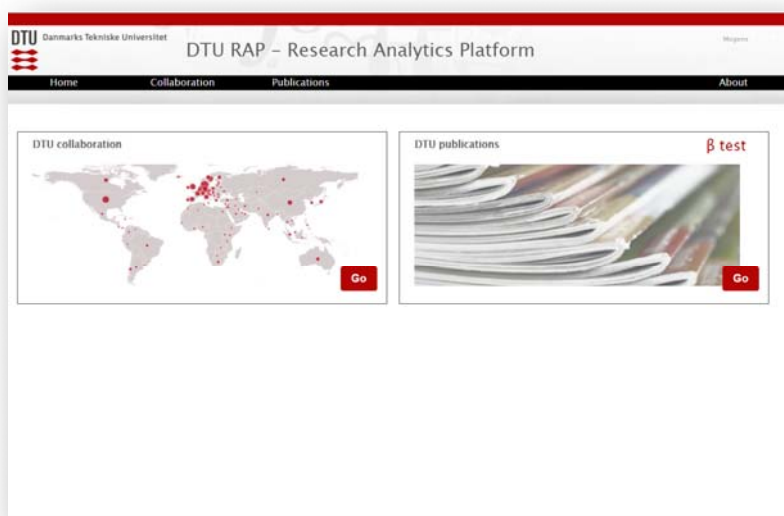


DTU Research Analytics Platform – Collaboration module

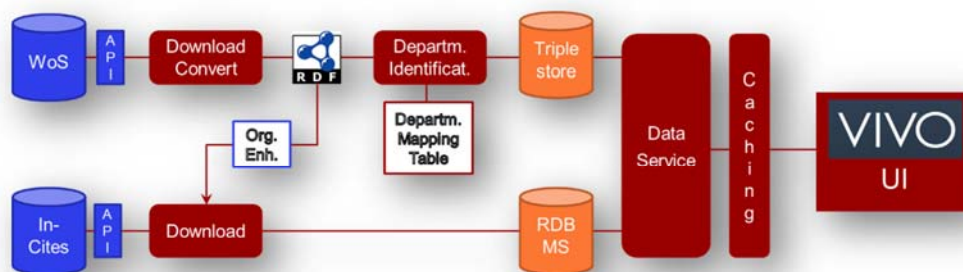
Agenda

1. Introduction
2. Demonstration of the collaboration module
3. Demonstration of the collaboration report (eight sections)

1. Introduction



The DTU Research Analytics Platform (<http://rap.adm.dtu.dk/>) presents data and calculations from Web of Science and InCites in a fast and simple way, adapted to DTU needs and preferences. It is updated monthly – and, hopefully, easy to use. - DTU RAP is open to everyone with a campus login.



We employ two data processing pipelines, one for each of the external databases. General software framework and ontology comes from the VIVO project (Cornell, U Florida, Duke, Stanford etc.). We have contributed open source code to handle the WoS/InCites data and produce the analytical reports. Data-wise, we continuously map the many variants of DTU department names (>2500) to 30 current names (including Administration and Unknown). Development is part of the OPERA project, initially funded by DEFF now by the ministry - see also <http://rap.adm.dtu.dk/vivo/aboutProject>

2. Demonstration of the collaboration module



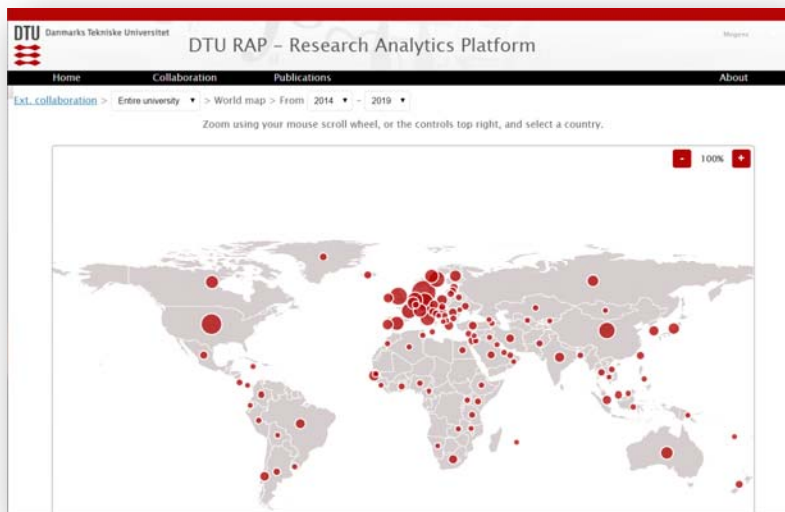
The final product of the Collaboration module is a detailed analytical report of the collaboration between DTU and a chosen partner organization – to view online and exploit the many hyperlinks going deep into certain aspects – or to download as an offline spreadsheet, which may be shared with those that cannot login due to data license conditions.

There are four ways to find and select a partner organization – and this exploration may provide useful insights by itself:

1. Exploring at a world map – zoom and click
2. By list of countries – browse or search
3. By list of organizations – browse or search
4. By list of subjects – browse or search

Moreover, you may explore this for the entire DTU university or for a specific DTU department.

Let's look at the world map:



Note that by default we're looking at the entire university and the latest 5-6 years.

We can zoom in on – for example – Europe, and see that we have 2203 co-publications with Germany during the set timespan.

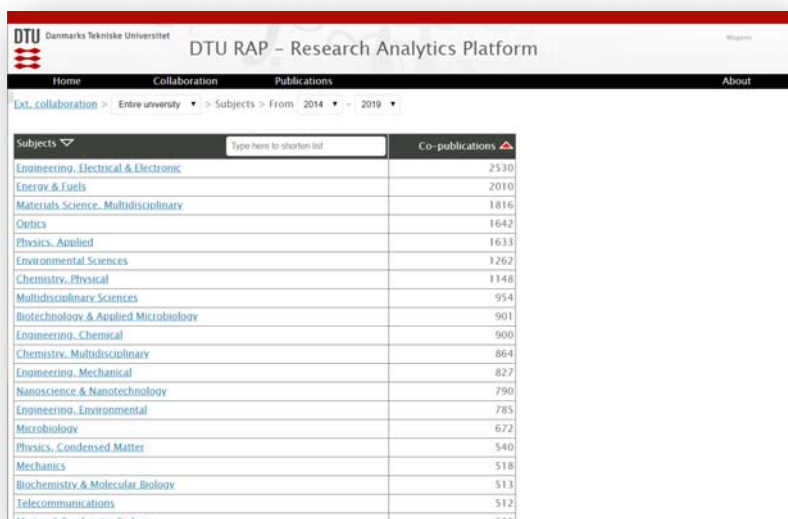
When we change the timespan to 2007-2019, the map is updated and now we see 3846 co-publications with Germany.

When we change the scope to Centre for Oil and Gas, the map is once again updated.

Similarly when we change the scope to DTU Aqua.

You could continue by clicking on a country dot, see the list of partners of that country, and select one of them for the full collaboration report.

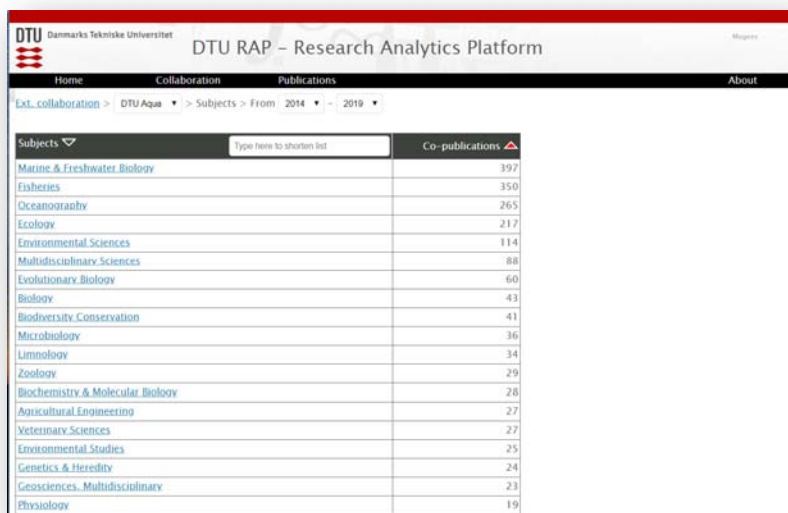
Instead, let's take a look at the list of subjects – during the last 5-6 years



Subjects	Co-publications
Engineering, Electrical & Electronic	2530
Energy & Fuels	2010
Materials Science, Multidisciplinary	1816
Optics	1642
Physics, Applied	1633
Environmental Sciences	1262
Chemistry, Physical	1148
Multidisciplinary Sciences	954
Biotechnology & Applied Microbiology	901
Engineering, Chemical	900
Chemistry, Multidisciplinary	864
Engineering, Mechanical	827
Nanoscience & Nanotechnology	790
Engineering, Environmental	785
Microbiology	672
Physics, Condensed Matter	540
Mechanics	518
Biochemistry & Molecular Biology	513
Telecommunications	512
Marine & Earth System Science	503

If we look at "Energy & Fuels". We see the partner organizations and the number of co-publications – from here we may request a full collaboration report for each one of them.

Instead, if we go back to the list of subjects, we may change the scope to DTU Aqua – and the list is updated to reflect the collaboration subjects of a single department:



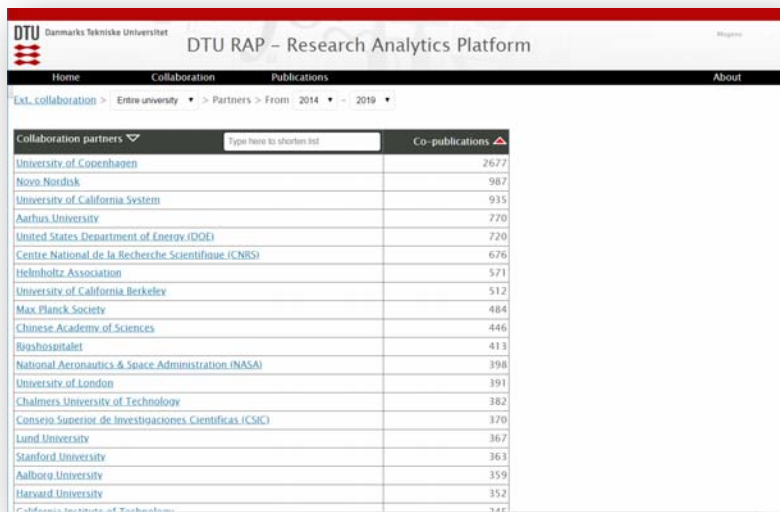
DTU Danmarks Tekniske Universitet DTU RAP – Research Analytics Platform

Home Collaboration Publications About

Ext_collaboration > DTU Aqua > Subjects > From 2014 - 2019

Subjects	Co-publications
Marine & Freshwater Biology	397
Fisheries	350
Oceanography	265
Ecology	217
Environmental Sciences	114
Multidisciplinary Sciences	88
Evolutionary Biology	60
Biology	43
Biodiversity Conservation	41
Microbiology	36
Limnology	34
Zoology	29
Biochemistry & Molecular Biology	28
Agricultural Engineering	27
Veterinary Sciences	27
Environmental Studies	25
Genetics & Heredity	24
Geosciences, Multidisciplinary	23
Physiology	19

Let's take a look at the list of partner organizations:



DTU Danmarks Tekniske Universitet DTU RAP – Research Analytics Platform

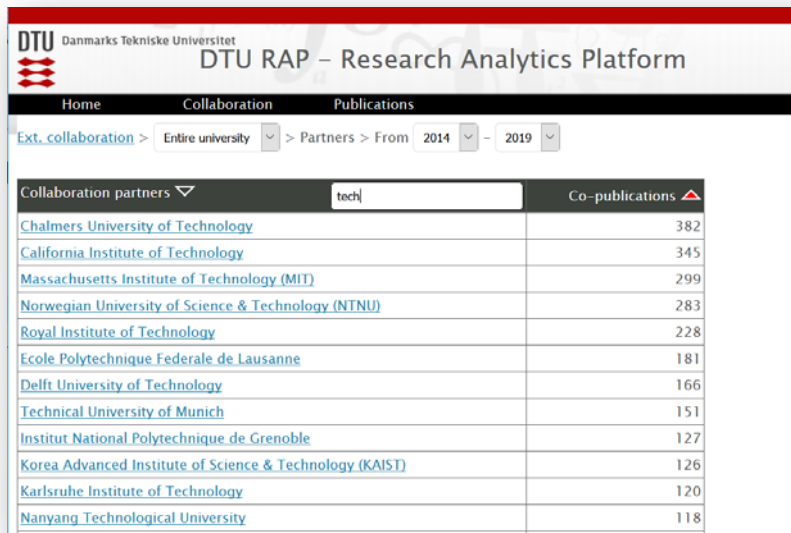
Home Collaboration Publications About

Ext_collaboration > Entire university > Partners > From 2014 - 2019

Collaboration partners	Co-publications
University of Copenhagen	2677
Novo Nordisk	987
University of California System	935
Aarhus University	770
United States Department of Energy (DOE)	720
Centre National de la Recherche Scientifique (CNRS)	676
Helmholtz Association	571
University of California Berkeley	512
Max Planck Society	484
Chinese Academy of Sciences	446
Biossentelet	413
National Aeronautics & Space Administration (NASA)	398
University of London	391
Chalmers University of Technology	382
Consejo Superior de Investigaciones Científicas (CSIC)	370
Lund University	367
Stanford University	363
Aalborg University	359
Harvard University	352
California Institute of Technology	347

A very long list! - Currently 3717 partners listed for the last 5-6 years.

Like with the other lists, we may filter (or search) the list to focus on a single or just a few organizations. If we type "tech", we shorten the list to collaboration partners with "tech" in their name:



DTU Danmarks Tekniske Universitet
DTU RAP – Research Analytics Platform

Home Collaboration Publications

Ext. collaboration > Entire university > Partners > From 2014 - 2019

Collaboration partners	tech	Co-publications
Chalmers University of Technology		382
California Institute of Technology		345
Massachusetts Institute of Technology (MIT)		299
Norwegian University of Science & Technology (NTNU)		283
Royal Institute of Technology		228
Ecole Polytechnique Federale de Lausanne		181
Delft University of Technology		166
Technical University of Munich		151
Institut National Polytechnique de Grenoble		127
Korea Advanced Institute of Science & Technology (KAIST)		126
Karlsruhe Institute of Technology		120
Nanyang Technological University		118

We may also search for “KAIST”

→ reduce the list to a single line

→ and then request the **full collaboration report for KAIST**

3. Demonstration of the collaboration report (eight sections)**0. Header and table of contents**

DTU collaboration report for the timespan **2014** – **2019**

Korea Advanced Institute of Science & Technology (KAIST), South Korea

Collaboration reports cover all DTU departments – for a breakdown by department see section 6

Contents:

- [1. Collaboration overview](#)
- [2. Compare key output and impact indicators](#)
- [3. Compare annual publication and co-publication output](#)
- [4. Compare partner's top subjects with DTU and co-publications](#)
- [5. Compare top collaboration subjects with partner and DTU subjects](#)
- [6. Collaboration by DTU department](#)
- [7. Collaboration by DTU researcher \(top 20\)](#)
- [8. Collaboration by funder \(top 20\)](#)
- [9. Notes and hints](#)

The header displays the timespan of the report.

If you prefer another timespan – longer or shorter – simply use the drop downs, and a revised report is generated.

Often you will set a timespan matching a pre-cached report – and experience immediate response in spite of the high number of calculations needed.

In other cases you'll have to wait half a minute or so – for the server to prepare the report.

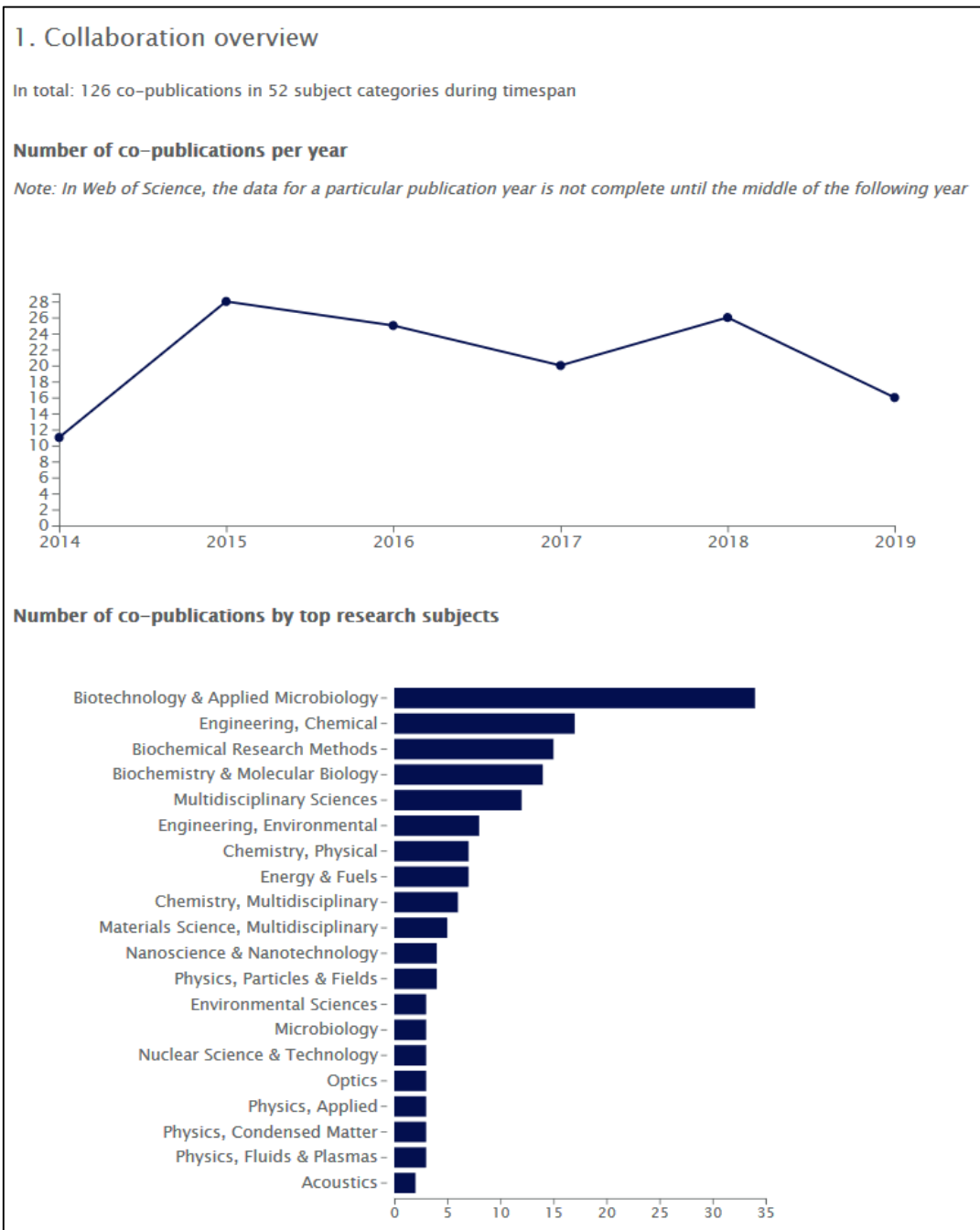
From the table of contents, you may jump directly to a particular section of interest – for example section 6, if you're interested in the breakdown by department.

Let's take a look at the sections of the report, one by one:

1. Collaboration overview

Quick overview of the collaboration:

- How many co-publications year-by-year
- How many subject categories (out of 250 in total)?
- What are the most popular subject categories?



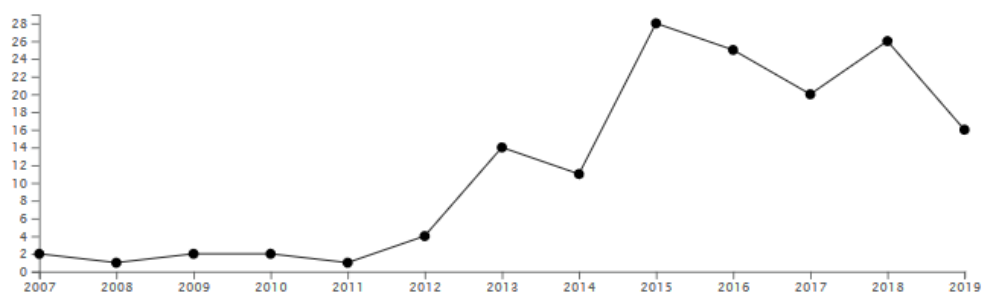
Let's reset the timespan to the full period 2007-2019 – and see how the overview changes:

1. Collaboration overview

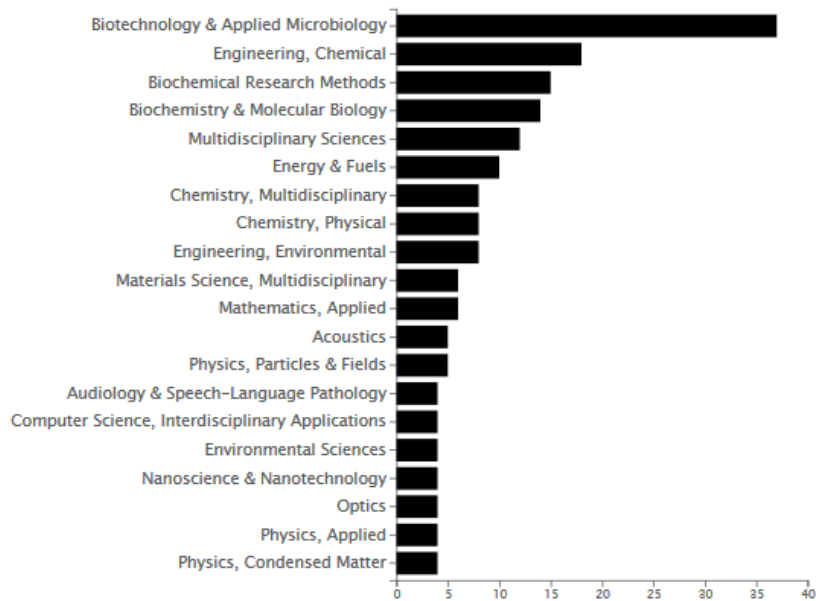
In total: 152 co-publications in 62 subject categories during timespan

Number of co-publications per year

Note: In Web of Science, the data for a particular publication year is not complete until the middle of the following year



Number of co-publications by top research subjects



- Has the strategic partnership affected the collaboration output?

2. Compare key output and impact indicators

Compare DTU and the chosen partner in the chosen timespan:

- How many publications and citations?
- How are they doing wrt. citation impact – simple and normalized?
- How are they doing wrt. excellence – proportion of publications in top 10% and top 1% most cited?
- How much are they collaborating – internationally and with industry?

2. Compare key output and impact indicators

Indicator	Partner	DTU
Number of publications	39 716	41 165
Number of citations	564 042	804 466
Simple citation impact (citations / publication)	14.2	19.5
Normalised citation impact (global average 1.0) ⁱ	1.14	1.59
% of publications in top 10% most cited ⁱ	12.2%	17.8%
% of publications in top 1% most cited ⁱ	1.4%	2.6%
% of publications with industry collaboration	6.1%	7.0%
% of publications with international collaboration	24.9%	56.5%

3. Compare annual publication and co-publication output

Year by year:

- How many publications from the two universities and how many co-publications?

3. Compare the annual publication and co-publication output

Year	Partner pubs	DTU pubs	Co-pubs
2007	2 438	2 318	2
2008	2 544	2 237	1
2009	2 729	2 452	2
2010	2 960	2 637	2
2011	3 003	2 992	1
2012	3 107	3 057	4
2013	3 317	3 401	14
2014	3 497	3 705	11
2015	3 714	4 021	28
2016	3 845	4 205	25
2017	3 712	4 454	20
2018	3 625	4 153	26
2019	1 225	1 533	16

4. Compare partner's top subjects with DTU and co-publications

Top subjects of the partner, of DTU and of the resulting co-publications:

- Sort by partner to see the partner's top 20 subjects.
- And how they rank on the DTU side?
- Are we collaborating in the partner's top 20 subjects, or outside?

4. Compare partner's top subjects with DTU and co-publications

Partner's top 20 subjects	Partner ▼		DTU ▼		Co-pubs
	Pubs	Rank	Pubs	Rank	
Engineering, Electrical & Electronic	8 951	1	4 734	1	3
Materials Science, Multidisciplinary	5 856	2	3 366	3	6
Physics, Applied	4 778	3	3 419	2	4
Chemistry, Multidisciplinary	3 799	4	1 500	11	8
Nanoscience & Nanotechnology	3 315	5	1 600	10	4
Chemistry, Physical	3 256	6	2 301	6	8
Telecommunications	2 856	7	1 059	17	0
Optics	2 412	8	3 365	4	4
Computer Science, Information Systems	1 819	9	473	52	1
Physics, Condensed Matter	1 726	10	1 196	16	4
Computer Science, Artificial Intelligence	1 694	11	572	39	0
Computer Science, Theory & Methods	1 610	12	949	21	1
Engineering, Mechanical	1 467	13	1 484	12	1
Energy & Fuels	1 457	14	3 193	5	10
Biotechnology & Applied Microbiology	1 191	15	1 757	8	37
Biochemistry & Molecular Biology	1 125	16	1 230	15	14
Engineering, Chemical	1 040	17	1 698	9	18
Instruments & Instrumentation	1 022	18	660	32	2
Automation & Control Systems	1 016	19	446	55	2
Computer Science, Hardware & Architecture	958	20	338	65	0

5. Compare top collaboration subjects with partner and DTU subjects

Looking at the top 20 subjects of the co-publications:

- How do they match the top 20 of the partner?
- How do they match the top 20 of DTU?
- You may follow links to review the co-publications of each subject category

5. Compare top collaboration subjects with partner and DTU subjects

Collaboration top 20 subjects	Co-pubs	Partner rank	DTU rank
Biotechnology & Applied Microbiology	37	15	8
Engineering, Chemical	18	17	9
Biochemical Research Methods	15	33	23
Biochemistry & Molecular Biology	14	16	15
Multidisciplinary Sciences	12	90	106
Energy & Fuels	10	14	5
Chemistry, Multidisciplinary	8	4	11
Chemistry, Physical	8	6	6
Engineering, Environmental	8	59	14
Materials Science, Multidisciplinary	6	2	3
Mathematics, Applied	6	42	46
Acoustics	5	56	43
Physics, Particles & Fields	5	64	121
Audiology & Speech-Language Pathology	4	134	80
Computer Science, Interdisciplinary Applications	4	24	27
Environmental Sciences	4	49	7
Nanoscience & Nanotechnology	4	5	10
Optics	4	8	4
Physics, Applied			
Physics, Condensed Mat			

Co-publications by category Biochemistry & Molecular Biology – DTU and Korea Advanced Institute of Science & Technology (KAIST)

14 total co-publications

[The antiSMASH database version 2: a comprehensive resource on secondary metabolite biosynthetic gene clusters](#) 2019-01-08

FULL TEXT VIA DOI: [10.1093/NAR/GKY1060](#) WEB OF SCIENCE: [WOS:000462587400087](#)

REFERENCES: [18](#) CITATIONS: [5](#)

[Systematic discovery of uncharacterized transcription factors in Escherichia coli K-12 MG1655](#) 2018-11-16

FULL TEXT VIA DOI: [10.1093/NAR/GKY752](#) WEB OF SCIENCE: [WOS:000456709700018](#)

REFERENCES: [79](#) CITATIONS: [3](#)

[Systems assessment of transcriptional regulation on central carbon metabolism by Cra and CRP](#) 2018-04-06

FULL TEXT VIA DOI: [10.1093/NAR/GKY069](#) WEB OF SCIENCE: [WOS:000429009500020](#)

REFERENCES: [61](#) CITATIONS: [7](#)

[The power of synthetic biology for bioproduction, remediation and pollution control: The UN's Sustainable Development Goals will inevitably require the application of molecular biology and biotechnology on a global scale](#) 2018-04-01

6. Collaboration by DTU department

Listing all the DTU departments involved in the collaboration:

- How many co-publications for each department?
- Expand to see the departments involved on the partner side.
- Follow link to see a list of a particular department's co-publications:
 - Title of publications, involved researchers on DTU side as well as partner side.
 - Link to all details about a single publication and its citations.

DTU department	Co-pubs	Partner departments
DTU Biosustain	63	Expand to show details
DTU Environment	18	Expand to show details
DTU Physics	16	Expand to show details
DTU Chemical E		
DTU Compute		
DTU Electrical E		
DTU Nanotech		
DTU Space		
DTU departmen		
DTU Bioenginee		
DTU Chemistry		
DTU Mechanica		
DTU Systems Biology	3	Expand to show details
DTU Energy	2	Expand to show details
DTU Food	2	Expand to show details

DTU Physics	16	Collapse to hide details
	8	Dept Nucl & Quantum Engn
	3	Dept Chem
	3	Dept Chem & Biomol Engn
	2	Ctr Time Resolved Diffract
	1	Dept Nucl Quantum Engn
	1	Grad Sch Energy Environm Water & Sustainabil EEWS

Collaboration by department - DTU and Korea Advanced Institute of Science & Technology (KAIST)

3 co-publications for DTU Physics and Dept Chem, [Korea Advanced Institute of Science & Technology (KAIST)]

[Atomistic characterization of the active-site solvation dynamics of a model photocatalyst](#) 2016-11-28

FULL TEXT VIA DOI: [10.1038/ncomms13678](https://doi.org/10.1038/ncomms13678) WEB OF SCIENCE: [WOS:000388643800001](https://www.webofscience.com/wos/doi/000388643800001)

REFERENCES: 39 CITATIONS: 20

DTU Physics	Dept Chem
Kjaer, Kasper S. Nielsen, Martin M. van Driel, Tim B. Christensen, Morten Harlang, Tobias Haldrup, Kristoffer	Kim, Kyung Hwan Ihee, Hyotcherl Kim, Jong Goo

[Filming the Birth of Molecules and Accompanyin](#)

FULL TEXT VIA DOI: [10.1021/ja312513w](https://doi.org/10.1021/ja312513w) WEB OF SCIENCE: [WOS:000388643800001](https://www.webofscience.com/wos/doi/000388643800001)

REFERENCES: 53 CITATIONS: 33

DTU Physics	Dept Chem
Moller, Klaus B. Petersen, Jakob	Lee, Jae Hyuk Ihee, Hyotcherl Kim, Jeongho

Atomistic characterization of the active-site solvation dynamics of a model photocatalyst

van Driel, TB (van Driel, Tim B.)^[2, 1] Kim, JG (Kim, Jong Goo)^[9, 8] Haldrup, K (Haldrup, Kristoffer)^[1]
 Kim, KH (Kim, Kyung Hwan)^[9, 12, 8] Ihee, H (Ihee, Hyotcherl)^[9, 8] Kim, J (Kim, Jeongho)^[10]
 Lemke, H (Lemke, Henrik)^[13, 2] Sun, Z (Sun, Zheng)^[3] Sundstrom, V (Sundstrom, Villy)^[4]
 Zhang, WK (Zhang, Wenkai)^[14, 3] Zhu, DL (Zhu, Diling)^[2] Kjaer, KS (Kjaer, Kasper S.)^[4, 1, 3]
 Moller, KB (Moller, Klaus B.)^[5] Nielsen, MM (Nielsen, Martin M.)^[1] Gaffney, KJ (Gaffney, Kelly J.)^[3]
 Hartsock, RW (Hartsock, Robert W.)^[3] Dohn, AO (Dohn, Asmus O.)^[11, 5] Harlang, T (Harlang, Tobias)^[4, 1]
 Chollet, M (Chollet, Matthieu)^[2] Christensen, M (Christensen, Morten)^[1] Gawelda, W (Gawelda, Wojciech)^[7, 6]
 Henriksen, NE (Henriksen, Niels E.)^[5]

NATURE COMMUNICATIONS

Volume: 7 ISSN: 2041-1723 DOI: [10.1038/ncomms13678](https://doi.org/10.1038/ncomms13678) Published: NOV 28 2016

Web of Science: [WOS:000388643800001](https://www.webofscience.com/wos/doi/000388643800001) References: 39 Citations: 20

Abstract

The interactions between the reactive excited state of molecular photocatalysts and surrounding solvent dictate reaction mechanisms and pathways, but are not readily accessible to conventional optical spectroscopic techniques. Here we report an investigation of the structural and solvation dynamics following excitation of a model photocatalytic molecular system [Ir-(2(dimen)4)](2+), where dimen is para-

7. Collaboration by DTU researcher (top 20)

Listing the 20 most active DTU researchers in this collaboration in this timespan:

- How many co-publications for each researcher?
- Expand to see the researchers involved on the partner side.
- Follow link to all the co-publications of a particular researcher.

7. Collaboration by DTU researcher (top 20)

DTU researcher	Co-pubs	Partner researcher
Lee, Sang Yup	34	Expand to show details
Weber, Tilmann	17	Expand to show details
Kildegaard, Helene Fastrup	15	Expand to show details
Kim, Hyun Uk	15	Expand to show details
Lee, Gyun Min	15	Expand to show details
Hwang, Yu-Hoon	14	Expand to show details
Gani, Rafiqul	11	Expand to show details
Andersen, Henrik Rasmus	10	Expand to show details
Palsson, Bernhard O.	10	Expand to show details
Blin, Kai	9	Expand to show details

Jacobsen, A. S.

Leipold, Frank

Naulin, Volker

Nielsen, Anders Henry

Rasmussen, Jens Juul

Salewski, Mirko

Thrysoe, Alexander S.

Kol, Stefan

Christensen, Ole Bossing

Hansen, Henning Gram

Palsson, Bernhard O.	10	Collapse to hide details
	6	Cho, Byung-Kwan
	3	Lee, Sang Yup
	2	Cho, Suhjung
	1	Cho, Yoo-Bok
	1	Hwang, Kyu-Sang
	1	Hwang, Soonkyu
	1	Kim, Hyun Uk
	1	Kim, Sun Chang
	1	Lee, Gyun Min
	1	Lee, Namil
	1	Lee, Yongjae
	1	Park, Jin Hyoung

8. Collaboration by funder (top 20)

Listing the 20 most used funders in this collaboration in this timespan. NB:

- Not all publications provide funding details.
- Funder names are not (yet) normalized, but Clarivate is working to achieve this soon.

8. Collaboration by funder (top 20)	
Funder	Co-pubs
NNF Center for Biosustainability	28
Novo Nordisk Fonden	28
NOVO Nordisk Foundation	14
Ministry of Education, Science and Technology	9
EURATOM research and training programme	7
Ministry of Science, ICT and Future Planning (MSIF) through the National Research Foundation (NRF) of Korea	6
Basic Science Research Program through the National Research Foundation of Korea (NRF) - Ministry of Education	3
Biotechnology and Biological Sciences Research Council	3
Spanish MINECO	3
Technology Development Program to Solve Climate Changes on Systems Metabolic Engineering for Biorefineries from the Ministry of Science, ICT and Future Planning (MSIF) through the National Research Foundation (NSF) of Korea	3
Bio-Synergy Research Project of the Ministry of Science, ICT and Future Planning through the National Research Foundation	2
C1 Gas Refinery Program through the National Research Foundation of Korea (NRF) - Ministry of Science, ICT & Future Planning	2
EPSRC	2
EURATOM research and training programme 2014-2018	2
GRL	2
Global Frontier Program	2
IWT	2
Inha University Research Grant	2
Intelligent Synthetic Biology Center of Global Frontier Project - MEST, Republic of Korea	2
NICMS NIH HHS	2

Download Excel

In the upper right corner of the collaboration report it is possible to click "Download Excel" to download the collaboration report for further analysis, formatting, print, etc.