



AALBORG UNIVERSITY
DENMARK

Department of Materials and Production

2013-2017

Publication Analysis



The VBN Team
Aalborg University Library / June 2018

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Summary

The department preferably publishes peer-reviewed research in English in journal articles and conference proceedings. The number of publications is slightly increasing over the period, and so is the utilization rate of the potential for BFI points and Scopus indexing. There is a tendency to have more co-authors.

The most commonly used subject areas from Scopus are "Engineering", "Computer Science" and "Physics and Astronomy". A quarter (26%) of the department's publications in Scopus is in the top 10% with regard to the impact of the publication channel (SNIP). Half (51%) of the publications are with international collaboration, with a level of 58% above the world average in terms of impact at the publication level (FWCI).

The proportion of publications at BFI level 2 is status quo over the period and is above AAU level. The share of publications in journals over the world average in terms of the normalized impact of the journal (SNIP) is more or less status quo.

Introduction

The purpose of this report is to trace the development of the Department's scientific production and cooperation. The report takes a closer look at the Department's research production and cooperation in terms of quantity, types of publication, and levels of impact. This mapping is based on the Department's own upload of data in VBN. Publications included in the analysis, are from the period 2013-2017.

The report represents a snapshot of the Department's publications, and may as such be useful for pointing out new, surprising contexts and lead to discussions about strategy and cooperation.

The bibliometric indicators in the analysis cannot stand alone, but serve as supplementary information for more in-depth, qualitative analyses. Please notice that VBN, Scopus and Scival are dynamical systems, which means that the number of publications as well as information on impact may vary.

The report is prepared by the VBN-editorial office, Aalborg University Library.

Method

The Department's publications are identified in Pure via departmental affiliation during the period in question. Using Scopus publication IDs, VBN content can be matched with the contents in Scopus. This match is further improved by Scopus' reporting tool - SciVal. The report's impact figures are derived from content calculations in the citation database Scopus. Furthermore, the publications are categorized according to the Bibliometric Research Indicator (BFI).

Tools

Scopus is a bibliographic database that contains abstracts and citations of peer-reviewed journal articles. Traditionally, natural sciences, health sciences, and to some extent engineering, are better represented in Scopus than the social sciences and the humanities. The number of indexed journals and book series expands continuously, and it is possible to make suggestions for indexation of new content.¹

SciVal is a reporting tool used for analysis of data in Scopus. It is possible to make benchmark- and collaborative analyses based on publication- and citation data in Scopus. In addition, it provides a good overview of the publications of both organizations and individuals. As SciVal is integrated with Pure, organizations and authors in Pure can be located in SciVal for further analysis.

Definitions

Field-Weighted Citation Impact (FWCI)

The analysis makes use of the Field-Weighted Citation Impact indicator, which measures the number of citations from a set of publications compared to the average number of citations for similar publications in Scopus.² A FWCI over one (1) indicates that you receive more citations than the world's average within a given scientific field.

¹ <https://www.elsevier.com/solutions/scopus/content> - viewed April 17th, 2018

² <http://libguides.usc.edu.au/researchmetrics/researchmetrics-field-weighted-citation-impact> - viewed April 17th, 2018

CiteScore

The calculation of CiteScore is simple, and is based on the average number of citations received per publication. The CiteScore is the number of citations received annually by a journal regarding publications that were published during the previous three years, divided by the number of publications published in the journal during the same period.



Source Normalized Impact per Paper (SNIP)

SNIP measures the contextual citation impact of a journal by weighting citations based on the total number of citations within a scientific field. This enables you to make a direct comparison of sources within different scientific fields.

SNIP takes the characteristics of the journal's subject fields into account - i.e. the set of documents that refers to the source in question. SNIP pays special attention to:

- The frequency with which authors mention other papers in their reference lists
- The impact maturity time of the citation
- The extent to which the database used for assessment covers the literature of the field

SNIP is the relationship between the average number of citations of a source per article and the citation potential within its scientific field. A SNIP over one (1) indicates that you receive more citations than the world's average within a given scientific field.

Outputs in Top Journal Percentiles

Different percentiles can be used e.g. 10% or 1%. Often, SNIP is used as a yardstick for such analyses. Outputs - i.e. publications - can either be specified as number of publications or as percentage.

For example - the Department has 17% in the top 10% of the journals listed by SNIP. Thus, if SNIP is used for measuring the impact factor of the journals, 17 % of the Department's publications appear in the 10% highest ranking journals.

The Danish Bibliometric Research Indicator

The Danish Bibliometric Research Indicator (BFI) is part of the performance-based model for the distribution of new base funding for universities in Denmark. By means of BFI, funds are allocated on the basis of the allocation of research publications to the universities.³ BFI rewards publication in the most prestigious and recognised journals and publishing houses.

³ <https://bfi.fi.dk/> -viewed April 17th, 2018

Overview of indicators

Indicator	Types of publication	Time of impact	Normalized
Number of publications	All	Publication	No
FWCI	Articles	After publication	Full
CiteScore	Articles	Publication	In part
SNIP	Articles	Publication	In part
Outputs in Top Journal Percentiles	Articles	Publication	In part
BFI	Articles, books, chapters in books, and conference papers	Publication	In part

Reservations

Scopus coverage and citation behaviour among researchers vary greatly within the different academic disciplines. Therefore, it would be misleading to make an immediate comparison of publication reports across departments.

With regard to BFI and Scopus, it should be noted that 2017 may differ with a few percent from the final figure.

The figures of the analysis are not normalized in terms of the academic staff full-time equivalent. As such, any comparisons across departments could give misleading results.

Publications

Publication categories and types

What types of publications does the department publish? The table below shows the use of different publication types from the department's publication report during the period 2013-2017. The list also shows to what extent the publications are peer reviewed or not. Certain publications, however, have no information regarding peer reviewing. This holds for e.g. doctoral theses, PhD theses, research-based dissemination, and teaching material.

Total of publication categories 2013-2017

Publication category	Peer-reviewed	Department of Materials and Production
Research	Not peer-reviewed	66
Research	Peer-reviewed	1559
Research	-	73
Communication	-	30
Education	Not peer-reviewed	2
Commissioned	-	1

Types of publications 2013-2017

Type	Publication category	Peer-reviewed	2013	2014	2015	2016	2017
Contribution to journal - Journal article	Research	Not peer-reviewed	2	2	2		2
Contribution to journal - Journal article	Research	Peer-reviewed	135	111	147	150	150
Contribution to journal - Journal article	Communication	-	2	2	6		4
Contribution to journal - Conference article in Journal	Research	Peer-reviewed		4	5	6	19
Contribution to journal - Letter	Research	Peer-reviewed	1			1	1
Contribution to journal - Review article	Research	Peer-reviewed		1		2	3
Contribution to journal - Literature review	Research	Not peer-reviewed			3	1	
Contribution to journal - Literature review	Research	Peer-reviewed			2		
Contribution to journal - Editorial	Research	Not peer-reviewed			1		
Contribution to journal - Editorial	Research	Peer-reviewed	1	3	5	5	5
Contribution to journal - Comment/debate	Research	Peer-reviewed		2	1		1
Contribution to journal - Conference abstract in journal	Research	Peer-reviewed	1	7	3	3	4
Book/anthology/thesis/report/conference proceeding - Book	Research	Not peer-reviewed	2		1		
Book/anthology/thesis/report/conference proceeding - Book	Research	Peer-reviewed	3	2	1	2	1
Book/anthology/thesis/report/conference proceeding - Book	Communication	-		1	1	2	
Book/anthology/thesis/report/conference proceeding - Anthology	Research	Not peer-reviewed		1			
Book/anthology/thesis/report/conference proceeding - Anthology	Research	Peer-reviewed	3	4	4	1	3

Publication Analysis, Department of Materials and Production, 2013-2017

Book/anthology/thesis/report/conference proceeding - Report	Research	Not peer-reviewed	2		2	2	1
Book/anthology/thesis/report/conference proceeding - Report	Research	Peer-reviewed	3	1	2	2	1
Book/anthology/thesis/report/conference proceeding - Report	Communication	-			1		
Book/anthology/thesis/report/conference proceeding - Ph.D. thesis	Research	-	10	12	11	20	15
Contribution to book/anthology/report/conference proceeding - Book chapter	Research	Not peer-reviewed	1			1	
Contribution to book/anthology/report/conference proceeding - Book chapter	Research	Peer-reviewed	25	23	29	15	9
Contribution to book/anthology/report/conference proceeding - Book chapter	Communication	-	1		1		
Contribution to book/anthology/report/conference proceeding - Report chapter	Communication	-			1		
Contribution to book/anthology/report/conference proceeding - Article in proceeding	Research	Not peer-reviewed	1	1	2	1	1
Contribution to book/anthology/report/conference proceeding - Article in proceeding	Research	Peer-reviewed	107	102	81	74	74
Contribution to book/anthology/report/conference proceeding - Article in proceeding	Communication	-					1
Contribution to book/anthology/report/conference proceeding - Conference abstract in proceeding	Research	Not peer-reviewed	7	2	2	1	5
Contribution to book/anthology/report/conference proceeding - Conference abstract in proceeding	Research	Peer-reviewed	25	23	10	9	16
Contribution to book/anthology/report/conference proceeding - Encyclopedia chapter	Research	Peer-reviewed				1	
Contribution to book/anthology/report/conference proceeding - Encyclopedia chapter	Communication	-		1			
Contribution to book/anthology/report/conference proceeding - Preface/Introduction/postscript	Research	Peer-reviewed				3	2
Contribution to conference without publisher/journal - Poster	Research	Not peer-reviewed					1
Contribution to conference without publisher/journal - Poster	Research	Peer-reviewed	1	1			

Contribution to conference without publisher/journal - Conference abstract for conference	Research	Not peer-reviewed	1	2		1	1
Contribution to conference without publisher/journal - Conference abstract for conference	Research	Peer-reviewed	8	17	4	14	31
Contribution to conference without publisher/journal - Paper without publisher/journal	Research	Not peer-reviewed	2		1	3	2
Contribution to conference without publisher/journal - Paper without publisher/journal	Research	Peer-reviewed	19	7	7	3	7
Contribution to conference without publisher/journal - Paper without publisher/journal	Communication	-			1		
Working paper - Working paper	Research	Not peer-reviewed				2	
Working paper - Working paper	Research	Peer-reviewed	2				
Working paper - Working paper	Education	Not peer-reviewed					1
Contribution to journal - Contribution to newspaper - Newspaper article	Communication	-		1			1
Contribution to journal - Contribution to newspaper - Feature article	Communication	-		1		1	1
Other - Net publication - Internet publication	Research	Not peer-reviewed		1			
Patent - Patent	Research	-		1		2	1
Non-text contribution - Sound/Visual production (digital)	Education	Not peer-reviewed			1		
Other - Other contribution	Commissioned	-				1	

Language

The department's distribution of peer reviewed publications in their original language are as follows:

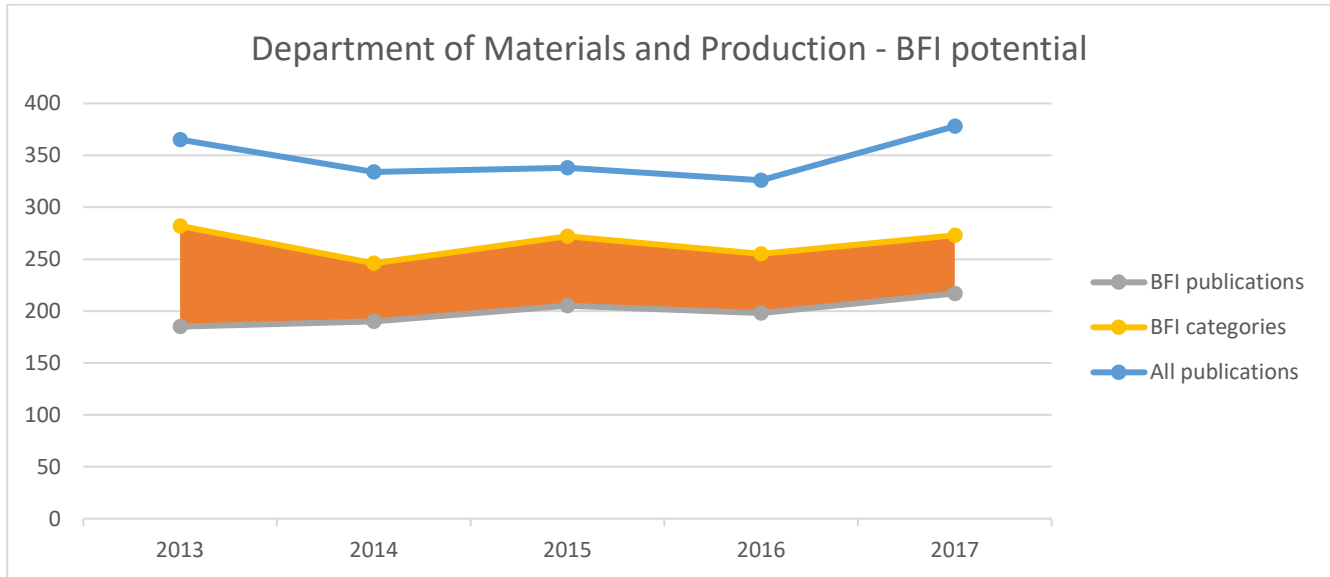
Publication category	Original language	2013	2014	2015	2016	2017
Research	English	345	320	307	301	356
Research	Danish	15	8	19	20	5
Research	Swedish	1				
Research	Undefined/Unknown	1				
Communication	English	1	2	4	1	3
Communication	Danish	2	4	7	2	4
Education	English					1
Education	Danish			1		
Commissioned	English				1	

Publication potential

BFI potential

This graph compares the number of publications for the period 2013-2017.

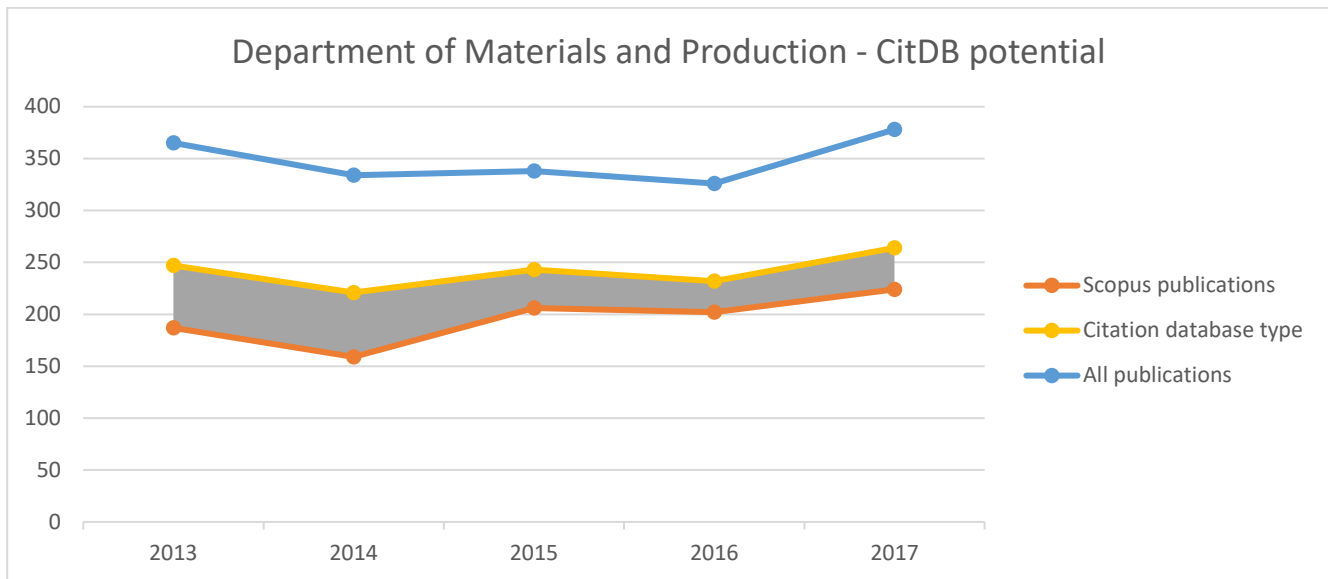
- All publications: Number of registered publications in VBN
- BFI publications: Publications that have triggered BFI points
- BFI categories: Publications that potentially may trigger BFI points. These publications fall within the BFI publication categories - and are peer reviewed - but neither publisher nor journal appear on BFI authority lists.



Citation database potential

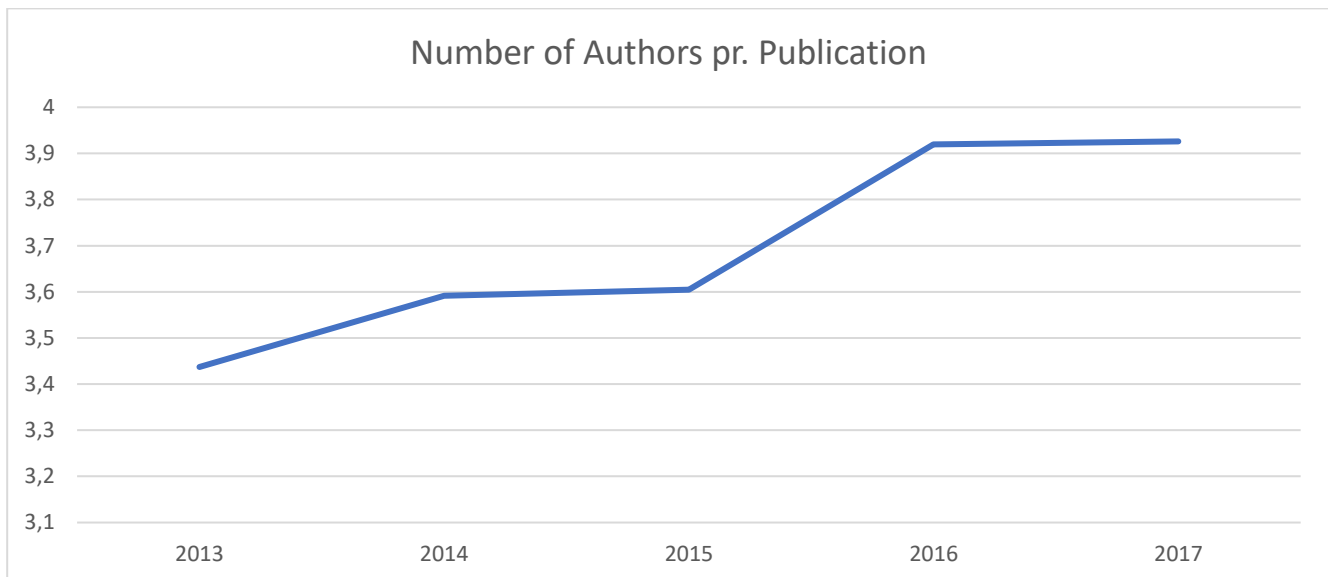
This graph compares the number of publications for the period 2013-2017.

- All publications: Number of registered publications in VBN
- Scopus publications: Number of occurrences in Scopus
- Citation database publications: Publications that typically occur in Scopus and generate citations: Journal articles, conference articles in journals, letters, reviews, and conference articles in proceedings.



Number of authors per peer reviewed publication

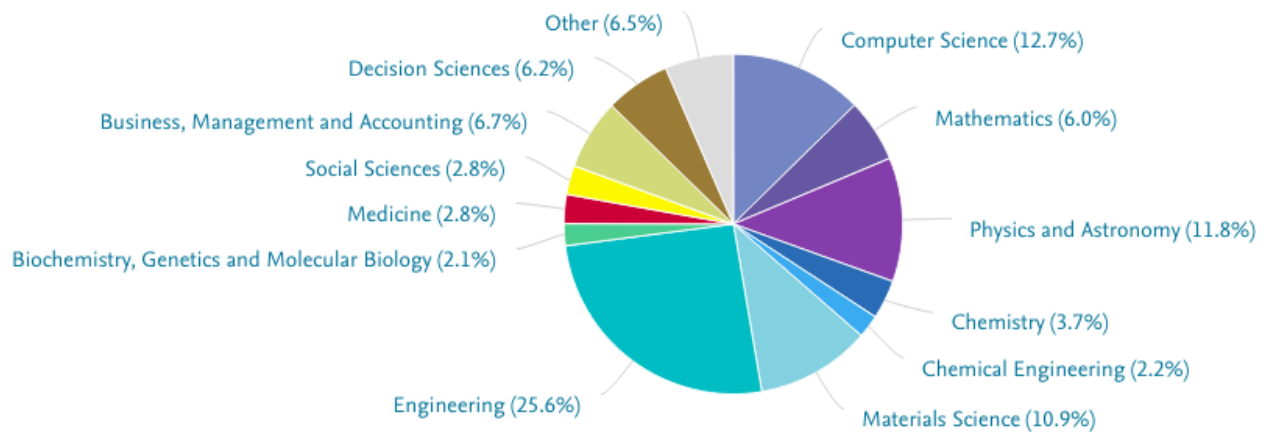
As regards the department's peer reviewed publications, it shows the average number of authors per publication. Publications with more than fifty authors are left out.



Subject categories in SciVal

The pie chart shows which areas that are most frequently used by the department. The figures are based on extracts from VBN enriched with Scival data.

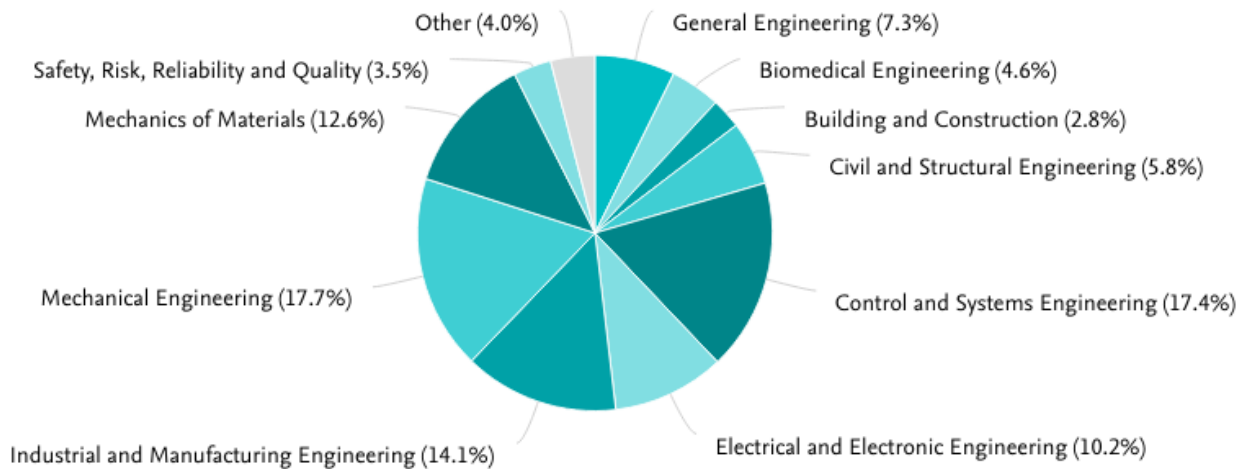
Publication Analysis, Department of Materials and Production, 2013-2017



Sub-categories in SciVal

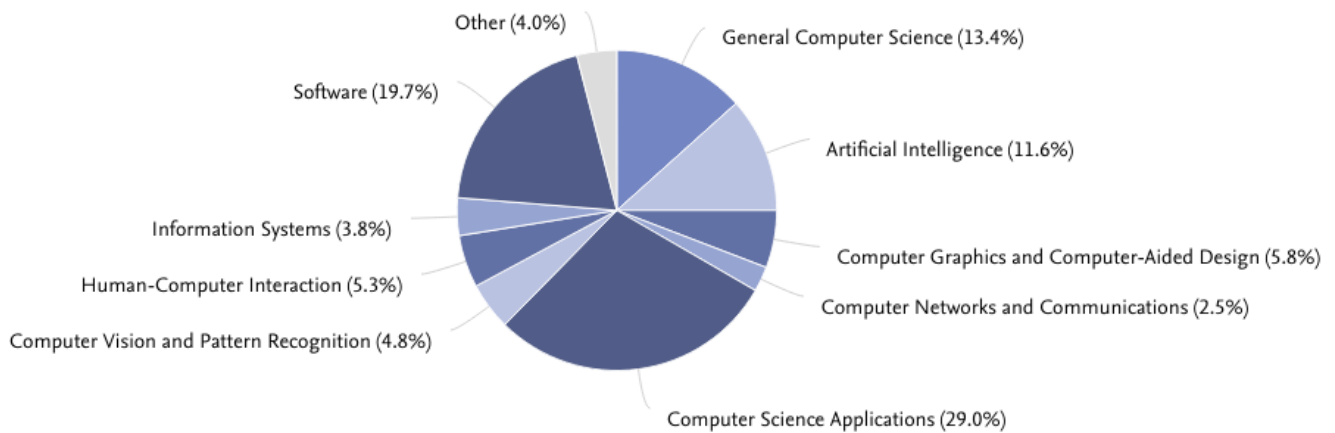
Sub-categories are shown for the top three most frequently used subject categories:

Sub-category "Engineering":

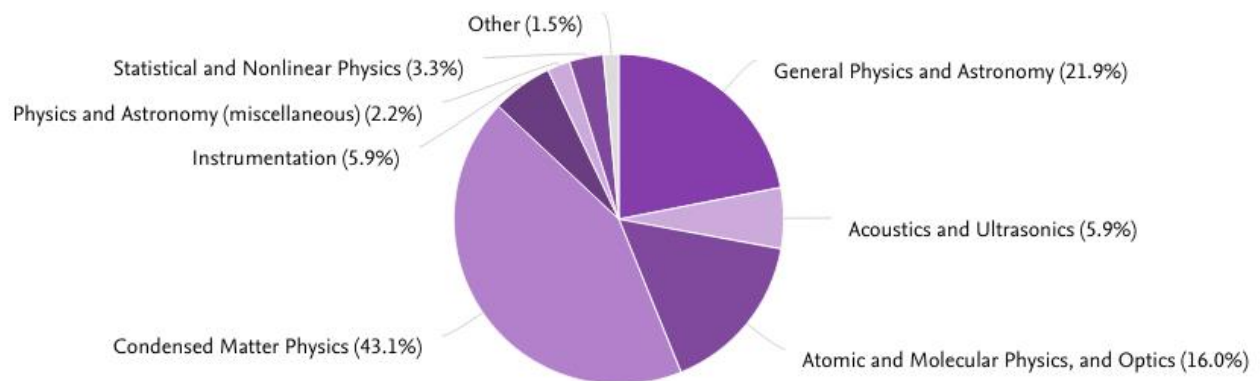


Sub-category "Computer Science":

Publication Analysis, Department of Materials and Production, 2013-2017



Sub-category "Physics and Astronomy":

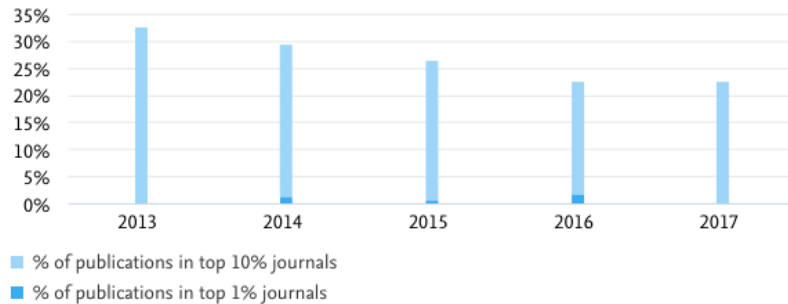


Publications in Top Journal Percentiles

The respective graphs show the department's number of publications in top 1% and top 10% most cited journals in Scopus (SNIP is used as yardstick). The figures are based on extracts from VBN enriched with SciVal data.

Publications in Top Journal Percentiles

Share of publications in Institut for Materialer og Produktion - 25 May 2018 that are in the top journals by SNIP 



212 (26.4%)

number of publications in the top 10% journals by SNIP

 [View list of publications](#)

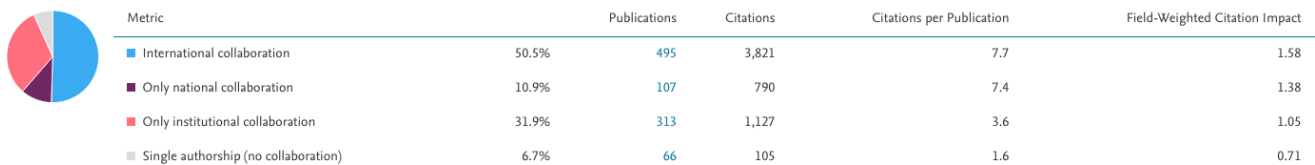
Publications in SciVal based on business collaboration

Below you may view the distribution of publications with or without collaboration with the business community. The figures are based on extracts from VBN enriched with SciVal data.

Collaboration

[+ Add to Reporting](#) [Shortcuts](#) 

Publications in Institut for Materialer og Produktion - 25 May 2018, by amount of international, national and institutional collaboration



Academic-Corporate Collaboration

[+ Add to Reporting](#) [Shortcuts](#) 

Publications in Institut for Materialer og Produktion - 25 May 2018 with both academic and corporate author affiliations

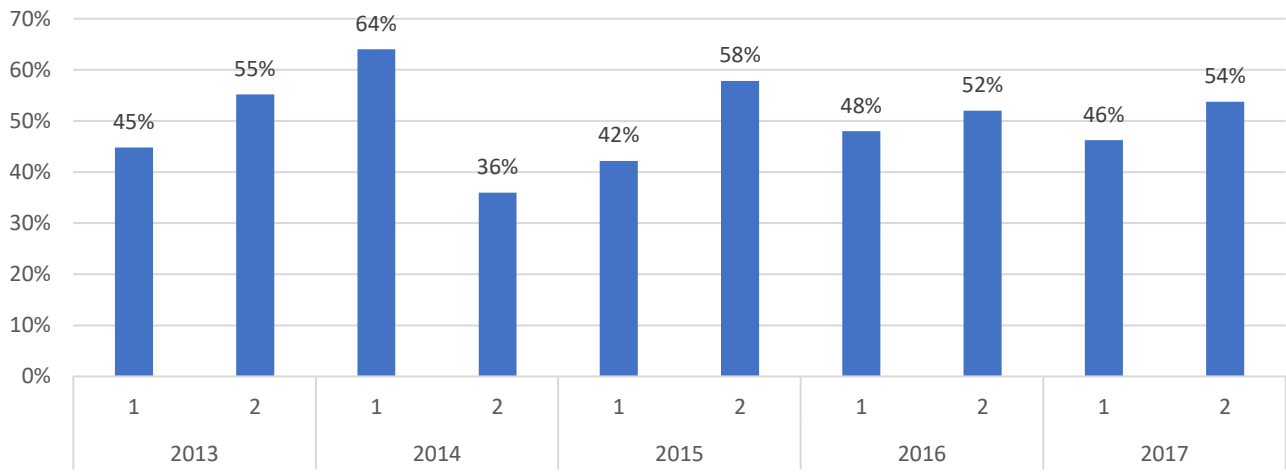


Impact factor and prestige

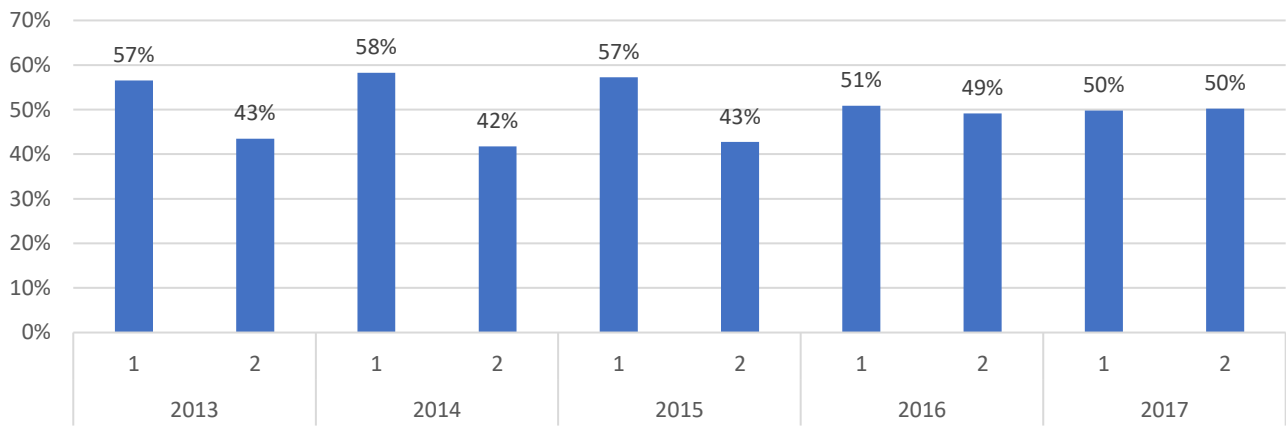
Publications in BFI levels

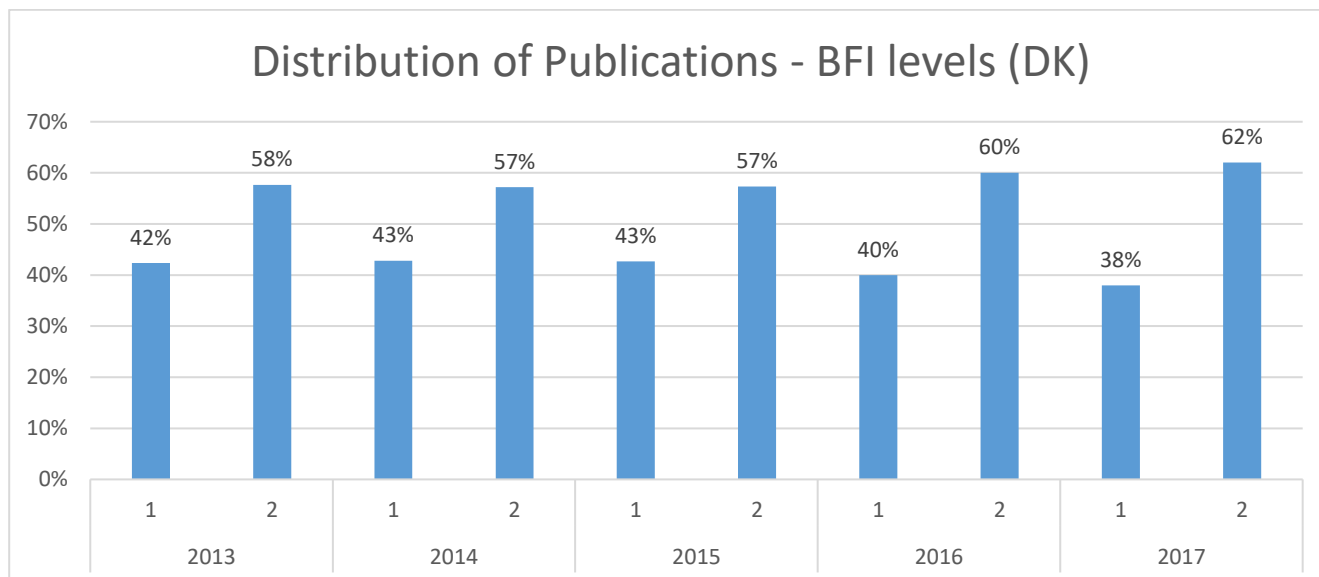
The percentage distribution of the department's peer reviewed publications according to BFI levels are as follows – AAU and national distributions for comparison:

Distribution of Publications - BFI levels



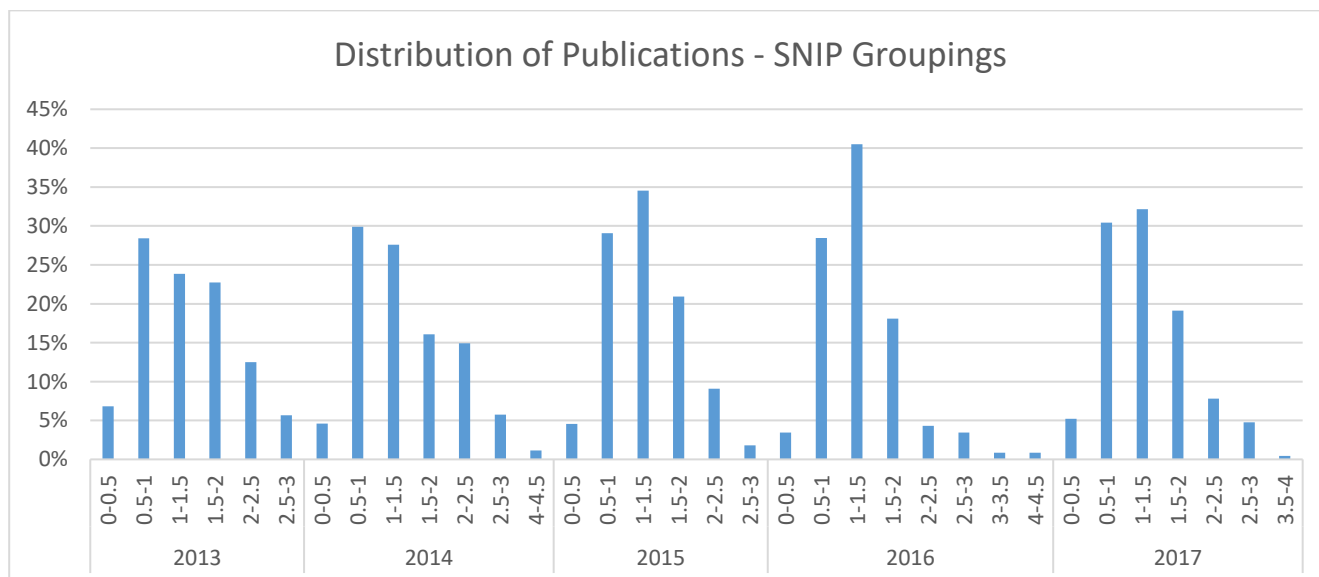
Distribution of Publications - BFI levels (AAU)





Publications grouped according to Scopus-indicators

The percentage distribution of the department's peer reviewed publications according to SNIP groupings are as follows: Groups are arranged from 0 and upwards in increments of 0.5. The value one (1) equals the world's average.



Most used journals

This is a list of the most used journals by the department (# publications ≥ 4). Number of publications, BFI level, and Scopus-indicators are stated for the journal.

Journal	issn	SNIP 2017	BFI Level 2017	# Publications
Physical Review B	2469-9950	1.04	2	28
Structural and Multidisciplinary Optimization	1615-147X	1.76	2	17
Production & Manufacturing Research	2169-3277	1.094	1	15
Physics Procedia	1875-3892	0.614	(blank)	13
Journal of Cleaner Production	0959-6526	2.194	2	11
International Journal of Solids and Structures	0020-7683	1.516	2	9
Microelectronics Reliability	0026-2714	0.907	1	9
Journal of Sound and Vibration	0022-460X	2.037	2	9
International Journal of Operations and Production Management	0144-3577	1.571	2	8
Optics Express	1094-4087	1.567	2	8
Journal of Non-Crystalline Solids	0022-3093	1.19	1	8
Mechanism and Machine Theory	0094-114X	2.505	1	8
International Journal of Advanced Manufacturing Technology	0268-3768	1.697	1	7
Procedia Manufacturing	2351-9789	0.798	(blank)	7
Procedia C I R P	2212-8271	0.982	(blank)	7
Composite Structures	0263-8223	1.939	2	7
Journal of Biomechanics	0021-9290	1.314	2	6
Journal of Applied Physics	0021-8979	0.953	1	6
Production Planning & Control	0953-7287	1.281	1	6
Safety Science	0925-7535	2.004	2	6
R S C Advances	2046-2069	0.736	1	5
Mathematical Problems in Engineering	1024-123X	0.503	1	5
Applied Physics Letters	0003-6951	1.167	2	5
Nordic Journal of Working Life Studies	2245-0157	(blank)	1	5
Tidsskrift for Arbejdsliv	1399-1442	(blank)	1	5
Optical Society of America. Journal B: Optical Physics	0740-3224	0.875	1	5
International Journal of Production Research	0020-7543	1.483	1	5
Journal of Physics: Condensed Matter	0953-8984	0.921	1	5
International Journal of Business and Globalisation	1753-3627	0.7	1	5
P L o S One	1932-6203	1.111	1	5
Physical Chemistry Chemical Physics	1463-9076	1.089	2	5

Journal of Self-Assembly and Molecular Electronics	2245-4551	(blank)	1	5
Journal of Manufacturing Technology Management	1741-038X	1.167	1	4
Management and Production Engineering Review	2080-8208	1.064	1	4
European Planning Studies	0965-4313	1.232	1	4
European Journal of Operational Research	0377-2217	2.375	1	4
Gait & Posture	0966-6362	1.562	1	4
Journal of Polymer Science. Part B, Polymer Physics	0887-6266	0.88	1	4
Applied Composite Materials	0929-189X	1.011	1	4
Annals of Operations Research	0254-5330	1.198	1	4

The Open Access Indicator

The Open Access Indicator detects and assesses the online availability of scientific publications produced at Danish research institutions. Hereby, it measures the degree to which Denmark meets the objectives of the National Strategy for Open Access.

The Open Access Indicator is calculated annually for the field of: **Scientific and peer reviewed articles and conference papers in journals and proceedings with ISSN. The 2018 measurement is based on publications reported in 2016.**

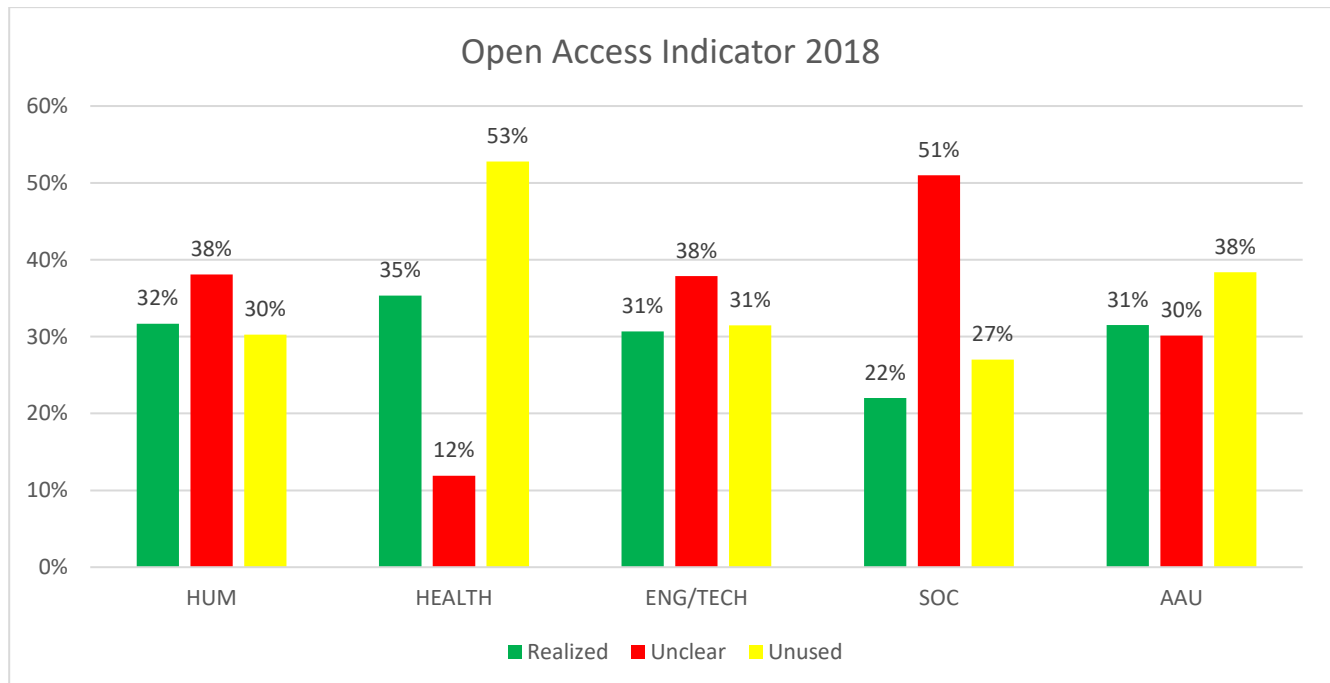
The traffic light colour-codes green, yellow, and red indicate the three different classifications:

Realized Open Access Potential. Realized Open Access refers to scientific publications that can be read and downloaded from the Internet free of charge, and without any restrictions in terms of prepayment or creation of user profile.

Unused Open Access potential. Unused Open Access refers to publications that cannot be accessed freely on the Internet during their first year of publication, although they are published in journals that permits Open Access (mainly in terms of accepted manuscript).

Unclear Open Access potential. Unclear Open Access refers to publications that cannot be accessed freely on the Internet during their first year of publication, and are published in journals with an unclear or no Open Access policy, as well as publications with embargo periods that exceed the first year of publication.

The table below shows the division of AAU publications into the categories of the Open Access Indicator at faculty level.



The table below shows the distribution of the department's publications into the categories of the OA Indicator. The 59 publications in the unused category are the publications with OA potential. In other words, it would be relevant to look into the possibility for uploading full text files.

Open Access Indicator categories	Realized	Unclear	Unused
Number of Publications	46	47	59

