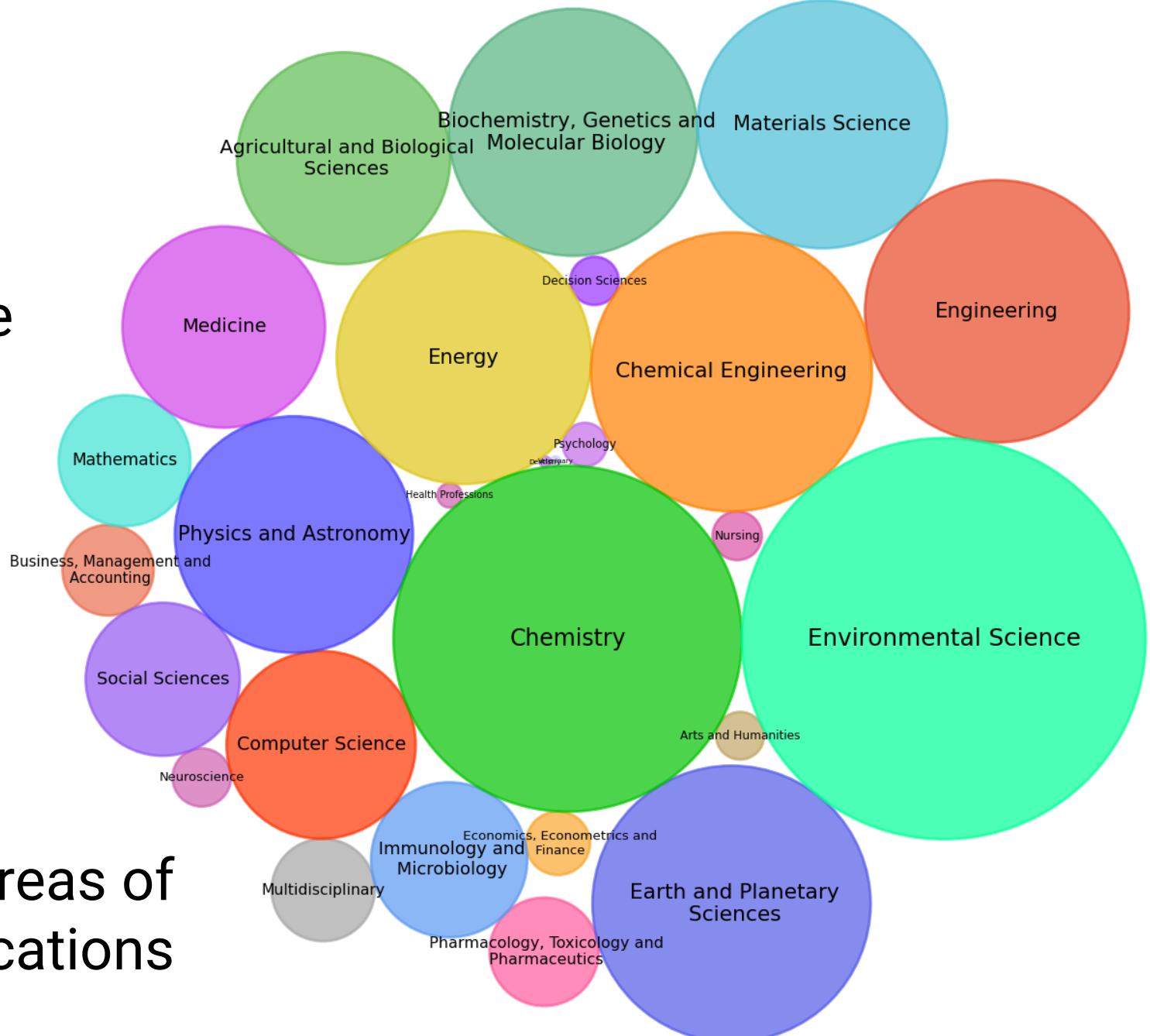
People who receive news, invitations, etc.



ELSEVIER
Scopus

Since 2020 we can retrieve
2130 publications
from the 149 authors

Subject areas of publications



Publications have **keywords** associated to them

12,000 in total,
from which 2,575 are used
more than once

We want to use those to build a keyword **network**

AIChE Journal • Open Access • Volume 68, Issue 3 • March 2022 • Article number e17549

Enhancing electrocatalytic N₂ reduction via tailoring the electric double layers

Tao, Haolan^a; Lian, Cheng^{a, b}  ; Jiang, Hao^c  ;

Li, Chunzhong^{a, c}; Liu, Honglai^a  ; van Roij, René^b

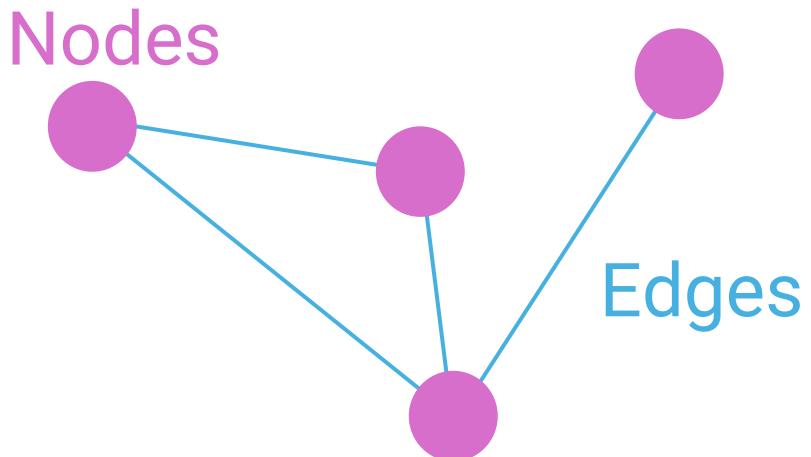
Author keywords

electric double layer; electrocatalytic N₂ reduction; modified Poisson-Nernst-Planck equations; reaction-transport process

Indexed keywords

% reductions; Electrocatalytic; Electrocatalytic N2 reduction; Modified poisson-nernst-planck equation; Nitrogen reduction; Poisson-Nernst-Planck equations; Reaction transport; Reaction-transport process; Reduction reaction; Transport process

A *quick* introduction to (force based) networks

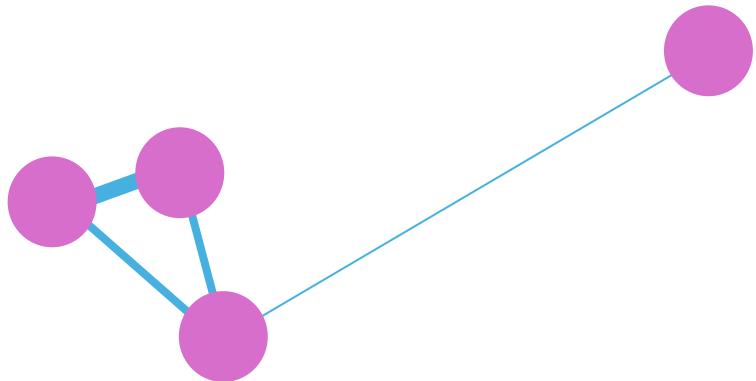


This could be:
nodes = keywords and
edges = co-occurrences

or

nodes = authors and
edges = co-publications

A *quick* introduction to (force based) networks



Force based

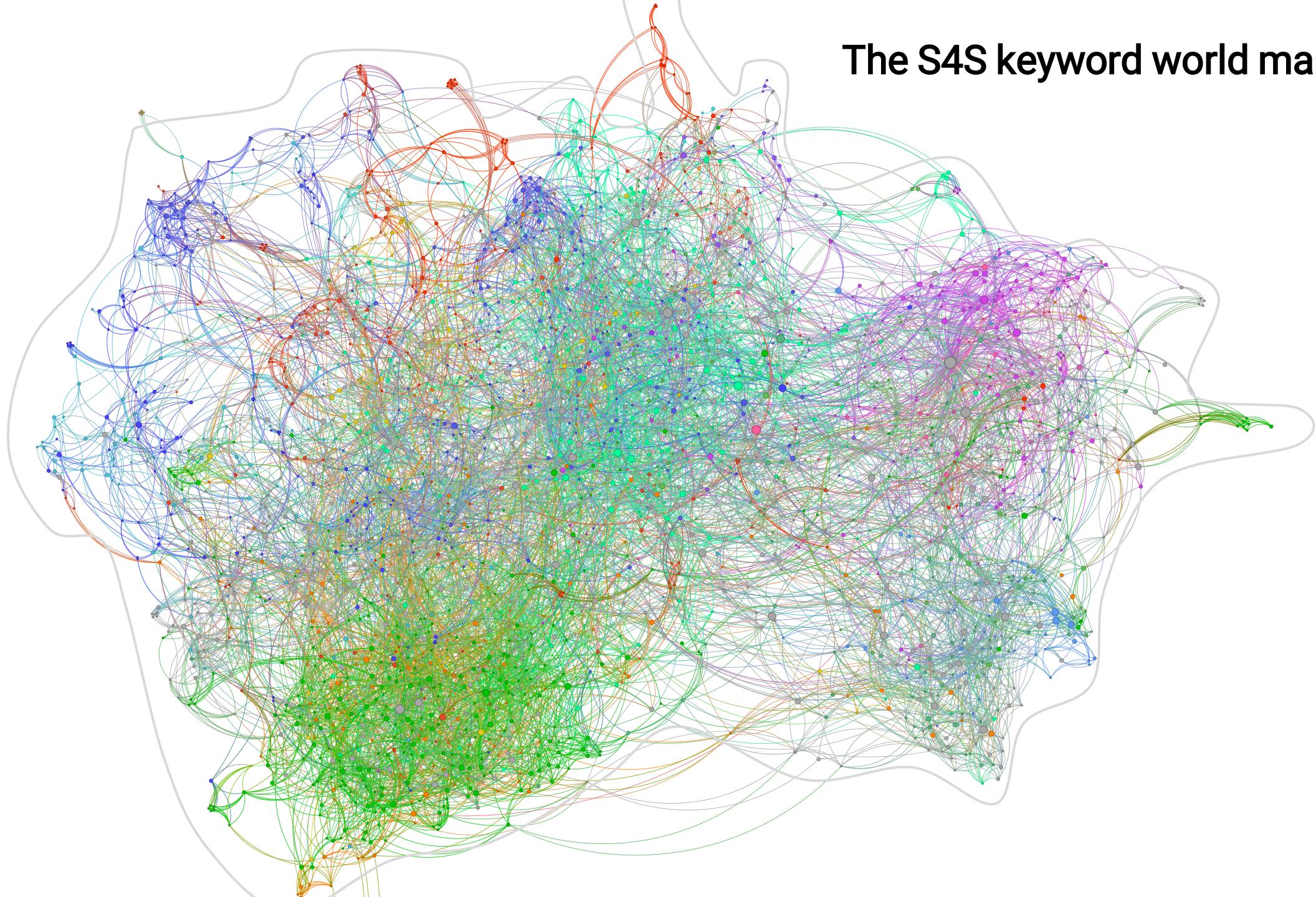
Each edge has a **weight** (number
of co-occurrences/publications)

This could be:
nodes = keywords and
edges = co-occurrences

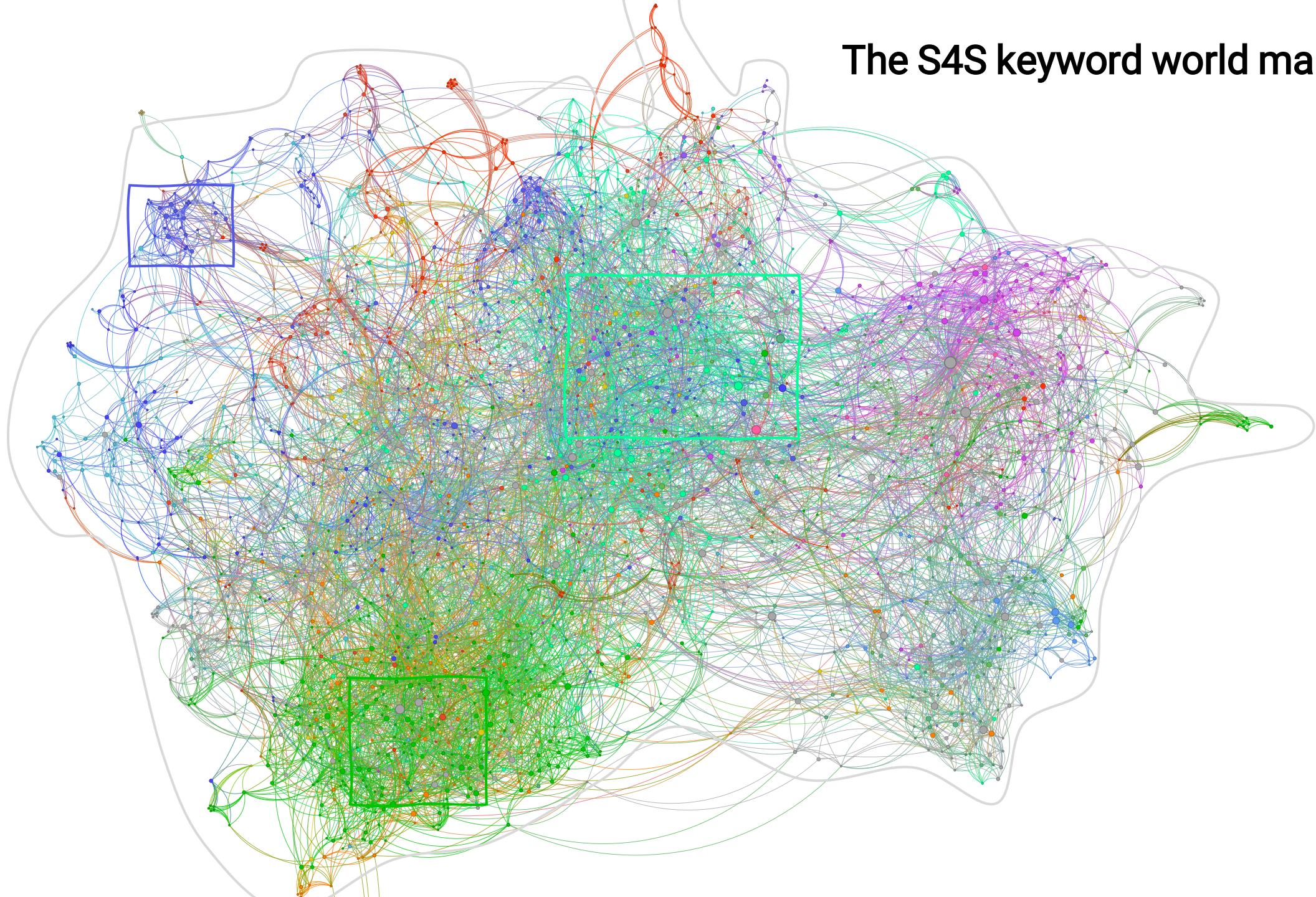
or

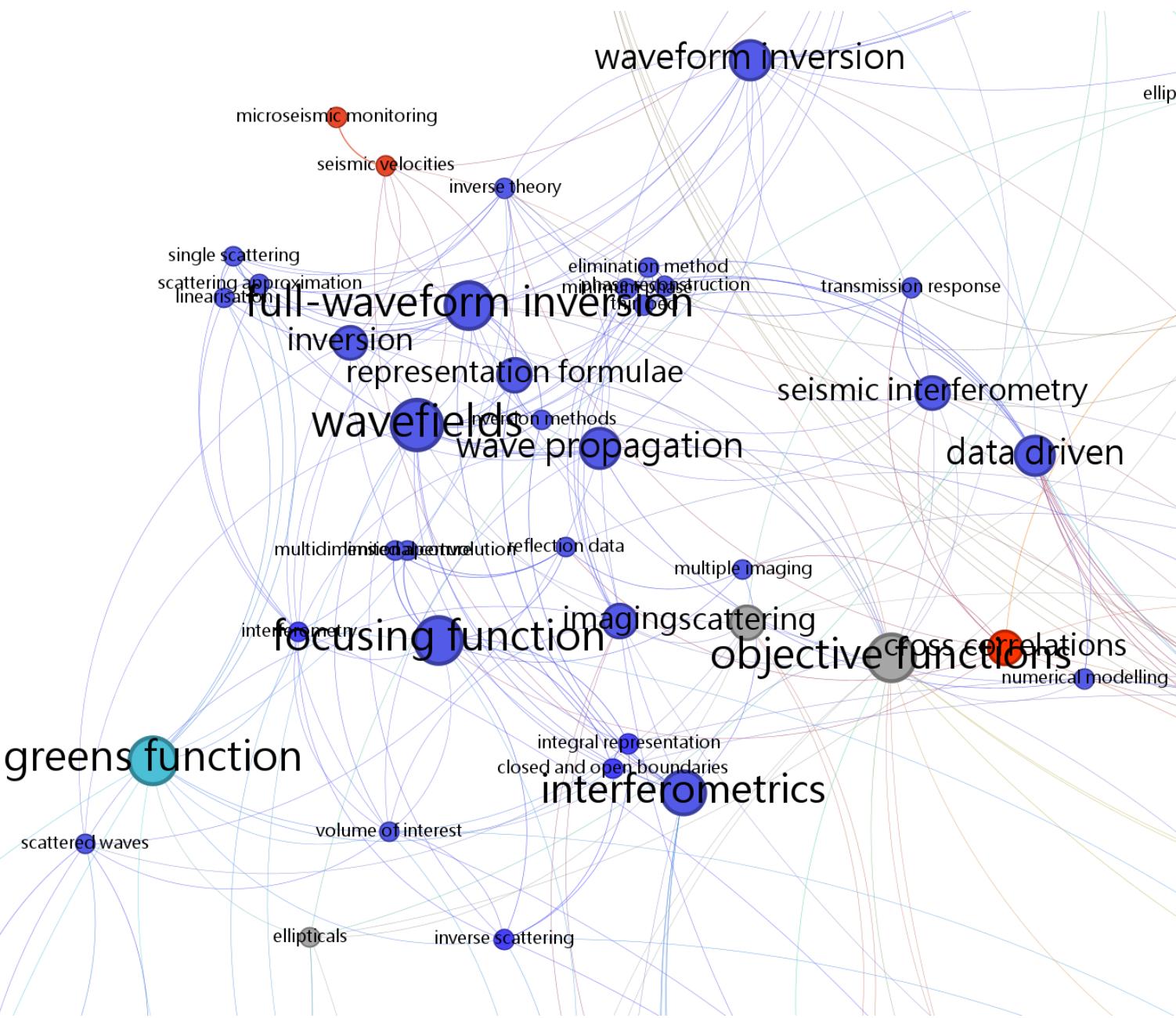
nodes = authors and
edges = co-publications

The S4S keyword world map



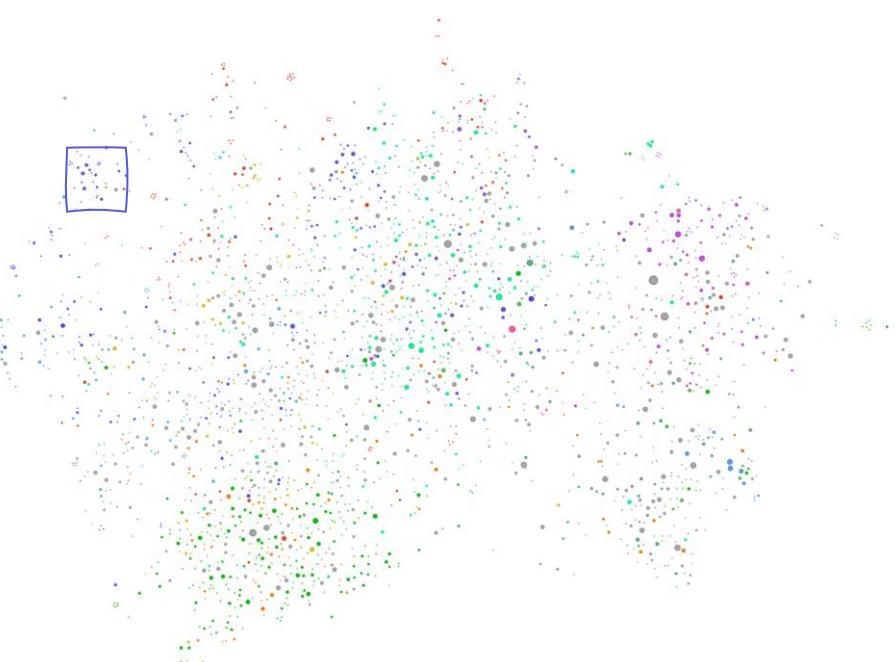
The S4S keyword world map

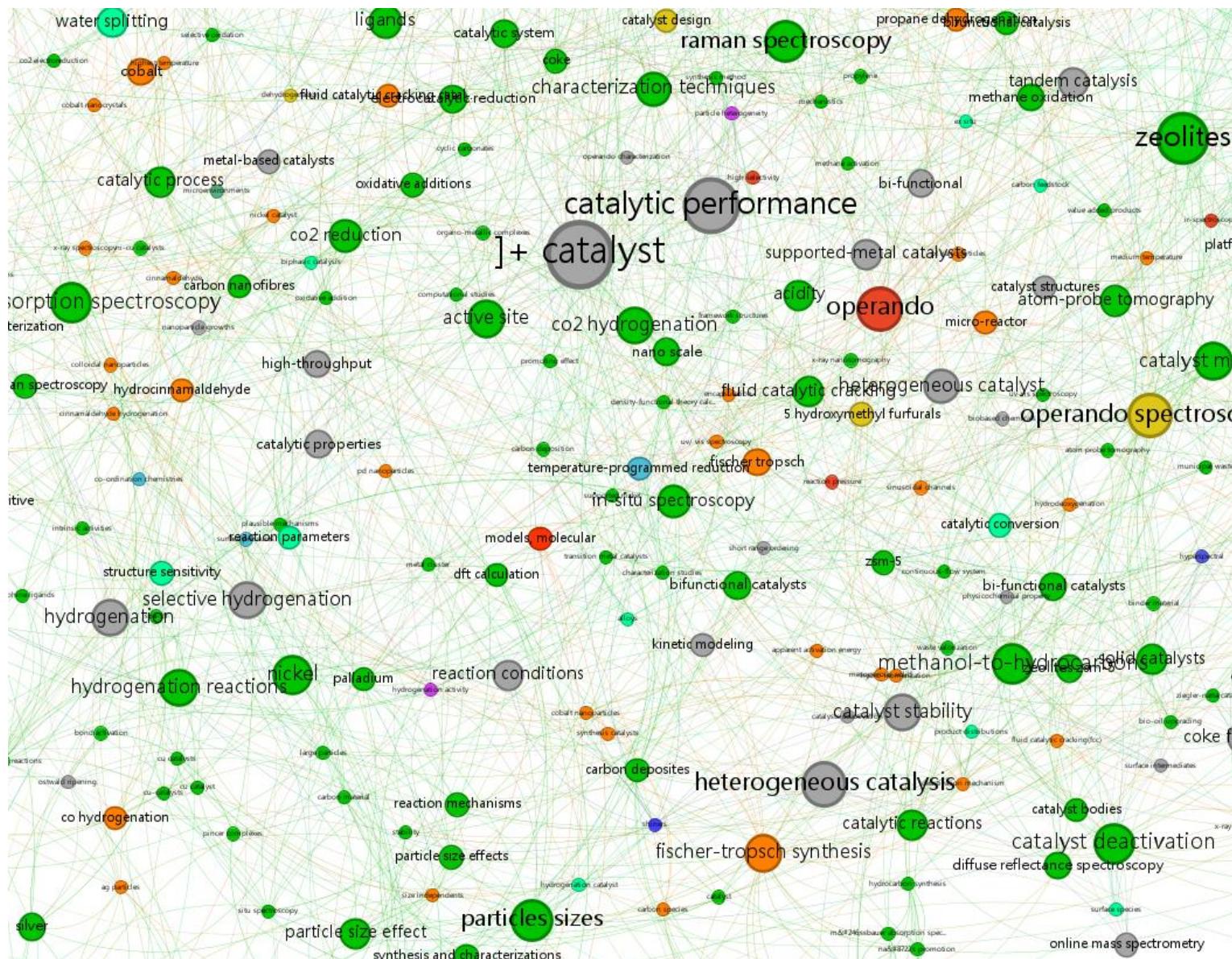




Earth and planetary sciences
In specific: geophysics, seismic waves

With some **computer science** and **material science**

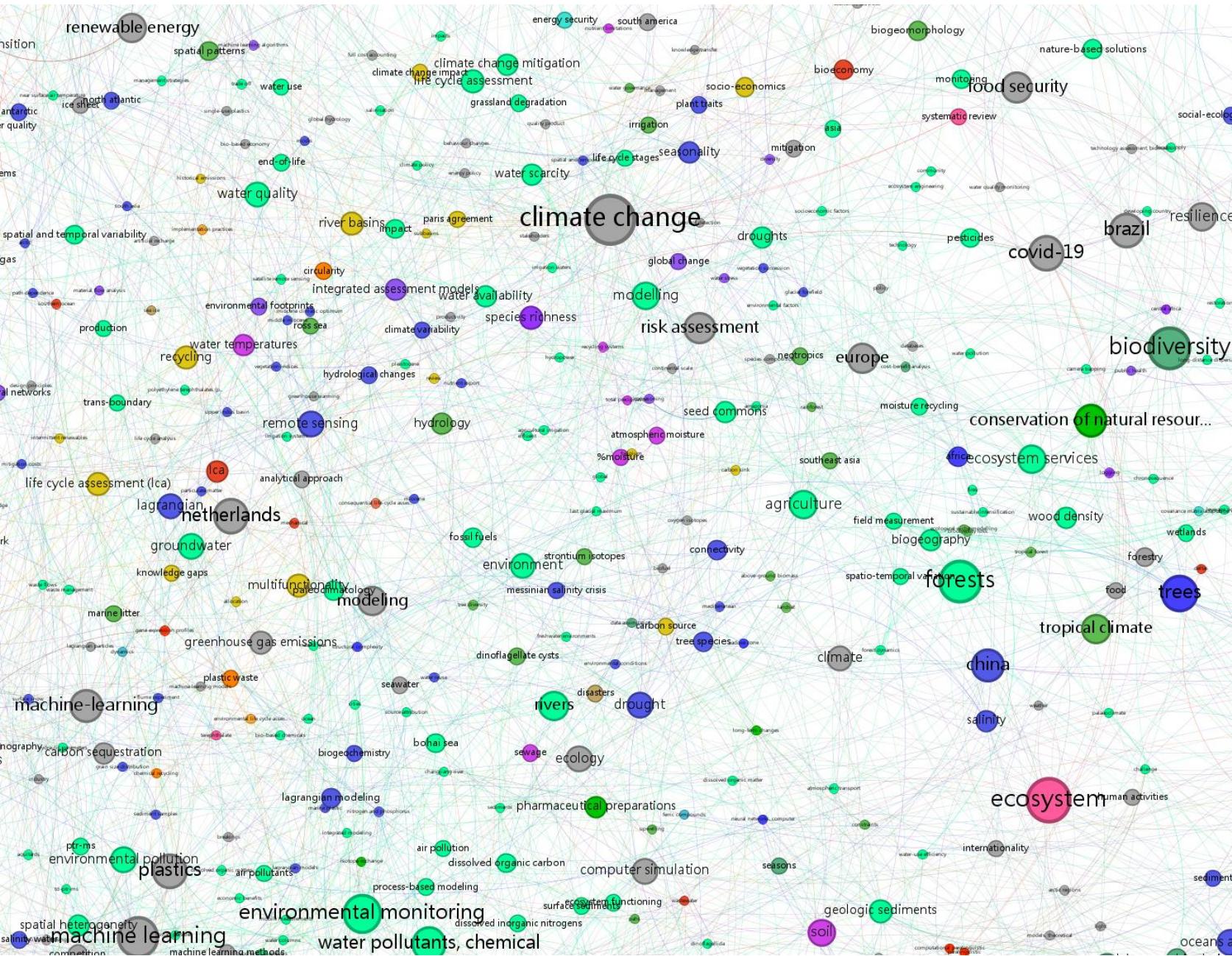




Chemistry

Catalysis, dominated by Bert Weckhuysen's lab

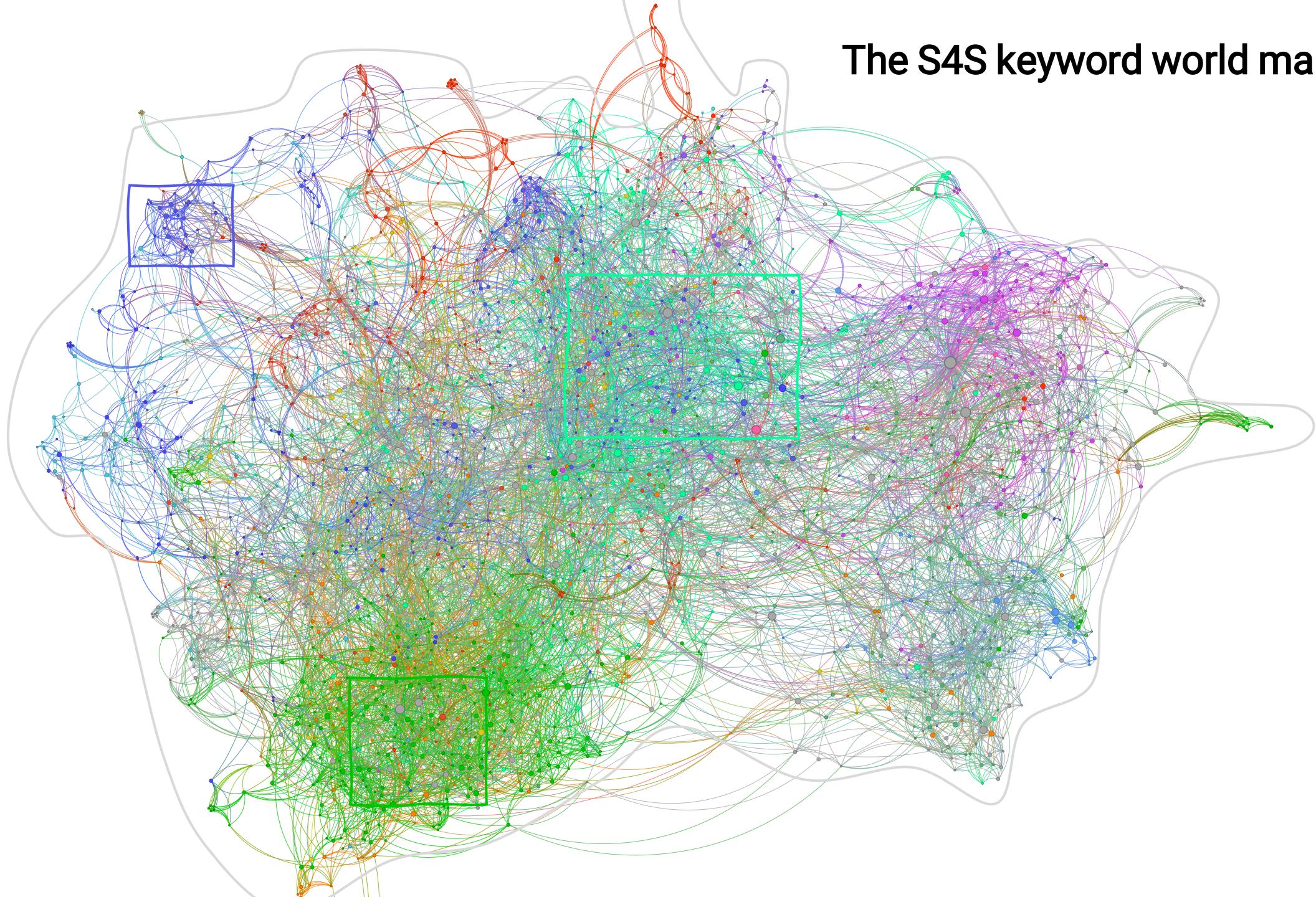
With some engineering and chemical engineering

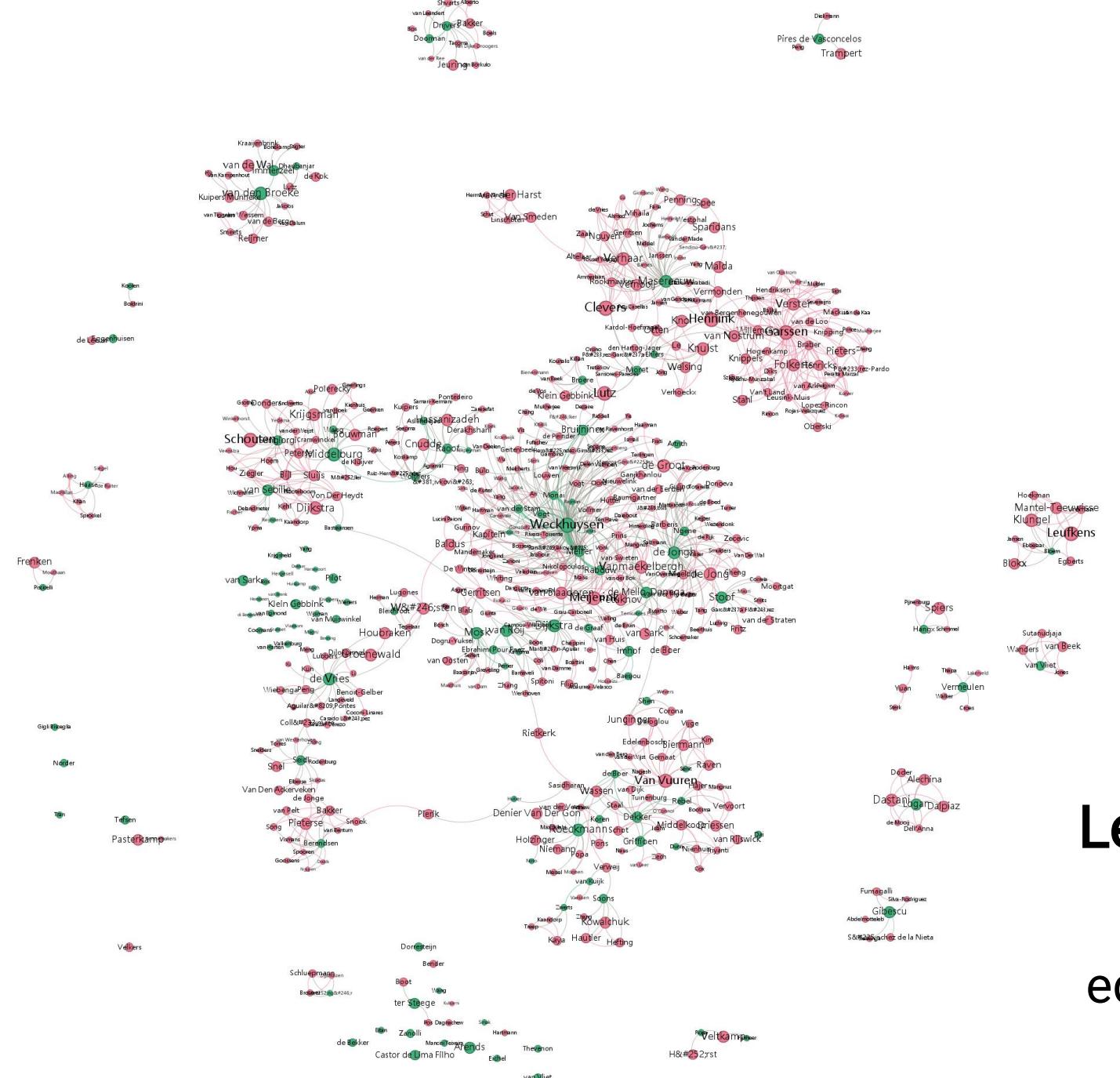


Multidisciplinary hubs

- Environmental Science
 - Agric. and Biological Sciences
 - Earth and Planetary Sciences
 - Social Sciences
 - Medicine

The S4S keyword world map





■ Rest of UU
■ S4S

Lets do the same for authors!
 nodes = authors and
 edges = co-authored publications



Filtering to only S4S authors

Lets brainstorm and discuss a bit:

- Methods related
 - i. Date cut off of publications? – Currently start 2020
 - ii. Other sources than Scopus?
 - iii. What about those people that are not in Scopus?
- There are a lot of possibilities...
 - i. Where do we want to go with this project?

And generally:

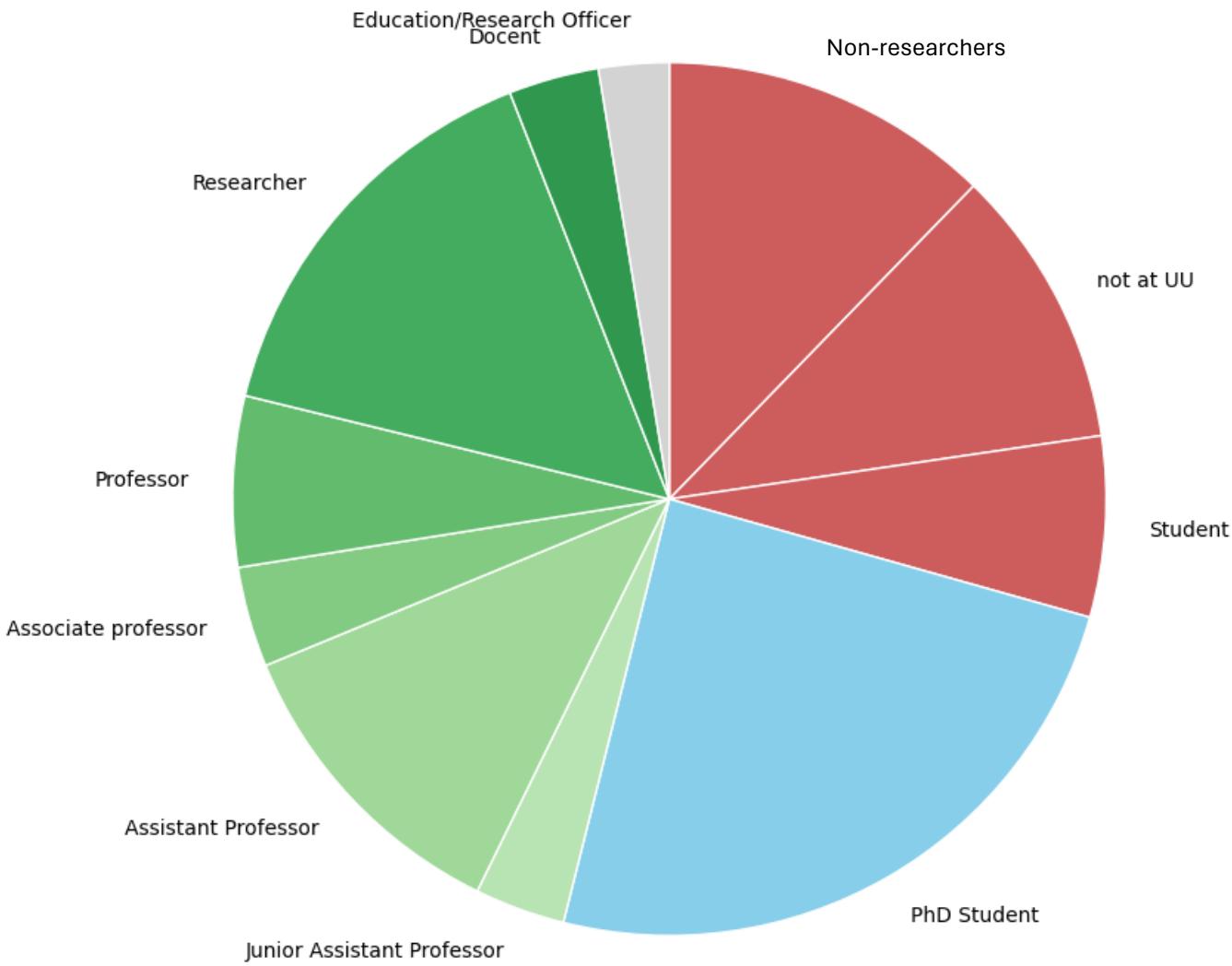
If you have additional ideas/ things you would like to have analysed:

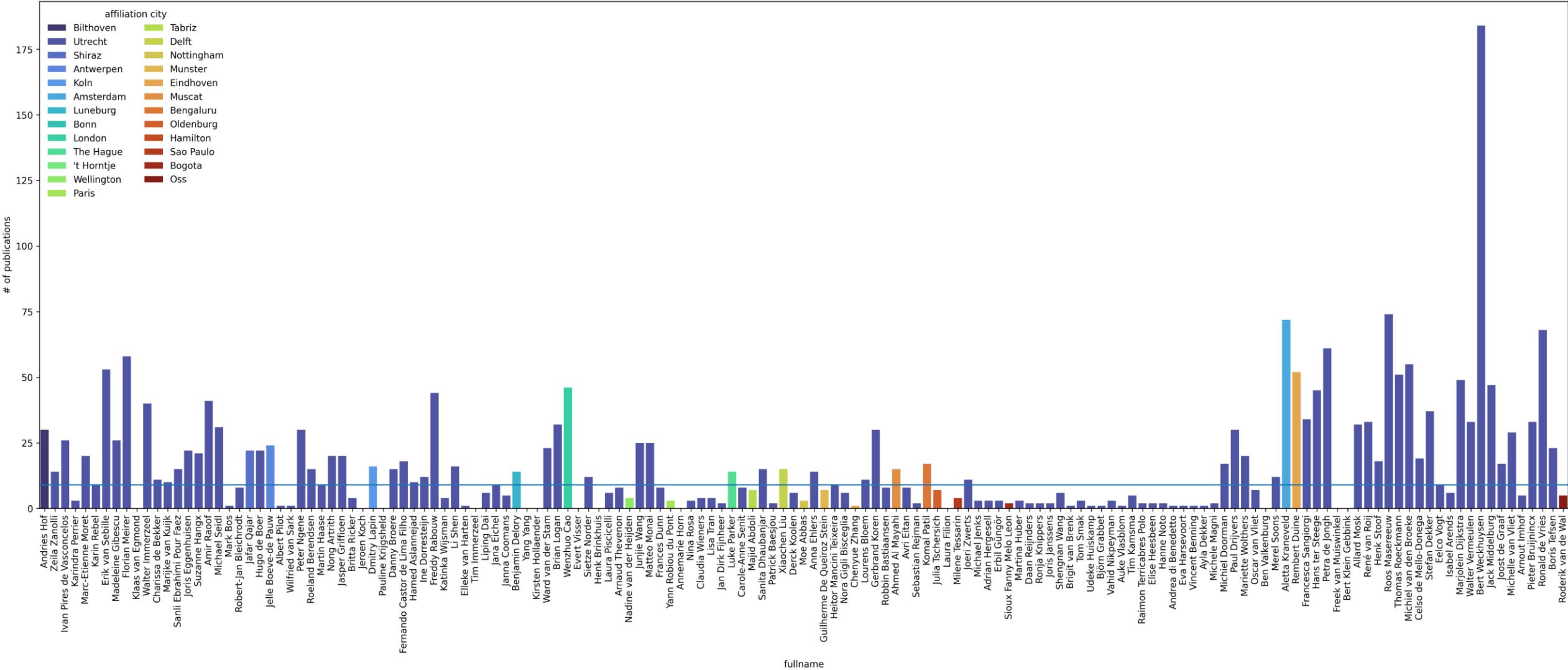
Tell me! Also by mail: t.kagel@uu.nl

Zwaan	Aart
Jauhari	Agung
Vonk	Aike
Amanatidis	Anestis
Tabak	Annechien
Verhoef	Bryan
Hoffman	Catrien
Eastment	Conor
Ruijsch	Denise
Keusters	Dorine
Mulder	Egbert
Daniels	Emma
Brakkee	Esther
Sluijs	Fieke
Verbeek	Florian
Schulpen	Geert
Elsayed	Hamdy
Thuijs	Hannah
Ceelen	Iline
Barnhoorn	Isabell
Steyaert	Jennie
McCaughey	Jey
van Duin	Jochem
Jonasse	Just Pé
Timmerman	Kirsten
Elwenspoek	Klara
Anisimova	Ksenia
Weiper	Maike
Cagnoni	Marco Federico
Constantin	Maria

Bijl	Marianne
Broekman	Marieke
Perxés i Perich	Marta
Hut	Martijn
Toghani	Maya
Bączyk	Michał
Sadreghaemy	Milad
Valibeknejad	Mohammad
Vergunst	Nieske
Puskas	Niki
Vazquez Villegas	Orlando
Kooijman	Pieter
Thijssen	Pieter
Subert	Rodolfo
Maas	Roy
Leal Pedroso de Lima	Rui
Filippini	Sara
Warnau	Sarah
Schwartmann	Sibylle
Klein	Sophie
Mascarini de Souza Romero	Suelene
Seitzinger	Sybil
Blad	Syl
Willemse	Thom
Wigmans	Thomas
Gerritsen	Tom
Felici	Tommaso
Kroese	Willem
Piao	Yuang

Additional graphics

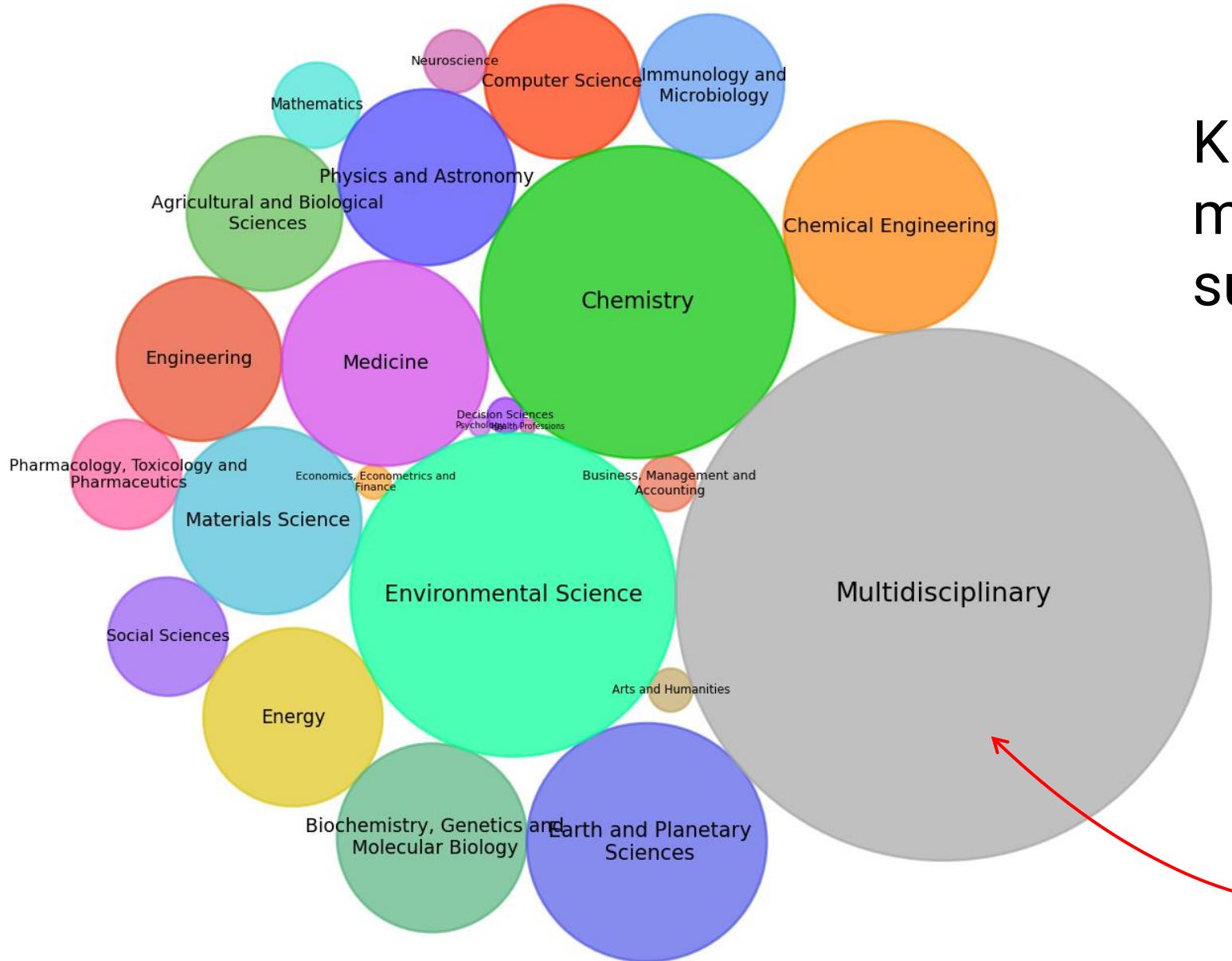




All publications

Author or index

Author and index



No dominant area

