

NORA

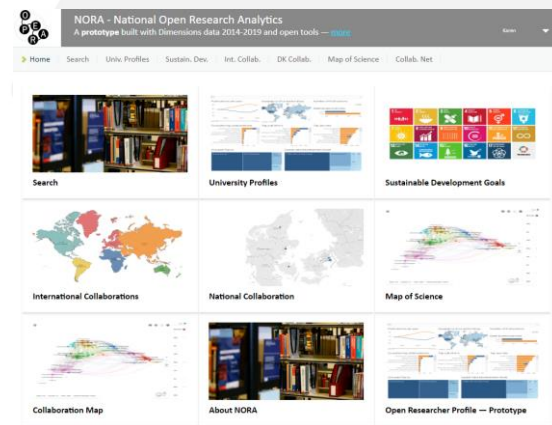
National Open Research Analytics - Pilot based on Dimensions++

Karen Hytteballe Ibanez, WP3-lead, DTU,
kshi@dtu.dk

Brian Kirkegaard Lunn, Digital Science,
b.lunn@digital-science.com

OPERA Conference

November 19th, 2020



 Dimensions
Part of **DIGITAL**science

Agenda

- Why NORA?
- What has been developed?
- Which challenges did we meet?
- Did we achieve what we intended?
- What is the future for NORA?



Why NORA?

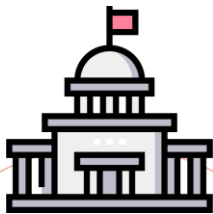
Work Package 3 Aim →

- Establish open and advanced research analytics
- based on open data, open citations
- using open source, -software and -code
- on a national level → in order to understand the aspects, patterns, impact and potential of the Danish research landscape.



NORA - National Open Research Analytics / Prototype

Government



Stakeholders



Universities



Hospitals



Years: 2014-2019

 Dimensions

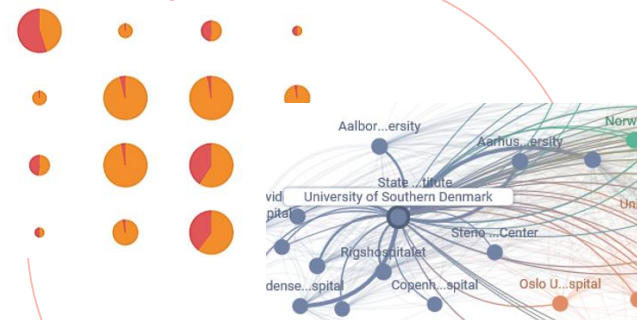
Danish National
RESEARCH DATABASE

Global / Local data
and Indicators



PROTOTYPE

Analytical
Insights



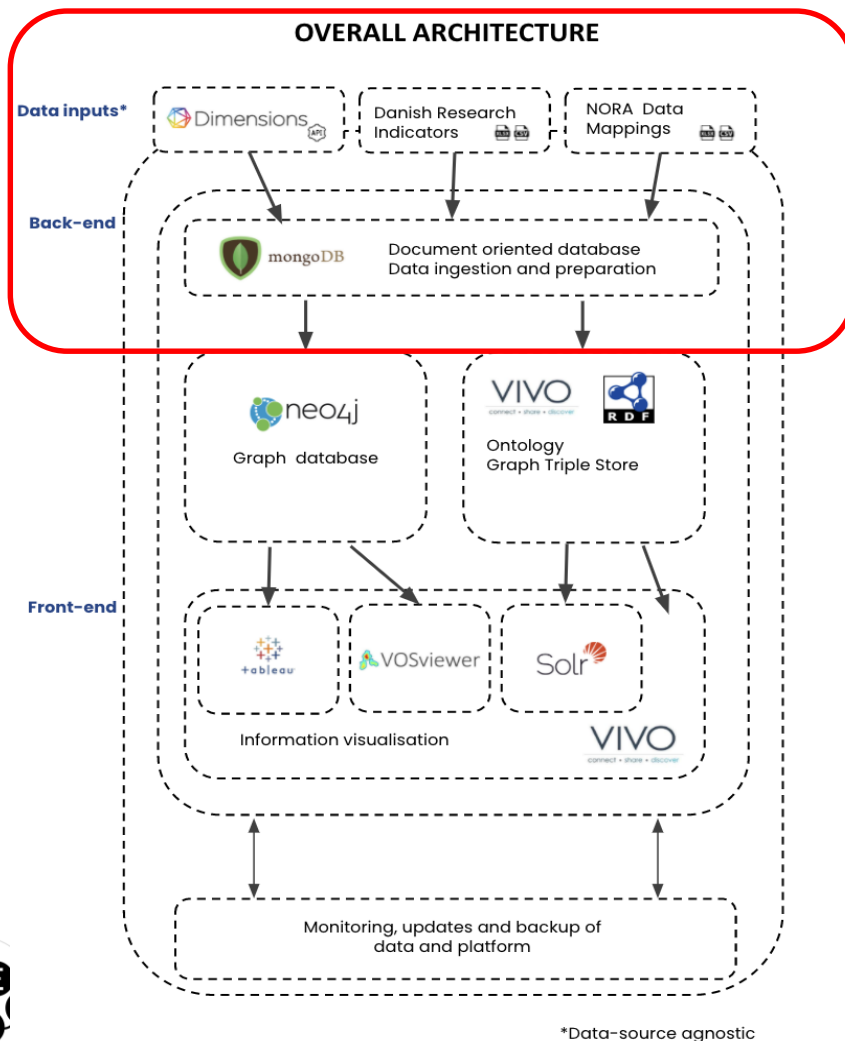
Visualizations and
Networks analysis



OPEN SCIENCE

- Researcher profiles
- Open source
- Open system
- Open Access

VIVO connect
share
discover



More Information and code:

<https://nora.adm.dtu.dk/about>

<https://github.com/RAP-research-output-impact/national-open-research-analytics-vivo>

Data choices



Dimensions

Danish National
RESEARCH DATABASE

Global / Local data
and Indicators:

The Bibliometric Research Indicator



Danish
Open Access Indicator

Alternative to
established databases

Explore diff. content
types

Collaboration

Danish Indicators



Dimensions

Digital Science involvement

- Actual, mutual collaboration
- Learn about university use cases
 - Expanding beyond publication data
- Learn how Dimensions can support use cases
- Improve data generally (Coverage, Quality, ...)
 - In relation to use cases



Demo





NORA - National Open Research Analytics

A **prototype** built with Dimensions data 2014-2019 and open tools — [more](#)

[Log in](#)

[Home](#) | [Search](#) | [Univ. Profiles](#) | [Sustain. Dev.](#) | [Int. Collab.](#) | [DK Collab.](#) | [Map of Science](#) | [Collab. Net](#)



Search



University Profiles



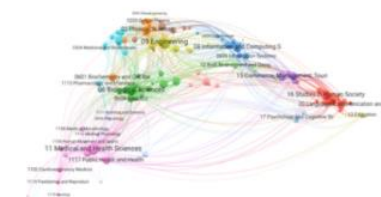
Sustainable Development Goals



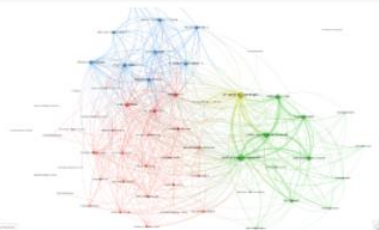
International Collaborations



National Collaboration



Map of Science



Collaboration Map



Open Researcher Profile - Prototype



About NORA



NORA Search

Results:

All types
198,001

Publications
172,003

Datasets
11,699

Grants
6,672

Patents
2,728

Clinical trials
4,899

New
Search

GENERAL FILTERS:

- Years

Check one or more and

- ☐ [2019](#) (39,547)
- ☐ [2018](#) (38,346)
- ☐ [2017](#) (36,033)
- ☐ [2016](#) (34,472)
- ☐ [2015](#) (33,023)
- ☐ [2014](#) (30,865)

+ Danish Universities & Hospitals

+ Other Organizations

+ Funders

+ Main Subject Areas

+ Subject Categories

+ Continents

+ Countries

Sort by



[Otolith \$\delta^{13}\text{C}\$ values as a metabolic proxy: approaches and mechanical underpinnings](#)

Chung, Ming-Tsung , Trueman, Clive N. , Godiksen, Jane Aanestad , Grønkjær, Peter
2019, Marine and Freshwater Research, Article



[Reconciling material cultures in archaeology with genetic data requires robust cultural evolutionary taxonomies](#)

Riede, Felix , Hoggard, Christian , Shennan, Stephen
2019, Palgrave Communications, Article



[Corrigendum to "Modelling the dependence structure of Y-STR haplotypes using graphical models" \[Forensic Sci. Int.: Genet. 37\(1\) \(2018\) 29–36\]](#)

Andersen, Mikkel Meyer , Curran, James , de Zoete, Jacob [et al.]
2019, Forensic Science International Genetics, Article

[In utero exposure to selective serotonin reuptake inhibitors and development of mental disorders: a systematic review and meta-analysis](#)

Halvorsen, A. , Hesel, B. , Østergaard, S. D. , Danielsen, A. A.
2019, Acta Psychiatrica Scandinavica, Article



Dimensions

NORA Search

Results:

All types

4

Publications

0

Datasets

0

Grants

4

Patents

0

Clinical trials

0

New Search

GENERAL FILTERS:

- + Years
- + Danish Universities & Hospitals
- + Other Organizations
- + Funders
- + Main Subject Areas
- + Subject Categories
- + Continents
- + Countries

GRANT FILTERS:

- + Start Year

Search

Record Types: grants X

Funders: European Commission X

Start Year: 2015 X

Danish Universities & Hospitals: AU X

Sort by year (descending) ▼

[Targeting Cartilage Regeneration in joint and intervertebral disc diseases](#)

2015- 2019, European Commission, Grant

[Boosting plant-Endophyte STability, compatibility and Performance Across Scales](#)

2015- 2019, European Commission, Grant

[Training for Big Data in Financial Research and Risk Management](#)

2015- 2019, European Commission, Grant

[MICROWINE - Microbial metagenomics and the modern wine industry](#)

2015- 2018, European Commission, Grant



2012- 2018 European Commission Grant

Grant

MICROWINE - Microbial metagenomics and the modern wine industry

Funder: European Commission

Dimensions: [grant.3938424](#)

Investigators

Klincke, Franziska (1) Liu, Tsiao-Lei (2) del Frari, Giovanni (3) Melkonian, Chrats (4)
PUSA, Henri (5) Gobbi, Alex (6) Oyuela Aguilar, Monica (7) Gustavo Santini, Rui (8)
Kyrkou, Ifigeneia (6) Oliveira, Ines (9) Collombel, Ingrid (10) Mak, Siu Tze (8)
Shin, Kimmo (11) Singh, Prashant (12) Lorentzen, Marc P G (13)

Affiliations

Organisations

- (1) Technical University of Denmark, grid.5170.3, DTU
- (2) University of Warwick, grid.7372.1
- (3) University of Lisbon, grid.9983.b
- (4) VU Amsterdam, grid.12380.38
- (5) French Institute for Research in Computer Science and Automation, grid.5328.c
- (6) Aarhus University, grid.7048.b, AU
- (7) National University of La Plata, grid.9499.d
- (8) University of Copenhagen, grid.5254.6, KU
- (9) University of Zaragoza, grid.11205.37
- (10) Catholic University of Portugal, grid.7831.d
- (11) Ministerium für Umwelt, Energie, Ernährung und Forsten Rheinland Pfalz, grid.494315.e
- (12) National Research Institute for Agriculture, Food and Environment, grid.507621.7
- (13) University of Bordeaux, grid.412041.2

Research Organisations

Aarhus University, grid.7048.b, AU

Technical University of Denmark, grid.5170.3, DTU

NORA University Profiles

[Technical University of Denmark](#)

[Aarhus University](#)

[University of Copenhagen](#)

Funding information

Funding period: 2015-2018

Funding amount: EUR 3945597

Grant number: 643063

Research Categories

Main Subject Area

[Natural Sciences](#)

Fields of Research

[06 Biological Sciences](#)



Dimensions

Resulting publications

Additional file 10: of Expanding the biodiversity of *Oenococcus oeni* through comparative genomics of apple cider and kombucha strains

2019, springer-nature, Dataset

Additional file 11: of Expanding the biodiversity of *Oenococcus oeni* through comparative genomics of apple cider and kombucha strains

2019, springer-nature, Dataset

Additional file 12: of Expanding the biodiversity of *Oenococcus oeni* through comparative genomics of apple cider and kombucha strains

2019, springer-nature, Dataset

Additional file 8: of Expanding the biodiversity of *Oenococcus oeni* through comparative genomics of apple cider and kombucha strains

2019, springer-nature, Dataset

Additional file 9: of Expanding the biodiversity of *Oenococcus oeni* through comparative genomics of apple cider and kombucha strains

2019, springer-nature, Dataset

All the lysing tubes used in the experiments.

2019, public-library-of-science, Dataset

Analysing complex metagenomic data with MicroWineBar

2019, bioRxiv, Preprint

Characterization of the Wood Mycobiome of *Vitis vinifera* in a Vineyard Affected by Esca. Spatial Distribution of Fungal Communities and Their Putative Relation With Leaf Symptoms

2019, Frontiers in Plant Science, Article

DataSheet_1_Fungicides and the Grapevine Wood Mycobiome: A Case Study on Tracheomycotic Ascomycete *Phaeomoniella chlamydospora* Reveals Potential for Two Novel Control Strategies.xls

2019, frontiers, Dataset

Data_Sheet_1_Characterization of the Wood Mycobiome of *Vitis vinifera* in a Vineyard Affected by Esca. Spatial Distribution of Fungal Communities and Their Putative Relation With Leaf Symptoms.xls



Dataset

All the lysing tubes used in the experiments.

[public-library-of-science,](#)
2019

DOI:10.1371/journal.pone.0200979.t001, Dimensions: 7983356,

Authors

Gobbi, Alex Santini, Rui G (1) Filippi, Elisa (2) Ellegaard-Jensen, Lea
Jacobsen, Carsten Suhr Hansen, Lars Hestbjerg

Affiliations

Organisations

(1) University of Copenhagen, grid.5254.6, KU

(2) Aarhus University, grid.7048.b, AU

Countries

[Denmark](#)

Continents

[Europe](#)

Description

All the lysing tubes used in the experiments.

Associated publications

Quantitative and qualitative evaluation of the impact of the G2 enhancer, bead sizes and lysing tubes on the bacterial community composition during DNA extraction from recalcitrant soil core samples based on community sequencing and qPCR

2019, PLoS ONE, Article



NORA University Profiles

[University of Copenhagen](#)
[Aarhus University](#)

Funders

[European Commission](#)

Supporting grants

[European Commission](#)

[MICROWINE - Microbial metagenomics and the modern wine industry](#)

Grant number 643063

€3945597

Licence

CC BY 4.0

External sources

Access at [Figshare](#)

Quantitative and qualitative evaluation of the impact of the G2 enhancer, bead sizes and lysing tubes on the bacterial community composition during DNA extraction from recalcitrant soil core samples based on community sequencing and qPCR

PLoS ONE, Public Library of Science (PLoS), ISSN 1932-6203

Volume 14, 4, 2019

DOI:10.1371/journal.pone.0200979, Dimensions: pub.1113377433, PMC: PMC6459482, PMID: 30973938,

Authors

Gobbi, Alex (1) Santini, Rui G. (2) Filippi, Elisa (1) Ellegaard-Jensen, Lea (1)

Jacobsen, Carsten S. (1) Hansen, Lars H. * (1)

* Corresponding author

Affiliations

Organisations

(1) Aarhus University, grid.7048.b, AU

(2) University of Copenhagen, grid.5254.6, KU

Countries

Denmark

Continents

Europe

Description

Soil DNA extraction encounters numerous challenges that can affect both yield and purity of the recovered DNA. Clay particles lead to reduced DNA extraction efficiency, and PCR inhibitors from the soil matrix can negatively affect downstream analyses when applying DNA sequencing. Further, these effects impede molecular analysis of bacterial community compositions in lower biomass samples, as often observed in deeper soil layers. Many studies avoid these complications by using indirect DNA extraction with prior separation of the cells from the matrix, but such methods introduce other biases that influence

Links & Metrics

NORA University Profiles

[Aarhus University](#)

[University of Copenhagen](#)

Dimensions Citation Indicators

Times Cited: 5

Altmetric Social Media Indicators



Attention: 7.58

News:

Twitter: 1

Mendeley: 18

Open Access Info

Pure Gold



NORA Search

Results:

All types

6

Publications

6

Datasets

0

Grants

0

Patents

0

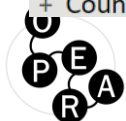
Clinical trials

0

New Search

GENERAL FILTERS:

- + Years
- + Danish Universities & Hospitals
- + Other Organizations
- + Funders
- + Main Subject Areas
- + Subject Categories
- + Continents
- + Countries



Search

Record Types: publications X Years: 2017 X Danish Universities: AU X

Publication Types: Academic Article X Publishers: Taylor & Francis X Open Access: All OA X

Sustainable Development Goals: 3 Good Health and Well Being X

Sort by year (descending)



[Residential traffic noise exposure and vestibular schwannoma – a Danish case–control study](#)

Roswall, Nina , Roswall, Nina , Stangerup, Sven-Eric [et al.]

2017

Genetics of schizophrenia: A consensus paper of the WFSBP Task Force on Genetics

The World Journal of Biological Psychiatry, Taylor & Francis, ISSN 1562-2975

Volume 18, 7, 2017

DOI:10.1080/15622975.2016.1268715, Dimensions: pub.1079398407, PMID: 28112043,

Authors

Giegling, Ina (1) (2) Hosak, Ladislav (3) Mössner, Rainald (4) Serretti, Alessandro (5)
Bellivier, Frank (6) (7) Claes, Stephan (8) Collier, David A. (9) (10) Corrales, Alejo (11)
DeLisi, Lynn E. (12) (13) Gallo, Carla (14) Gill, Michael (15) Kennedy, James L. (16) (17)
Leboyer, Marion (7) (18) (19) (20) Maier, Wolfgang (21) Marquez, Miguel (22)
Massat, Isabelle (23) (24) Mors, Ole (25) (26) Muglia, Pierandrea (27)
Nöthen, Markus M. (21) (28) Ospina-Duque, Jorge (29) Owen, Michael J. (30)
Propping, Peter (21) Shi, YongYong (31) (32) St Clair, David (33) Thibaut, Florence (34)
Cichon, Sven (21) (35) (36) (37) Mendlewicz, Julien (24) O'Donovan, Michael C. (30)
Rujescu, Dan (1) (2)

Affiliations

Organisations

- (1) Ludwig Maximilian University of Munich, grid.5252.0
- (2) Martin Luther University Halle-Wittenberg, grid.9018.0
- (3) Charles University, grid.4491.8
- (4) University of Tübingen, grid.10392.39
- (5) University of Bologna, grid.6292.f
- (6) Paris Diderot University, grid.7452.4
- (7) Fondation FondaMental, grid.484137.d
- (8) KU Leuven, grid.5596.f
- (9) Eli Lilly (United Kingdom), grid.418786.4
- (10) King's College London, grid.13097.3c
- (11) Argentinean Association of Biological Psychiatry, National University, UNT, Buenos Aires, Argentina;

Links & Metrics

NORA University Profiles

Aarhus University

Danish Open Access Indicator

2017: Unused
Research area: Medicine

Danish Bibliometrics Indicator

2017: Level 1
Research area: Medicine

Dimensions Citation Indicators

Times Cited: 28
Field Citation Ratio (FCR): 15.57
Relative Citation ratio (RCR): 2.15

Altmetric Social Media Indicators



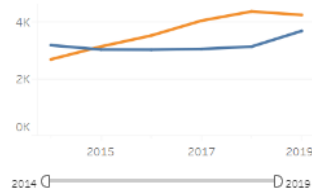
Attention: 3.75
News:
Twitter: 1
Mendeley: 111

Open Access Info

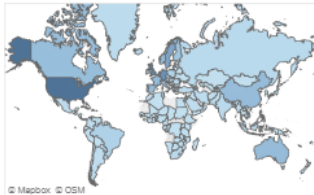
Green, Accepted

AU ?

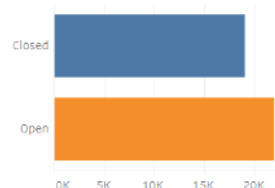
Publications per year



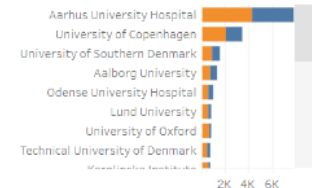
Geography of co-authorships



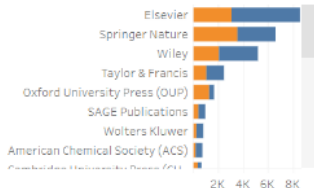
Open access overview



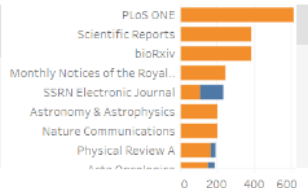
Co-authoring collaborations



Top publishers



Top journals



Grouped Topics



Sustainable Development Goals



The road to NORA



Tests
Analyses
Workshops
Data mapping
Technical setup
Understand the data
...and the data gaps
Solve various challenges



Challenges – Collaborative efforts

- Publication
- Coverage
- Affiliations
- Categorisation
- “New” content types

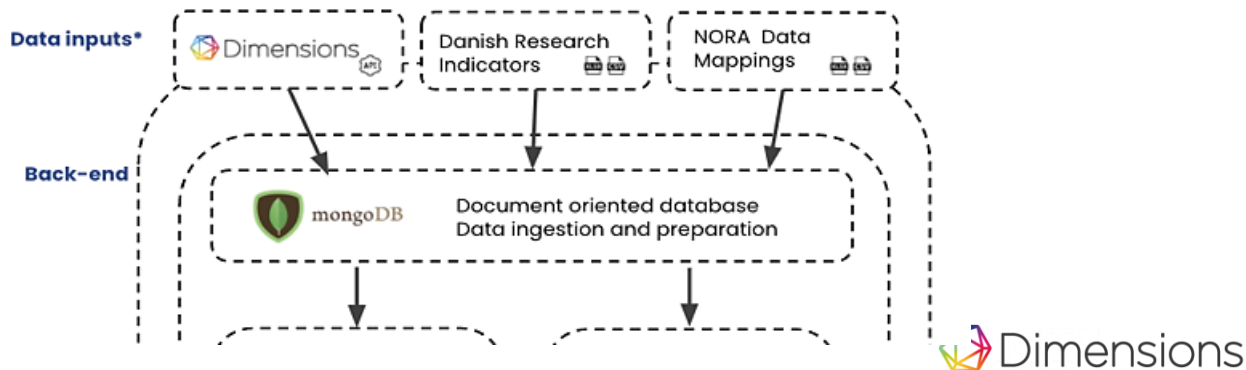


Challenges: Publications

Investigating

- Publications in University CRIS not in Dimensions
- Publications in Dimensions not in University CRIS
- Publication in **both places not affiliated to University in Dimensions**

OVERALL ARCHITECTURE



Challenges: CRIS vs Dimensions

Publications in University CRIS not in Dimensions (1165 / 12.5K)

- Publications not in Crossref
- 26% in Dimensions - Different metadata

Publications in Dimensions not in University CRIS (2392 / 10K)

- Publications generally correctly associated to University
- 40% in CRIS - Different metadata



CRIS vs Dimensions Local vs. Global metadata

University CRIS

Power curve measurement with a nacelle mounted lidar

Rozenn Wagner, Troels Friis Pedersen, Michael Courtney, Ioannis Antoniou, S. Davoust, R.L. Rivera

Department of Wind Energy

Research output: Contribution to journal › Journal article › Research › peer-review

usable for power curve measurement was larger than the sector for which the cup anemometer was an obstacle. The power curve obtained with the lidar for the wind sector in which the mast is in the wake compared well with the power curve obtained on the standard sector. Copyright © 2013 John Wiley &

ORIGINAL LANGUAGE	English
JOURNAL	Wind Energy
VOLUME	17
ISSUE NUMBER	9
PAGES (FROM-TO)	1441-1453
ISSN	1095-4744
PUBLICATION STATUS	Published - 2014



Power curve measurement with... x
Free text in title and abstract

Publication - Article

Power curve measurement with a nacelle mounted lidar

[Wind Energy](#), 17(9), 1441-1453 - June 2013

<https://doi.org/10.1002/we.1643>

Authors

[R. Wagner](#) - DTU Wind Energy Risø Campus, Roskilde Denmark

[T.F. Pedersen](#) - DTU Wind Energy Risø Campus, Roskilde Denmark

[M. Courtney](#) - DTU Wind Energy Risø Campus, Roskilde Denmark

[3 more](#)

Abstract

Nacelle-based lidars are an attractive alternative to conventional mast base reference wind instrumentation where the erection is expensive, for example offshore. In this paper, the use of this new technology for the specific application of wind turbine power measurement is tested. A pulsed lidar prototype, measuring horizontally, was installed on the nacelle of a multi-megawatt wind turbine. A mast with a top-mounted cup anemometer standing at two rotor diameters in front of the turbine was used as a reference. As a first step, the comparison of the 10 min mean wind speed measured by the lidar to that measured by the cup anemometer showed

[More](#)

CRIS vs Dimensions Local vs. Global metadata

40 years of formal methods

Dines Bjørner, Klaus Havelund

Department of Applied Mathematics and Computer Science

Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings › Research

Access to Document

or



[10.1007/978-3-319-06410-9_4](https://doi.org/10.1007/978-3-319-06410-9_4)



Dimensions



e.g. plastic AND instrument

Publication - Chapter

40 Years of Formal Methods

In: Cliff Jones, Pekka Pihlajasaari, Jun Sun (Eds.), [FM 2014: Formal Methods Lecture Notes in Computer Science](#), Vol. 8442, 42-61 - 2014

https://doi.org/10.1007/978-3-319-06410-9_4

Authors

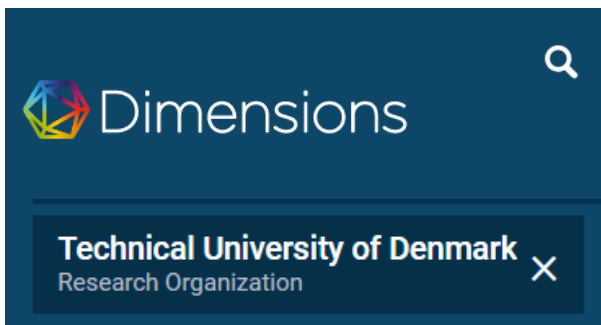
[Dines Bjørner](#) - Fredsvej 11, DK-2840, Holte, Denmark; [Technical University of Denmark](#)

[Klaus Havelund](#) - Jet Propulsion Lab



Dimensions

DTU publ. in Dimensions & NORA



▼ PUBLICATION YEAR

- ☐ 2019
- ☐ 2018
- ☐ 2017
- ☐ 2016
- ☐ 2015
- ☐ 2014

4,340
4,152
3,935
3,737
3,699
3,423



NORA - National Open Research Analytics
A **prototype** built with Dimensions data 2014-2019 and open tools

Danish Universities & Hospitals: DTU X

- Years

Check one or more and

☐ [2019](#)

(5,520)

☐ [2018](#)

(5,422)

☐ [2017](#)

(5,273)

☐ [2016](#)

(5,084)

☐ [2015](#)

(4,919)

☐ [2014](#)

(4,549)

Challenges: Affiliations

Point of departure

- 103K Grid organisations
- 60M unique affiliation strings
- 430K name variants

Overlap with client lists

- Generally, 70% - 80% overlap in publications assigned to Universities



Improve publication/GRID match

Improve metadata

- Increase affiliation data available (more or better quality)

Improve matching

- Identify unknown name variants
- Improve matching algorithm



Challenges: Not affiliated to Uni

University analysis of non-affiliated publications (1236 / 33.7K)

- 70% affiliation data available
- 16% affiliated to other institution (incl. hospital)

Analysis of all doi's from DTU

- Currently: 78% overlap in point of departure
- Upcoming improvements 85%
- Further planned improvements 90% - 95%



NORA Search

Results:

All types
198,001

Publications
172,003

Datasets
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Grants
6,672

Patents
2,728

Clinical trials
4,899

New
Search

GENERAL FILTERS:

- + Years
- + Danish Universities & Hospitals
- + Other Organizations
- + Funders
- + Main Subject Areas
- + Subject Categories
- + Continents
- + Countries

PUBLICATION FILTERS:

- + Publication Types
- + Journals
- + Publishers
- + Open Access
- + Sustainable Development Goals
- + Retrieval

Search

Record Types: publications X

Sort by year (descending) ▼



[Otolith \$\delta^{13}\text{C}\$ values as a metabolic proxy: approaches and mechanical underpinnings](#)

Chung, Ming-Tsung , Trueman, Clive N. , Godiksen, Jane Aanestad , Grønkjær, Peter
2019, Marine and Freshwater Research, Article



[Reconciling material cultures in archaeology with genetic data requires robust cultural evolutionary taxonomies](#)

Riede, Felix , Hoggard, Christian , Shennan, Stephen
2019, Palgrave Communications, Article

+ Sustainable Development Goals

- Retrieval

[GRIP and DDF](#) (118,491)

[DDF only](#) (28,153)

[GRIP only](#) (24,109)

[In utero expos using graphical disorders: a s](#)

Halvorsen, A.
2019, Acta Ps

[ment of mental](#)



[The Endoplas Proinsulin Ha](#)

Ghiasi, Seyed



- Retrieval

GRID and DDF	(118,491)
DDF only	(28,153)
GRID only	(24,109)

Article

Understanding Emotions and Their Significance through Social Robots, and Vice Versa

Techné Research in Philosophy and Technology, Philosophy Documentation Center, ISSN 1091-8264

Volume 23, 3, 2019

DOI:10.5840/techne2019233104, Dimensions: pub.1123947670,

Authors

[Seibt, Johanna](#) [Rodogno, Raffaele](#)

No affiliation data



Links & Metrics

[NORA University Profiles](#)
[Aarhus University](#)

Dimensions Citation Indicators

Times Cited: 0



Publication - Article

Understanding Emotions and Their Significance

[Techné Research in Philosophy and Technology](#), 23(3), 257-269 - 2019

<https://doi.org/10.5840/techne2019233104>

Authors

[Johanna Seibt](#)

[Raffaele Rodogno](#)

No affiliation data

Challenges: Categorisation

Enhancing categorisation for NORA context by
mapping

- 22 Fields of Research codes => 5 Subject areas
- 8 Organisations types => 4 Organisations types
- 53 DK Health Organisations => 5 Main Hospital Regions
- 8 DK Universities => 8 Acronyms
- 177 Countries => 6 Continents



Examples of mappings



Article

Electrocardiographic scores of severity and acuteness of myocardial ischemia predict myocardial salvage in patients with anterior ST-segment elevation myocardial infarction

Journal of Electrocardiology, Elsevier, ISSN 0022-0736

Volume 51, 2, 2018

DOI:10.1016/j.jelectrocard.2017.11.002, Dimensions: pub.1092667890, PMID: 29174706,

Authors

Fakhri, Yama * (1) (2) Sejersten, Maria (3) Schoos, Mikkel Malby (4)
Hansen, Henrik Steen (5) Dubois-Rande, Jean-Luc (6) Hall, Trygve S. (7) Larsen, Alf Inge (8)
Jensen, Svend Eggert (9) Engblom, Henrik (10) Arheden, H Kan (10) Kastrup, Jens (1)
Atar, Dan (7) Clemmensen, Peter (2) (11) (12)

* Corresponding author

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- (4) Zealand University Hospital, grid.476266.7, Zealand Region
- (5) Odense University Hospital, grid.7143.1, Southern Denmark Region
- (6) Hôpitaux Universitaires Henri Mondor, grid.412116.1
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- (9) Aalborg Hospital, grid.27530.33, North Denmark Region
- (10) Department of Clinical Physiology, Lund University, Skåne University Hospital, Lund, Sweden
- (11) University Medical Center Hamburg-Eppendorf, grid.13648.38
- (12) University of Southern Denmark, grid.10825.3e, SDU

Countries

Norway
Denmark
France
Germany

Continents

Europe

Links & Metrics

NORA University Profiles

University of Southern Denmark
Aalborg University

Danish Open Access Indicator

2018: Realized
Research area: Medicine

Danish Bibliometrics Indicator

2018: Level 1
Research area: Medicine

Dimensions Citation Indicators

Times Cited: 2
Field Citation Ratio (FCR): 1.6
Relative Citation ratio (RCR): 0.47

Altmetric Social Media Indicators



Attention: 4.85
News:
Twitter: 12
Mendeley: 20

Open Access Info

Green, Submitted

Examples of mappings



Article

Maternal and fetal genetic effects on birth weight and their relevance to cardio-metabolic risk factors

Nature Genetics, Springer Nature, ISSN 1061-4036

Volume 51, 5, 2019

DOI:10.1038/s41588-019-0403-1, Dimensions: pub.1113858744, PMC: PMC6522365, PMID: 31043758,

Authors

Warrington, Nicole M. (1) Beaumont, Robin N. (2) Horikoshi, Momoko (3) (4) (5)
Day, Felix R. (6) Helgeland, Øyvind (7) (8) (9) Laurin, Charles (10) Bacelis, Jonas (11)
Peng, Shouneng (12) Hao, Ke (12) Feenstra, Bjarke (13) Wood, Andrew R. (2)

Mahajan, Anubha
Rayner, N. William

Affiliations

Organisations

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Kooijman, Marjole Devon and Exeter Hospital, Exeter, UK
Ahlwalia, Tarunv (3) RIKEN Centre for Integrative Medical Sciences, Laboratory for Endocrinology, Metabolism and Kidney
Huikari, Ville (31) Diseases, Yokohama, Japan
Cavadino, Alana (3) (4) Wellcome Centre for Human Genetics, grid.270683.8
Thiering, Elisabeth (5) University of Oxford, grid.4991.5
Vilor-Tejedor, Nati (6) University of Cambridge, grid.5335.0
Myhre, Ronny (9) (7) University of Bergen, grid.7914.b
Lagou, Vasiliki (4) (8) Haukeland University Hospital, grid.412008.f
Barton, Sheila J. (5) (9) Norwegian Institute of Public Health, grid.418193.6
Santa-Maria, Lora (10) University of Bristol, grid.5337.2
(11) Sahlgrenska University Hospital, grid.1649.a
(12) Icahn School of Medicine at Mount Sinai, grid.59734.3c
(13) State Serum Institute, grid.6202.7



Links & Metrics

NORA University Profiles

University of Copenhagen
Technical University of Denmark
University of Southern Denmark

Dimensions Citation Indicators

Times Cited: 62

Countries

Norway
Australia
Spain
United Kingdom
Netherlands
New Zealand
Denmark
United States of America
Canada
Finland
Germany
Switzerland
Belgium
China
Sweden
Greece
Estonia
Philippines
Singapore
Italy

Continents

Europe
Australia and New Zealand
North America
Asia



Dimensions



NORA - National Open Research Analytics

A **prototype** built with Dimensions data 2014-2019 and open tools — [more](#)

Article 

Maternal and fetal genetic effects on birth weight and their relevance to cardio-metabolic risk factors

Nature Genetics, Springer Nature, ISSN 1061-4036

Volume 51, 5, 2019

DOI:10.1038/s41588-019-0403-1, Dimensions: pub.1113858744, PMC: PMC6522365, PMID: 31043758,

Authors

Warrington, Nicole M. (1) Beaumont, Robin N. (2) Horikoshi, Momoko (3) (4) (5)

Day, Felix R. (6) Helgeland, Øyvind (7)

Peng, Shouneng (12)

Mahajan, Anubha (4) (5)

Rayner, N. William (4) (5)

Marsit, Carmen J. (18)

Zafarmand, Mohammad

Kooijman, Marjolijn N.

Ahluwalia, Tarunveer S.

Huikari, Ville (31)

Cavadino, Alana (35)

Thiering, Elisabeth (40)

Vilor-Tejedor, Natalia (4)

Myhre, Ronny (9)

Lagou, Vasiliki (4) (50)

Barton, Sheila J. (56)

Santa-Marina, Loreto (5)

Marsh, Julie A. (62)

Hocher, Berthold (65)

Relton, Caroline L. (10)

Allard, Catherine (71)

Zhang, Ge (76) (77) (78)

Affiliations

Organisations

(1) University of Queensland, grid.1003.2

(2) Institute of Biomedical and Clinical Science, College of Medicine and Health, University of Exeter, Royal

Devon and Exeter Hospital, Exeter, UK

(3) RIKEN Centre for Integrative Medical Sciences, Laboratory for Endocrinology, Metabolism and Kidney

Diseases, Yokohama, Japan

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(11) Sahlgrenska University Hospital, grid.1649.a

(12) Icahn School of Medicine at Mount Sinai, grid.59734.3c

(13) State Serum Institute, grid.6203.7

(14) University of Exeter, grid.8391.3

(15) Wellcome Sanger Institute, grid.10306.34

(16) Oslo University Hospital, grid.55325.34

(17) University of Oslo, grid.5510.1

(18) Emory University, grid.189967.8

(19) Northwestern University, grid.16753.36

(20) University of Copenhagen, grid.5254.6, KU

(21) Department of Clinical Epidemiology, Biostatistics and Bioinformatics, Amsterdam Public Health

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the Netherlands

(22) Department of Public Health, Amsterdam Public Health Research Institute, Amsterdam UMC,

Academic Medical Center, University of Amsterdam, Amsterdam, the Netherlands

Links & Metrics

NORA University Profiles

University of Copenhagen

Technical University of Denmark

University of Southern Denmark

Dimensions Citation Indicators

indicators

University CRIS

Home Profiles Research Units **Research Output** Activities Projects Prizes Press / Media

Maternal and fetal genetic effects on birth weight and their relevance to cardio-metabolic risk factors

Nicole M Warrington, Robin N Beaumont, Momoko Horikoshi, Felix R Day, Øyvind Helgeland, Charles Laurin, Jonas Baelis, Shouneng Peng, Ke Hao, Bjarke Feenstra, Andrew R Wood, Anubha Mahajan, Jessica Tyrrell, Neil R Robertson, N William Rayner, Zhen Qiao, Gunn-Helen Moen, Marc Vaudel, Carmen J Marsit, Jia Jue Johannes Chen [Show 189 more](#)

*Corresponding author for this work

Department of Applied Mathematics and Computer Science , Statistics and Data Analysis

Research output: Contribution to journal › Journal article › Research › peer-review

No affiliation data!!

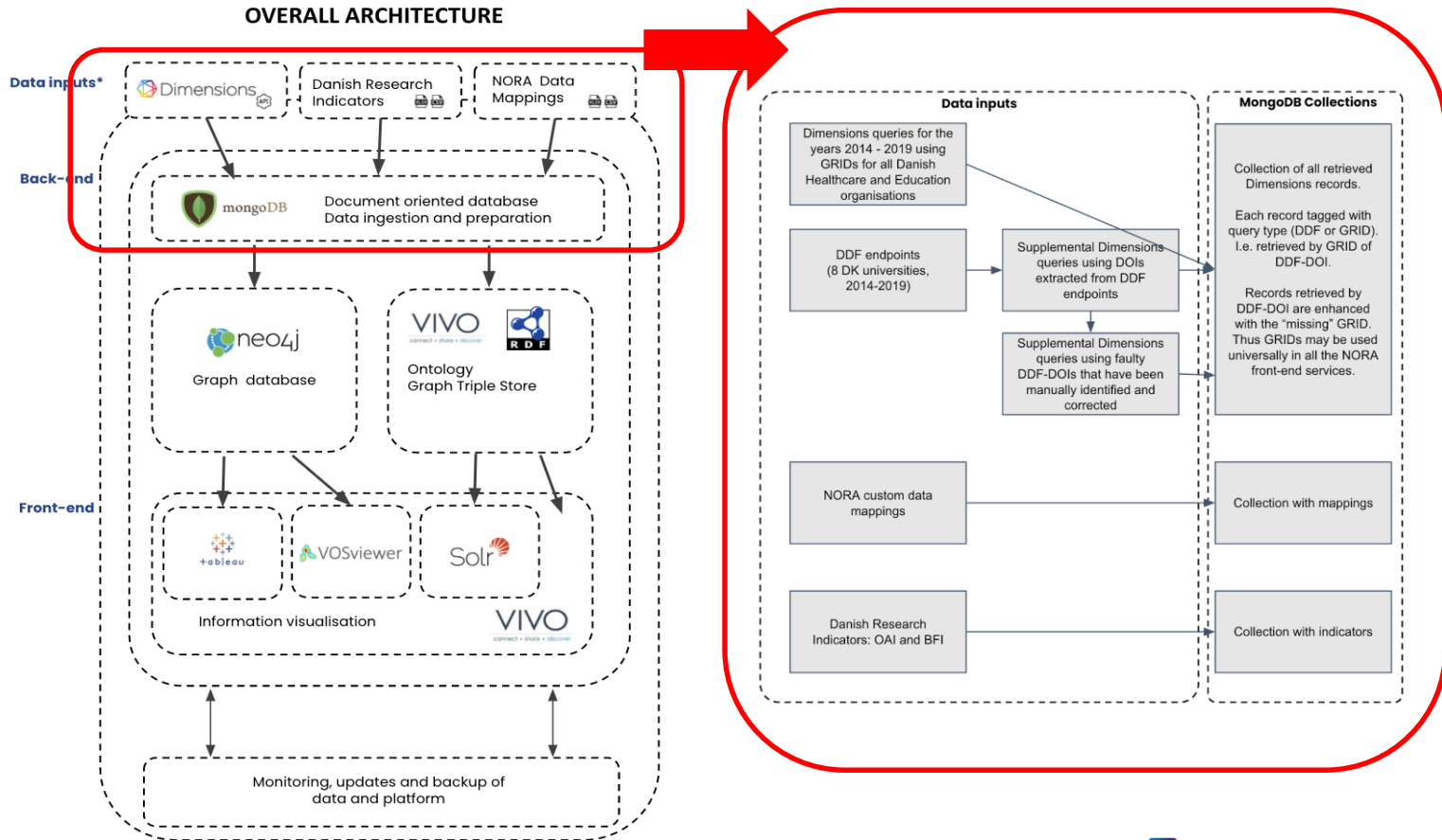


Dimensions



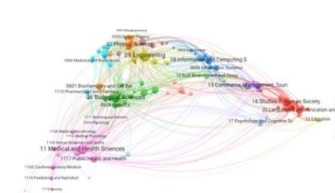
Results

OVERALL ARCHITECTURE



*Data-source agnostic

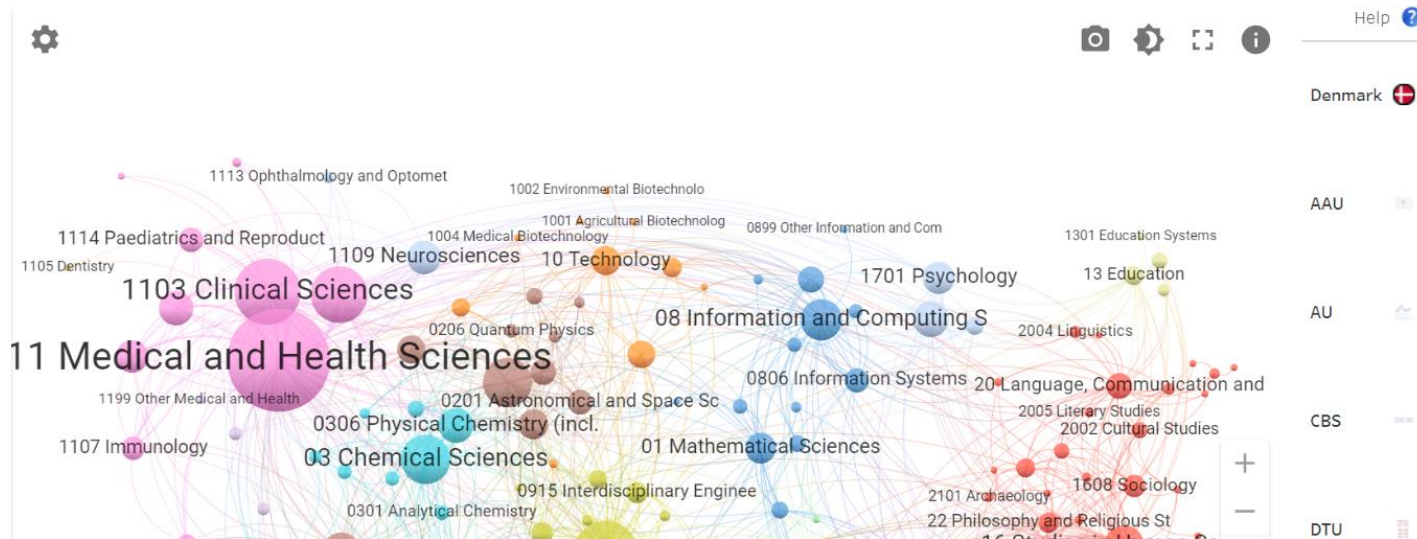


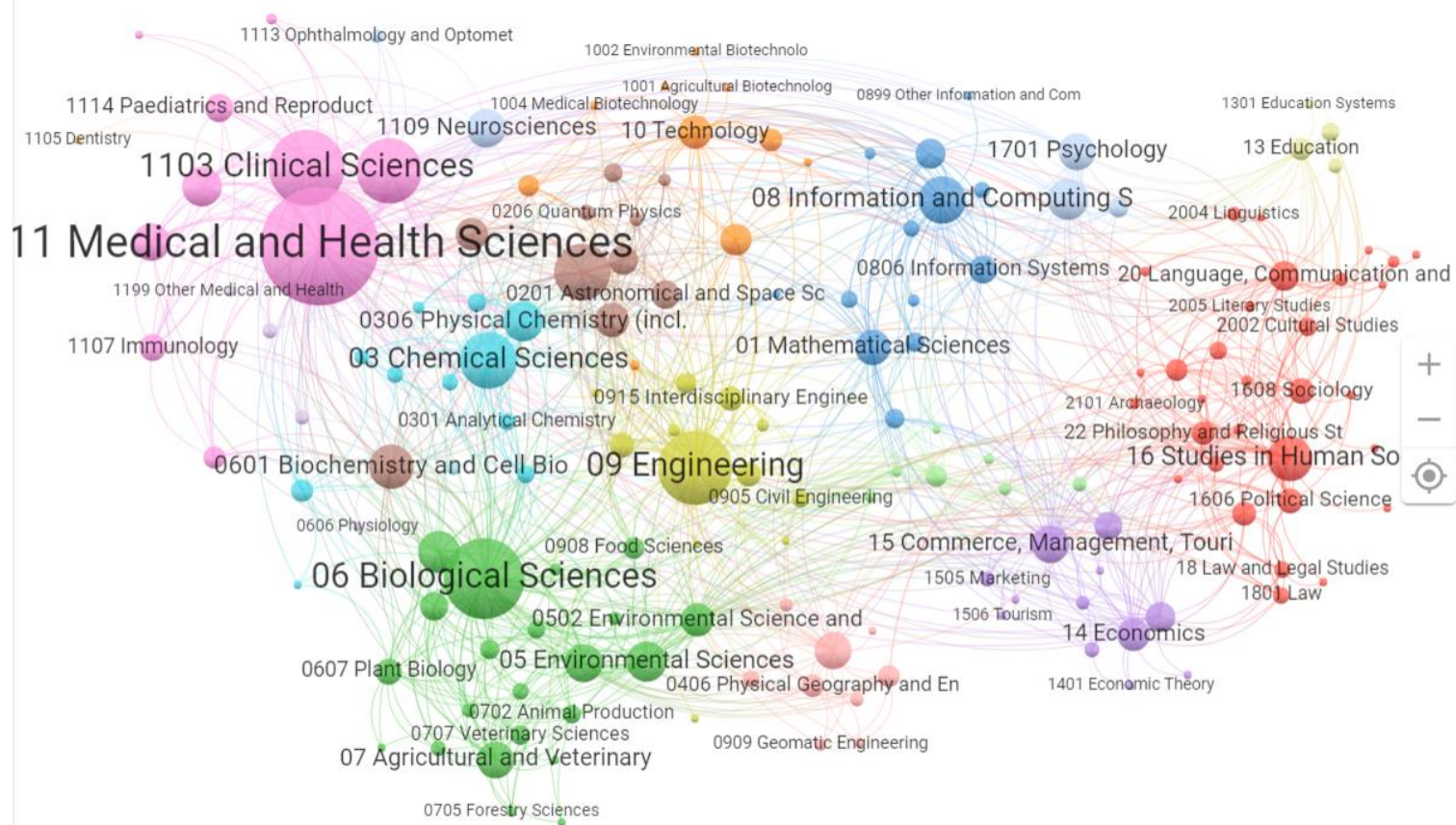


This visualisation shows a **network representation of the connections between the main fields of research covered by Danish publications** (showing by default the top 1000 connections between topics).

Each **node** in the network represents **one field of research** at either the top or second level of the classification system (a publication can be categorised under one or more "Fields of Research (FOR)"). Each **connection** between two nodes represents one or more instances of those **fields of research co-occurring** on one or more publications. The **size of the node** represents the **number of publications** connected to that field of research. The **"thickness" of the connection** represents the **number of publications in which those two fields of research co-occurred**. **Fields of research that are closer to each other in the graph** tend to have more connections with each other than groups of fields of research that are further apart.

This network visualisation was produced using [VOSviewer online](#).





AAU

AU

CBS

DTU

ITU

KU

RUC

SDU

+

-

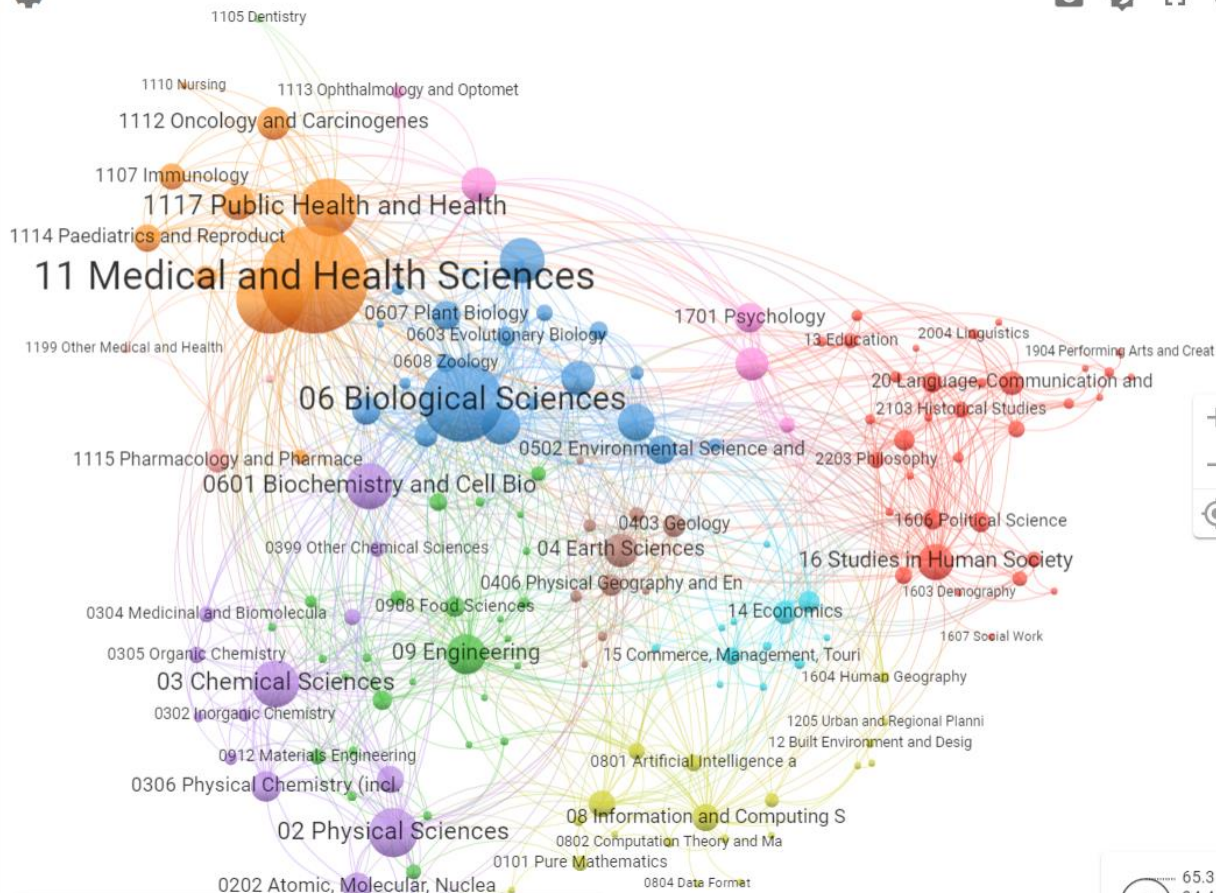
🎯



Items: 162 | Clusters: 16 | Links: 1000 | Total link strength: 218418



Help



Items: 155 | Clusters: 11 | Links: 1000 | Total link strength: 77251

Denmark

AAU

AU

CBS

DTU

ITU

KU

RUC

SDU





Help ?

02 Curatorial and Related St

0909 Geomatic Engineering

0406 Physical Geography and En

04 Earth Sciences

0502 Environmental Science and

0602 Ecology

0699 Other Biological Sciences

0704 Fisheries Sciences

07 Agricultural and Veterinary

0606 Physiology

06 Biological Sciences

0601 Biochemistry and Cell Bio

0915 Interdisciplinary Enginee

0908 Food Sciences

0202 Atomic, Molecular, Nuclea

09 Engineering

0299 Other Physical Sciences

0205 Optical Physics

0301 Analytical Chemistry

0912 Materials Engineering

03 Chemical Sciences

0302 Inorganic Chemistry

0303 Macromolecular and Materi

0307 Theoretical and Computati

1001 Agricultural Biotechnolog

1099 Other Technology

0000 Other Engineering

1499 Other Economics

14 Economics

1801 Law

1402 Applied Economics

16 Studies in Human Society

0104 Statistics

01 Mathematical Sciences

0102 Applied Mathematics

0804 Data Format

1302 Curriculum and Pedagogy

0806 Information Systems

08 Information and Computing S

0803 Computer Software

0801 Artificial Intelligence a

1116 Medical Physiology

0805 Distributed Computing

2201 Applied Ethics

1702 Cognitive Sciences

17 Psychology and Cognitive Sc

20 Language, Communication and

1101 Medical Biochemistry and

1102 Cardiorespiratory Medicin

1107 Immunology

1199 Other Medical and Health

Items: 144 | Clusters: 13 | Links: 1000 | Total link strength: 39713

Denmark

AAU

AU

CBS

DTU

ITU

KU

RUC

SDU



ensions



NORA: International Collaborations Explorer

Continents View

Country View

?

Select a Danish University

(All)

Year Range

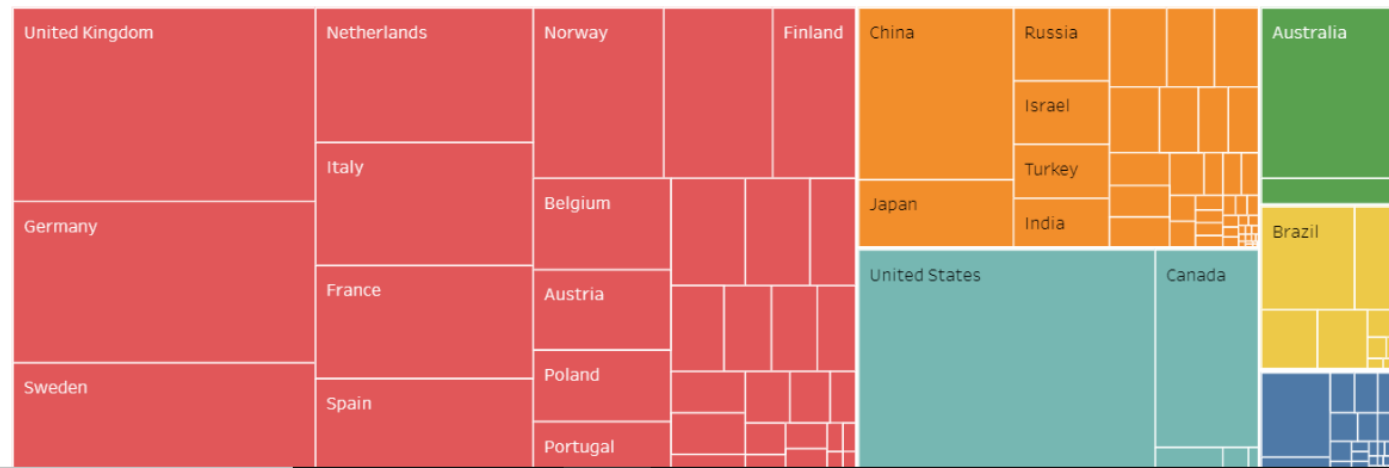
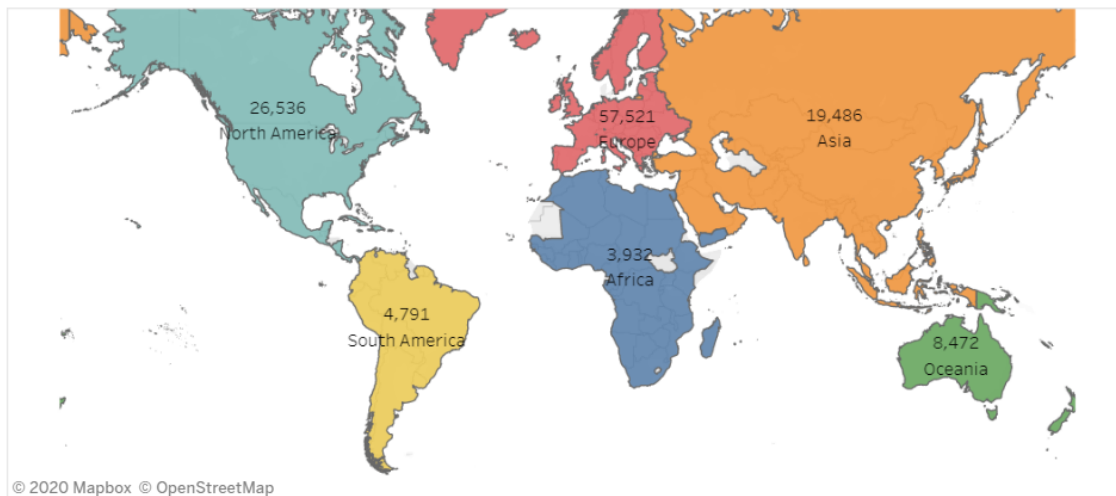


Grouped Topics

- ☒ (All)
- ☐ Health Sciences
- ☐ Humanities
- ☐ Natural Sciences
- ☐ Social Sciences
- ☐ Technical Sciences

Org. Type

- ☒ (All)
- ☐ Healthcare
- ☐ Industry
- ☐ Other
- ☐ Research & Education



Select a Danish University

(All)

Year Range

2014

2019



Grouped Topics

☐ (All)

☐ Health Sciences

☒ Humanities

☐ Natural Sciences

☐ Social Sciences

☐ Technical Sciences

Org. Type

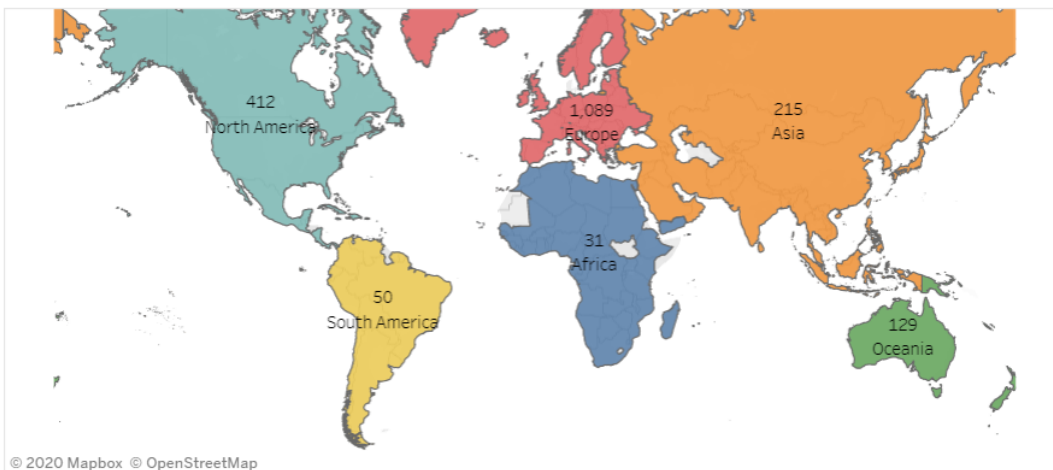
☒ (All)

☐ Healthcare

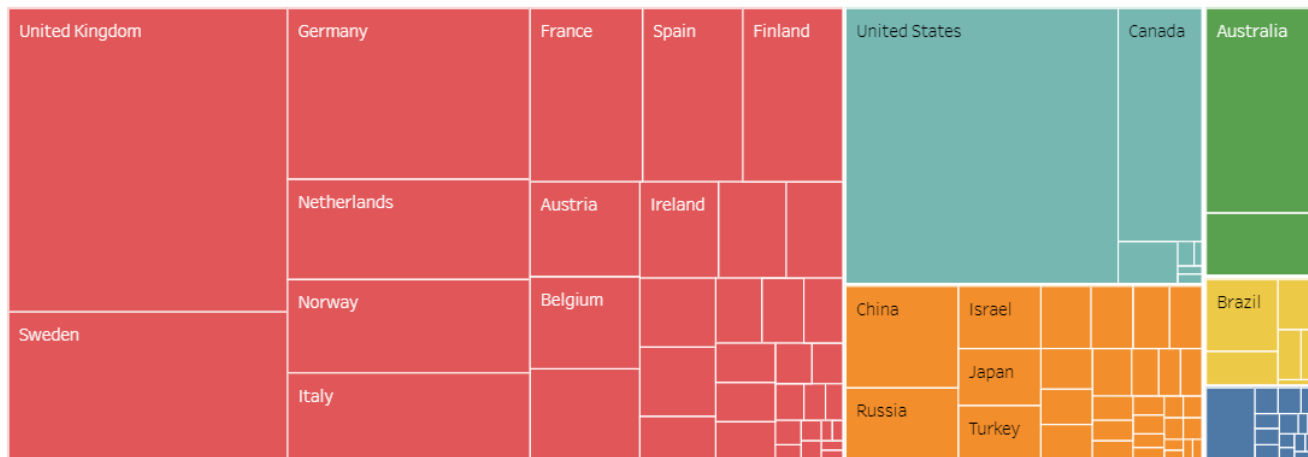
☐ Industry

☐ Other

☐ Research & Education



© 2020 Mapbox © OpenStreetMap



Dimensions



NORA: International Collaborations Explorer

Continents View

Country View



Select a Danish University

(All)

Year Range

2014

2019

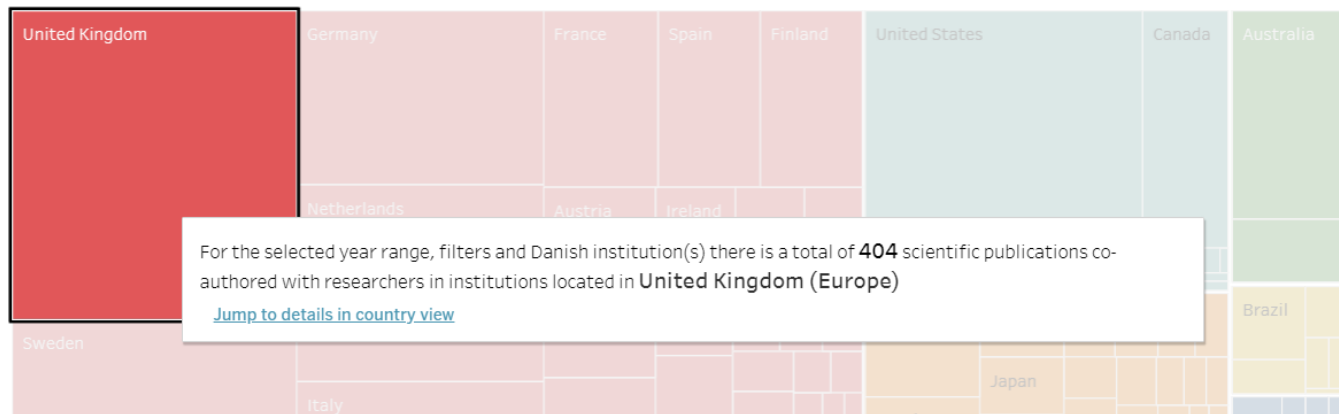
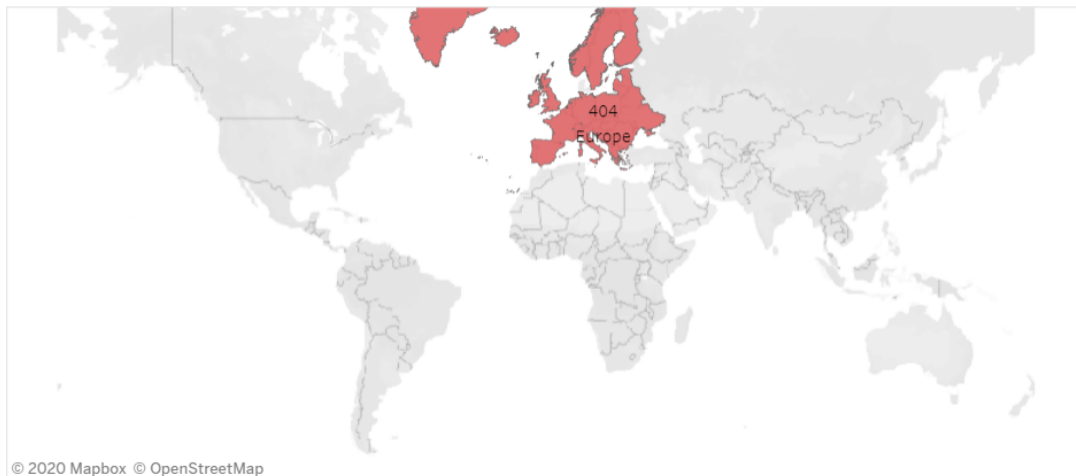


Grouped Topics

- ☐ (All)
- ☐ Health Sciences
- ☒ Humanities
- ☐ Natural Sciences
- ☐ Social Sciences
- ☐ Technical Sciences

Org. Type

- ☒ (All)
- ☐ Healthcare
- ☐ Industry
- ☐ Other
- ☐ Research & Education



NORA: International Collaborations Explorer

[Continents View](#)[Country View](#)

Select a Danish University

(All)

Year Range

2014

2019



Grouped Topics

☐ (All)

☐ Health Sciences

☒ Humanities

☐ Natural Sciences

☐ Social Sciences

☐ Technical Sciences

Org. Types

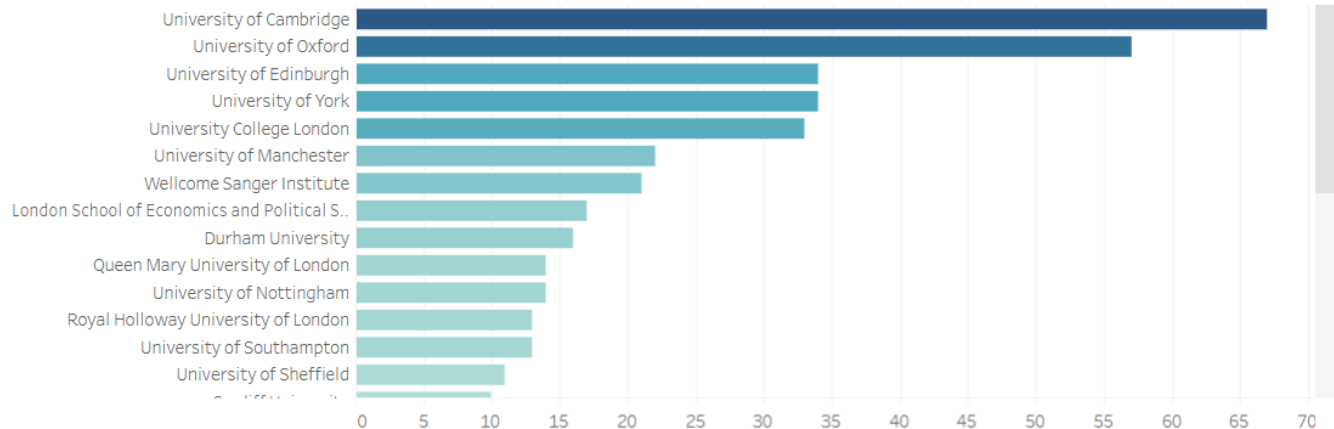
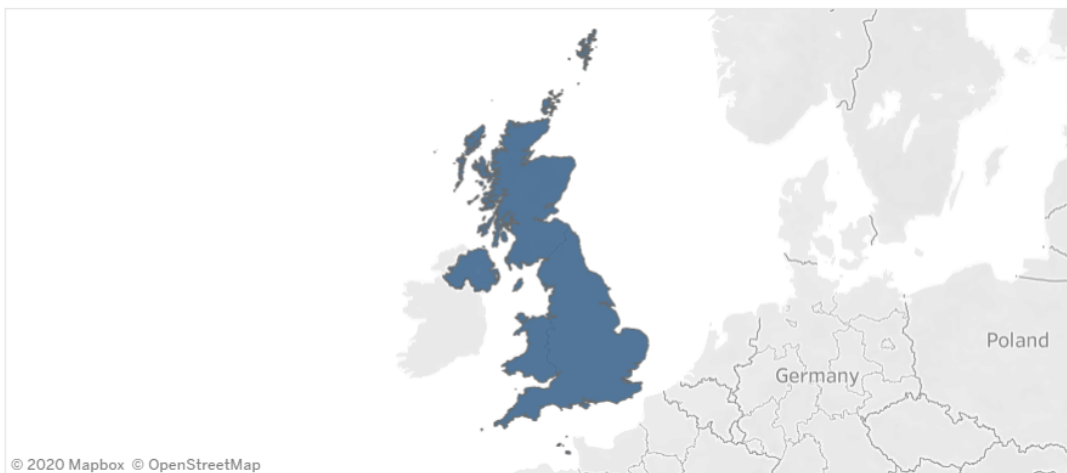
☒ (All)

☐ Healthcare

☐ Industry

☐ Other

☐ Research & Education



NORA: Sustainable Development Goal Profiles



Denmark

Over time

Per university

Per goal

Include publications with open access status (All)

Include publications for the range of years 2014 - 2019

Relative Specialisation

Volume Barchart

Volume Treemap

	Denmark	AAU	AU	CBS	DTU	ITU	KU	RUC	SDU
1 No Poverty	0.05%	0.06%	0.05%	0.20%	0.01%		0.05%	0.36%	0.04%
2 Zero Hunger	0.34%	0.14%	0.29%	0.18%	0.33%		0.55%	0.44%	0.17%
3 Good Health and...	2.82%	2.12%	3.01%	0.43%	1.24%	1.39%	3.77%	1.24%	4.50%
4 Quality Education	0.75%	1.28%	1.00%	0.71%	0.19%	0.50%	0.57%	1.72%	0.87%
5 Gender Equality	0.05%	0.08%	0.06%	0.25%	0.00%		0.04%	0.40%	0.04%
6 Clean Water and...	0.14%	0.11%	0.17%	0.03%	0.23%		0.15%	0.04%	0.04%
7 Aff. and Clean Energy	4.44%	12.10%	2.21%	0.76%	10.87%	1.20%	0.83%	1.96%	1.73%
8 Decent Work and ...	0.41%	0.49%	0.31%	2.46%	0.08%	0.20%	0.34%	1.12%	0.57%
9 Ind. Innov. and Infra.	0.04%	0.07%	0.01%	0.08%	0.05%	0.40%	0.03%	0.24%	0.04%
10 Reduced Inequalities	0.39%	0.39%	0.36%	1.17%	0.06%	0.20%	0.42%	1.08%	0.53%
11 Sustainable Cities ...	0.44%	0.70%	0.29%	0.76%	0.54%	0.60%	0.34%	1.20%	0.47%
12 Resp. Cons. and Prod.	0.30%	0.33%	0.22%	1.04%	0.48%		0.12%	0.36%	0.55%
13 Climate Action	2.25%	3.34%	2.49%	0.58%	3.77%	0.50%	1.68%	1.60%	0.75%
14 Life Below Water	0.23%	0.06%	0.31%	0.05%	0.51%		0.17%	0.32%	0.12%
15 Life on Land	0.27%	0.06%	0.35%	0.03%	0.07%	0.10%	0.50%	0.12%	0.04%
16 Peace and Justice...	0.94%	0.56%	0.97%	4.55%	0.03%	0.90%	1.03%	3.88%	0.92%
17 Partnerships for Goals	0.02%	0.03%	0.01%	0.13%	0.01%		0.01%	0.12%	0.00%
All SDGs	12.68%	18.82%	11.26%	12.45%	16.40%	5.48%	10.11%	14.91%	10.78%



dimensions

NORA: Sustainable Development Goal Profiles



Denmark

Over time

Per university

Per goal

Include publications with open access status (All)

Include publications for the range of years 2014 — 2019

Relative Specialisation

Volume Barchart

Volume Treemap

	Denmark	AUU	AU	CBS	DTU	ITU	KU	RUC	SDU
1 No Poverty	0.05%	0.06%	0.05%	0.20%	0.01%		0.05%	0.36%	0.04%
2 Zero Hunger	0.34%	0.14%	0.29%	0.18%	0.33%		0.55%	0.44%	0.17%
3 Good Health and...	2.82%	2.12%	3.01%	0.43%	1.24%	1.39%	3.77%	1.24%	4.50%
4 Quality Education	0.75%	1.28%	1.00%	0.71%	0.19%	0.50%	0.57%	1.72%	0.87%
5 Gender Equality	0.05%	0.08%	0.06%	0.25%	0.00%		0.04%	0.40%	0.04%
6 Clean Water and...	0.14%	0.11%	0.17%	0.03%	0.23%		0.15%	0.04%	0.04%
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13 Climate Action	2.25%	3.34%	2.49%	0.58%	3.77%	0.50%	1.68%	1.60%	0.75%
14 Life Below Water	0.23%	0.06%	0.31%	0.05%	0.51%		0.17%	0.32%	0.12%
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All SDGs	12.68%	18.82%	11.26%	12.45%	16.40%	5.48%	10.11%	14.91%	10.78%

SDU has a total of 377 publication(s) tagged under SDG 7 Affordable and Clean Energy. This represents approximately 1.73% of the total publications of SDU for the selected year range.

[See publications in NORA Search](#)



The table shows the percentage of SDG-tagged publications per university. Please note that the total % of individual SDGs per university can be greater than the % showing the sum of all

NORA Search

Results:

All types

377

Publications

377

Datasets

0

Grants

0

Patents

0

Clinical trials

0

New Search

GENERAL FILTERS:

- + Years
- + Danish Universities & Hospitals
- + Other Organizations
- + Funders
- + Main Subject Areas
- + Subject Categories
- + Continents
- + Countries

PUBLICATION FILTERS:

- + Publication Types
- + Journals
- + Publishers
- + Open Access
- + Sustainable Development Goals

Search

Record Types: publications X

Danish Universities: SDU X

Sustainable Development Goals: 7 Affordable and Clean Energy X

Sort by year (descending) ▼

[A Fast Online Frequency Adaptation Mechanism for CPG-Based Robot Motion Control](#)

Thor, Mathias , Manoonpong, Poramate

2019, IEEE Robotics and Automation Letters, Article

[Integration of a magnetocaloric heat pump in an energy flexible residential building.](#)

Johra, Hicham , Filonenko, Konstantin , Heiselberg, Per [et al.]

2019, Renewable Energy, Article

[High-efficiency broadband vortex beam generator based on transmissive metasurface.](#)

Tang, Shiwei , Li, Xike , Pan, Weikang [et al.]

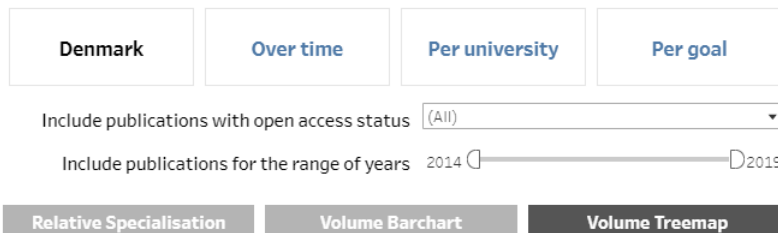
2019, Optics Express, Article

[Waste and material flow analysis in the end-of-life wind energy system](#)

Tazi, Nassaf , Kim, Junghoon , Bouzidi, Youcef [et al.]



?



NORA: Sustainable Development Goal Profiles



Denmark

Over time

Per university

Per goal

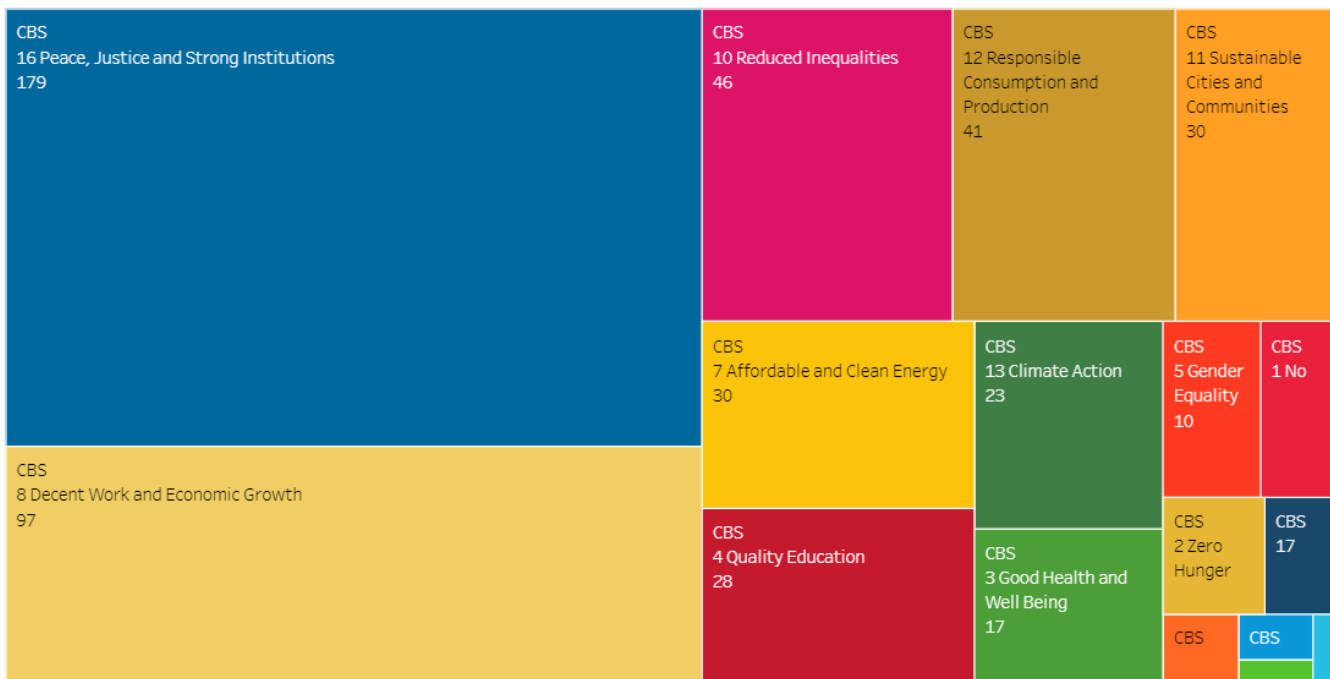
Include publications with open access status (All)

Include publications for the range of years 2014 2019

Select a Danish university CBS

Barchart

Treemap



NORA: Sustainable Development Goal Profiles



Denmark

Over time

Per university

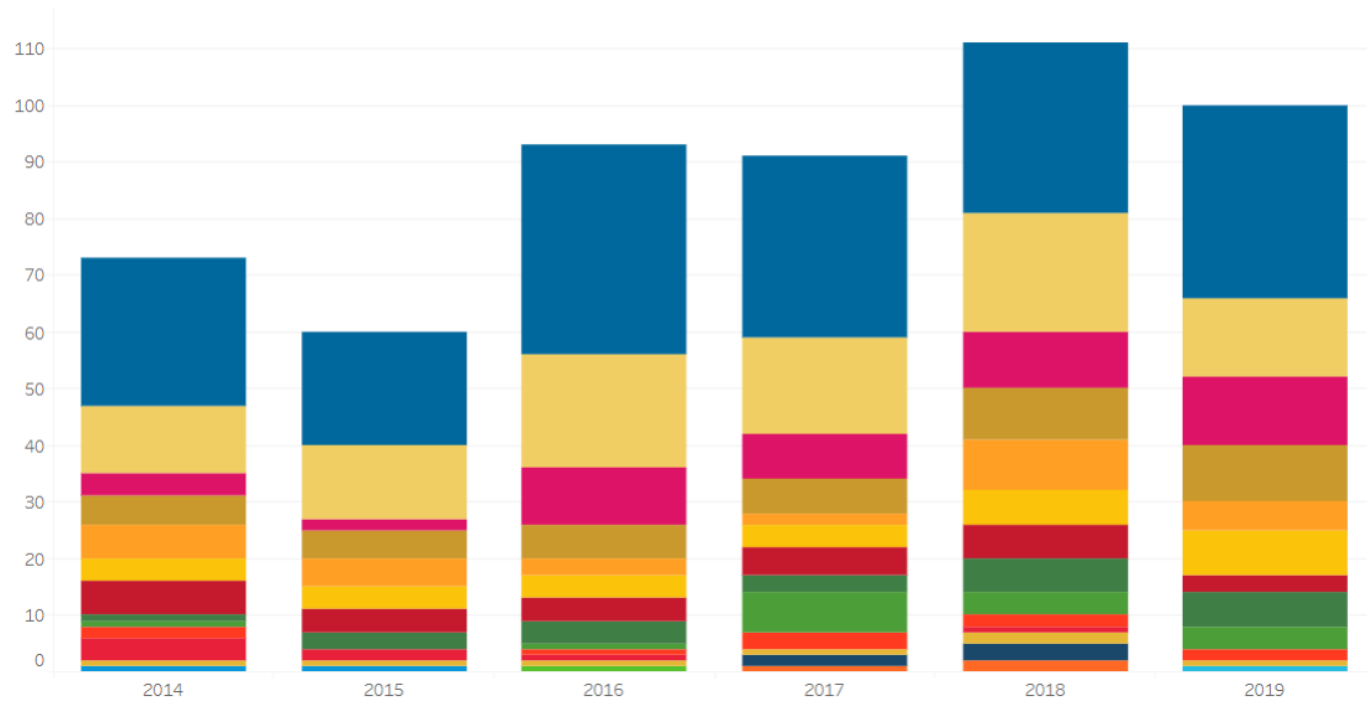
Per goal

Include publications with open access status (All)

Include publications for the range of years 2014 2019

Select a Danish university or show all CBS

Select an SDG or show all (All)



Dimensions

NORA: Sustainable Development Goal Profiles



Denmark

Over time

Per university

Per goal

Include publications with open access status

(All)

Include publications for the range of years

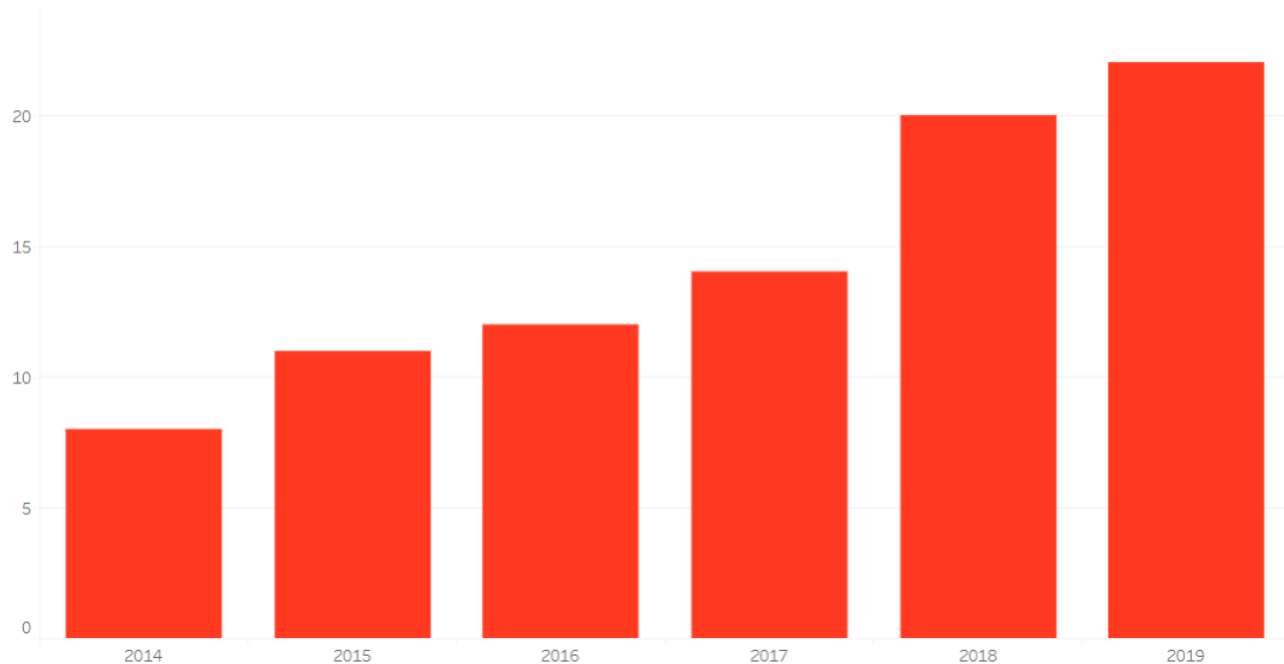
2014 2019

Select a Danish university or show all

(All)

Select an SDG or show all

5 Gender Equality



Challenges: "New" content types

Datasets

11,699

Grants

6,672

Patents

2,728

Clinical trials

4,899



DATASET FILTERS:

- + Repository
- + Retrieval

GRANT FILTERS:

- + Start Year

PATENT FILTERS:

- + Granted Years
- + Original Assignee
- + Jurisdiction
- + Filing Status
- + Legal Status

CLINICAL TRIAL FILTERS:

- + Start Year
- + Sponsor/collaborator
- + Phase

Understand:

- the potentials
- The metadata
- The data gaps
- How to include in visualizations



Have we reached our goals?



Yes, for the
most part

The future

Take a look at NORA: <https://nora.adm.dtu.dk/>

Feedback would be great! → kshi@dtu.dk



Acknowledgements

OPERA - WP3

DTU: Karen Hytteballe Ibanez, Nikoline Dohm Lauridsen, Christina Steensboe, Mogens Sandfær

AAU: Birger Larsen

KB-AU: Lars Lund Thomsen, Kirsten Krogh Kruuse

KB-KUB: Marianne Gauffriau, Adrian Price

AUB: Poul Melchiorsen, Anne Lyhne Høj

CBS: Lene Hald, Claus Rosenkrantz, Lars Nondal, Dicte Madsen

RUC: Kasper Bruun

SDU: Mette Detlevsen, Karen Lindvig



Digital Science, Dimensions

Brian Kirkegaard Lunn

Bo Alroe

Christian Hertzog

Consultants

Brian Lowe, Ontocale

Pedro Parraguez, Dataverz

Franck Falcoz, Vox Novitas

CWTS Leiden (VOSviewer)

Nees Jan van Eck

Ludo Waltman

