



Open Access publishing at the KTH Royal Institute of Technology

Statistics for 2011–2020

Gaël Dubus and Margareta Fathli

Table of Contents

1	Introduction.....	4
2	Definitions	4
3	Results.....	5
3.1	Doctoral and licentiate theses presented at KTH 2011–2020	5
3.2	Student theses presented at KTH 2011–2020	6
3.3	Journal publishing by KTH researchers 2011–2020	7
3.3.1	Share of OA in journal publishing 2011–2020	8
3.3.2	Share of OA in journal publishing at KTH schools 2018–2020	8
3.4	Conference publishing by KTH researchers 2011–2020	9
3.4.1	Share of OA in conference publishing 2011–2020.....	10
3.4.2	Share of OA in conference publishing at KTH schools 2018–2020.....	10
3.5	Book chapter publishing by KTH researchers 2011–2020	11
3.6	Venues for journal publishing	11
3.6.1	Top journals at the ABE school	12
3.6.2	Top journals at the CBH school.....	12
3.6.3	Top journals at the EECS school	13
3.6.4	Top journals at the ITM school	13
3.6.5	Top journals at the SCI school.....	14
3.6.6	Number of top 10 journals with a high percentage of Open Access.....	14
3.7	Costs paid by KTH in article processing charges 2018–2020	15
4	Concluding remarks	16

1 Introduction

In this report we analyze shares and trends of open access publishing at KTH starting from 2011, the year when a policy for scientific publishing at KTH was implemented¹. The report is intended for anyone interested in how open access publishing at KTH has developed over the years. It can also be used as a basis for planning on how to proceed with the work on open access at KTH. The present report is a follow-up study of a previous report² and is grounded on the same concepts and definitions presented in the following section.

2 Definitions

Open access comes in different ways and in this section, we explain the definitions we use in this report, based on the definitions used by the online service Unpaywall³. The concept of open access (OA) is based on the idea that results from publicly funded research should be accessible to all. This means that the results of such research should be published on the Internet in such a way that anyone can download and read it freely. The stricter definition of OA also includes the possibility to download, copy, distribute, print and use that material in any other way without infringing on the copyright of the author. In contrast, the traditional way to disseminate research findings has been to publish them in subscription-based, so-called toll-access journals to which only subscribers have access. Open access to research publications can be accomplished in two major ways, either by depositing the peer reviewed author manuscript of an article into a public repository (this is known as the “green road”) or by publishing an article in a journal without subscription barriers and free for all to read. If all the publications of the journal follow this publication scheme, the journal itself is said to be an open access journal. We distinguish articles published in an open access journal (the “golden road”) from articles published in a traditional subscription-based journal made openly available by paying a fee (the “hybrid road”). These fees are usually called article processing charges (APCs).

Our analysis of open access distribution of KTH publications – taken from the institutional repository DiVA⁴ – is based on the online service Unpaywall, a database of open access status for scientific publications with links to full-text articles. Unpaywall’s method to determine the type of open access of a given publication consists in finding locations where the publication is freely available among legitimate open-access sources all over the world and then determining the “best” location (gold or hybrid being considered as “better” than green, i.e., if both gold and green are available, then Unpaywall will regard the publication as gold OA). In case no location can be found, the publication is considered to be “closed”.

In this updated report we also consider diamond OA (also known as platinum OA), defined as publishing in an open access journal that is not funded by APCs, meaning that authors can publish free of charge. Diamond OA is therefore a subset of gold OA. Data about journal APC data were collected from the Directory of Open Access Journals⁵ (DOAJ), a database of over 16 500 peer-reviewed OA journals. While not all OA publication outlets as classified by Unpaywall can be found in DOAJ, over 90% of the gold OA journal articles considered in the present were retrieved therefrom, which means that the share of diamond OA obtained using this method is slightly underestimated but still fairly representative.

¹ *KTH:s policy för vetenskaplig publicering*, KTH president's decision, 2010, Dnr V-2010-0482, UF-0243, <https://www.kth.se/en/biblioteket/publicera-analysera/vagledning-for-publicering/kth-s-policy-for-publicering-1.854744>

² Dubus G., Fathli M., & Hamrin G. (2021). *Open Access publishing at the KTH Royal Institute of Technology: Statistics for 2011-2019*, Report, KTH Royal Institute of Technology, urn:nbn:se:kth:diva-292149.

³ <https://unpaywall.org/>

⁴ <https://kth.diva-portal.org/>

⁵ <https://doaj.org/>

It is important to note that, since this method of determining the OA status of a publication is empirical, the open access status of a given publication can change over time, e.g., a closed publication turns green as a full-text is being added to an institutional repository. An additional category defined by Unpaywall is “bronze”, meaning papers made free to read by the publisher, but without a specific license to reuse the paper. We do not consider bronze OA as a reliable category, since the absence of a correct license reveals a lack of proper open access framework. Therefore, we chose to aggregate the different OA categories provided by Unpaywall as “Total OA”: gold (including diamond), hybrid, green; and “Not OA”: bronze, closed.

3 Results

In this section we present results and statistics for KTH OA publishing concerning various types of publications: theses, journal articles, conference proceedings, and book chapters. Note that there are multiple time frames used in this section since there exist differences in data availability and since there was a major change in the organization structure for KTH in 2018 when ten schools (ABE, BIO, CSC, CHE, ECE, EE, ICT, ITM, SCI and STH) merged into five schools (ABE, CBH, EECS, ITM and SCI).

3.1 Doctoral and licentiate theses presented at KTH 2011–2020

The current publishing policy⁶ states that, from 2011 onwards, everything published by KTH in the form of theses and reports should be available in open access in DiVA, hence we should in principle approach a proportion of 100 % of the theses being OA. Figure 1 shows the proportion of OA in both doctoral and licentiate theses (along with student theses) at KTH between 2011 and 2020.

Already when the current policy on scientific publishing was implemented, KTH had a policy to provide all doctoral theses in OA, which explains the rather high rate at the beginning of the considered period. In 2011, an information drive took place in order to implement the new policy, hence the rate of OA theses remained rather high. As can be seen, there was a dip around 2014, which might be explained by the fact that the knowledge about the policy progressively faded out. Therefore, the KTH library performed then another information drive specifically directed towards doctoral and licentiate theses. This may explain the subsequent rise towards a proportion now very close to 100 % – actually, licentiate theses did reach 100 % OA both in 2019 and 2020. The relative lack of full texts from 2019 might be caused by embargo periods used by some parts of the CBH school, which may have appeared in a more school-specific investigation but, since the overall share of OA is very close to 100 % for both licentiate and doctoral, we did not find of paramount concern to perform such a detailed analysis.

⁶ KTH president's decision, 2010.

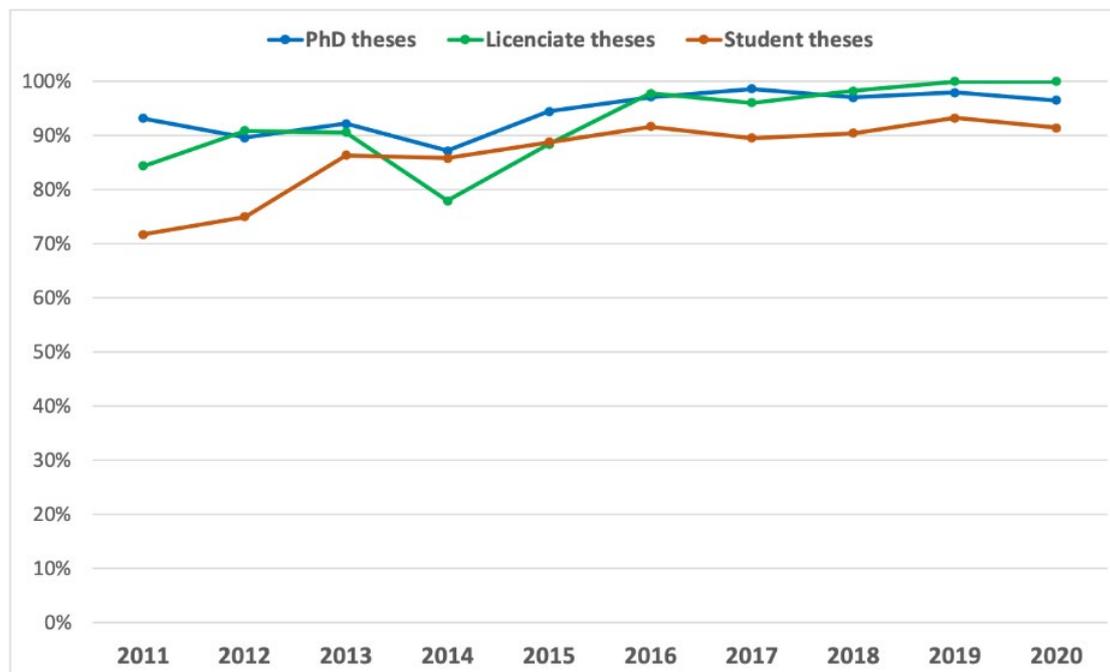


Figure 1. Share of KTH theses in Open Access between 2011 and 2020.

3.2 Student theses presented at KTH 2011–2020

In this report we have also included an analysis of student theses from KTH corresponding to both Master and Bachelor degrees. As with doctoral and licentiate theses, KTH has had a policy since 2011 stating that all student theses shall be registered with a full text in DiVA. As can be seen in Figure 1, the share of OA in student theses has increased significantly since the implementation of the policy to reach a level of about 90 %.

Figure 2 shows the evolution of the share of OA for all KTH schools between 2011 and 2020. To ensure data consistency, student theses published before the change in the organization structure of KTH mentioned above have been mapped to the current schools. Specifically, theses published by the former schools BIO, CHE and STH have been mapped to the current school CBH, and theses published by the former schools CSC, EE and ICT have been mapped to the current school EECS.

We can observe a clear upward trend for schools having a relatively low share of OA in 2011 (CBH, EECS) up to a level comparable to the other schools. This has driven the general increase of the share of OA for student theses shown in Figure 1. The initial low share of OA for CBH might be explained by the fact that theses from this school are often connected to patents, which could have been a reason for a historical unwillingness to publish full texts online. The other schools (ABE, ITM, SCI) maintained a high level of OA – between 80% and 100% – throughout the considered period despite irregular fluctuations.

In 2018 it was decided that only administrative staff shall register student theses in DiVA, which certainly contributed to maintaining the high proportion of OA for all KTH schools. In order to maintain this high level and to minimize fluctuations and avoid dips, a new information drive towards schools and student theses will probably be needed in a near future.

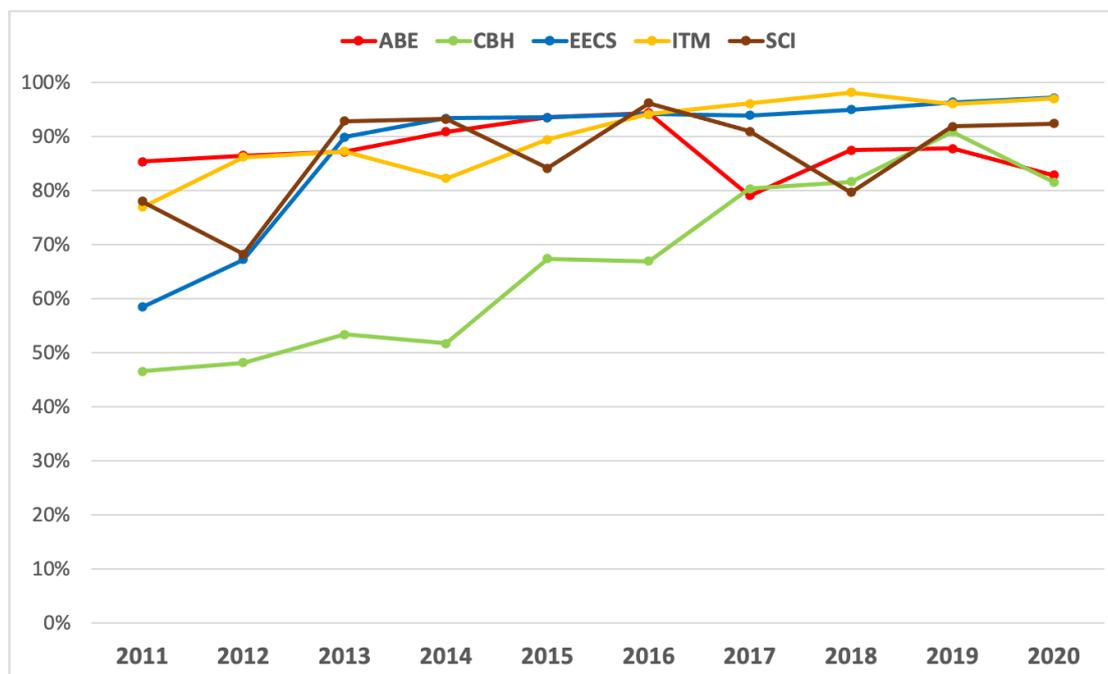


Figure 2. Share of student theses in Open Access between 2011 and 2020 for KTH schools.

3.3 Journal publishing by KTH researchers 2011–2020

The global situation of scientific publishing is currently shifting. Funders or other supporting institutions may require that scientific publishing within a research project shall be OA. The European initiative Plan S⁷ promotes mainly gold OA, alternatively green OA, but urges to avoid publishing in hybrid OA journals unless these have transformative arrangements. The publishing companies are offering more and more Read and Publish deals, promising a shift towards gold OA within a few years. Some hybrid journals have flipped to fully gold already. At the same time there is a global debate around the implications of gold OA, highlighting both good and bad aspects. Green OA is considered by some as the preferred road to OA, and diamond OA – of which we have included an analysis in this year's report – is slowly emerging. From this analysis we can see that the level of diamond OA at KTH has been rather stable since 2014. A slight increase could be expected though, since more and more diamond OA options are becoming available. For example, KTH have an increasing number of publications in Scipost⁸.

University libraries want to help researchers publish OA, and at the same time be careful regarding library budgets. The KTH library has signed several Read and Publish agreements since 2018, and the main part of journal publishing now occurs within these agreements. Moreover, the KTH library also covers the APC costs that are not included in any deal as long as the corresponding author is from KTH. This is of course convenient for our researchers and is probably the main reason for the marked increase of hybrid OA at KTH during the past few years, as well as for a slight increase in gold OA. There will probably be a continuous increase in hybrid OA as long as we have Read and Publish agreements.

The share of green OA has been at the same level for some years, and the slight decrease in 2020 year can probably be explained by 1) the delay between publication and date at which the full text is made available as green OA, and 2) the embargo period attached to green OA by publishers (usually, parallel publishing is not allowed until after 12-18 months). The green form of OA also requires more action

⁷ <https://www.coalition-s.org/>

⁸ <https://scipost.org/>

from the author’s side, which might cause some resistance. Furthermore, if the gold or hybrid option is available at no cost for them, authors will not find parallel publishing necessary as the publication would already be OA via the publisher.

3.3.1 Share of OA in journal publishing 2011–2020

In this section we describe the long-term trends on OA journal publishing at KTH 2011-2020. Figure 3 shows the share of the different OA types for KTH journal articles between 2011 and 2020. We can observe an overall increase of the share of OA publishing, more than doubling (from 30 % to 69 %) between 2011 and 2020. This increase is mainly due to an on the whole large increase in both gold (including diamond) and hybrid OA publishing, their combined share augmentation between 2011 and 2020 amounting to over 40 %. The share of diamond OA, which was very modest at first, increased in 2014 but has since then been on a steady, rather low level of circa 4,5%, representing about 25% of all publications categorized as gold OA – i.e., according to our definitions, diamond and gold together). The share of green OA can be seen to have been rather stable (circa 20 %) during the period with the exception of a lower share in 2020 that could be explained by a latency in the process of publishing articles on institutional repositories due to, e.g., journal embargo.

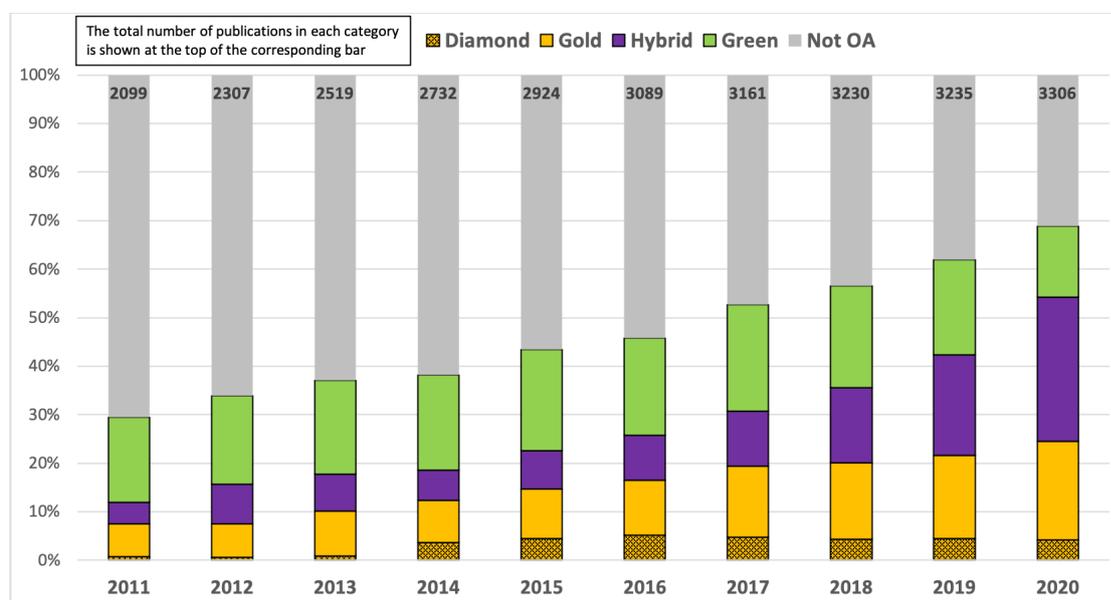


Figure 3. Share of OA types by year for KTH journal articles between 2011 and 2020.

3.3.2 Share of OA in journal publishing at KTH schools 2018–2020

We present the evolution of OA types for each of the five KTH schools in Figure 4. In this year’s report we may see some trends which were not apparent in the previous OA report where only the period 2018–2019 was considered.

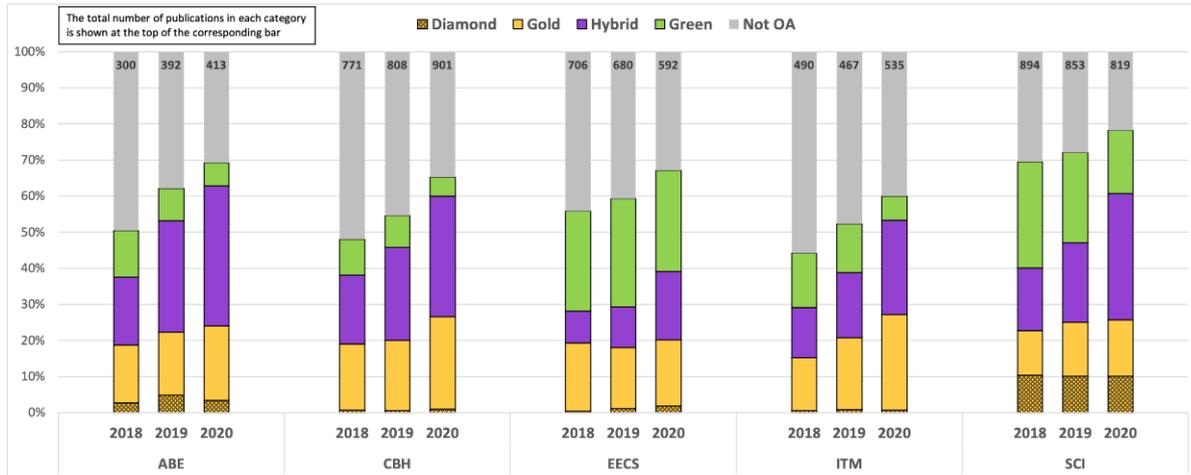


Figure 4. Share of OA types for journal articles at KTH schools between 2018 and 2020.

There are differences in the OA publishing patterns of the different KTH schools. For example, we can see that CBH and ABE tend to have more hybrid OA than other schools, whereas EECS, according to practice in their research areas that have more options to do green OA, continues to do so. Their share of hybrid is however increasing, likewise for the SCI school, as both are probably taking advantage of the library deals with publishers. At ITM, the options of publishing OA have been more restricted than for other schools due to their particular research areas, but there is nonetheless a slight increase, mainly in the share of hybrid and gold. There are some few journal articles in diamond OA, but it seems that SCI and, to an extent, ABE have been using diamond OA, while the other schools have very few journal articles using this type of OA, probably because diamond OA is more common in the physics area.

3.4 Conference publishing by KTH researchers 2011–2020

As for the journal publishing results in Section 3.3, we divide the results into two subsections. Since the OA type definition is primarily applicable to journal articles, the data for conference proceedings is relatively uncertain. We can observe that the majority of OA conference publications are classified as green by Unpaywall, yet some are shown as gold or hybrid. Independently of Unpaywall’s definition, there is a long tradition on following the green OA publishing process –i.e., publishing the full text in an institutional repository – for conference papers (probably more than for journal articles). Researchers in some areas, e.g., in computer science, prefer to make the paper freely available online in advance so that people may read and contribute to the discussion during the conference. The fact remains that the procedure regarding conference publishing may differ a lot between research areas. For these reasons, we chose not to distinguish the different types of OA for conference proceedings but rather to examine the total OA proportion.

3.4.1 Share of OA in conference publishing 2011–2020

Figure 5 shows the long-term trend on OA conference publishing at KTH between 2011 and 2020.

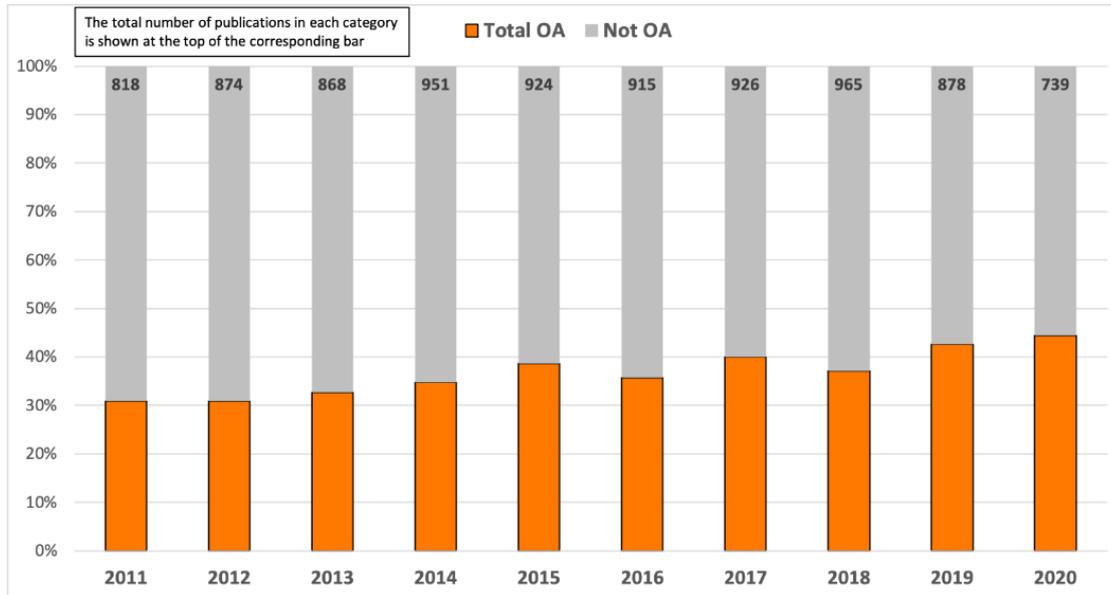


Figure 5. Share of OA by year for KTH conference proceedings between 2011 and 2020.

We find that the total OA share of conference proceedings have been fluctuating between 30% and 40% with a slight upward trend, reaching above 40% in 2019 and 2020.

3.4.2 Share of OA in conference publishing at KTH schools 2018–2020

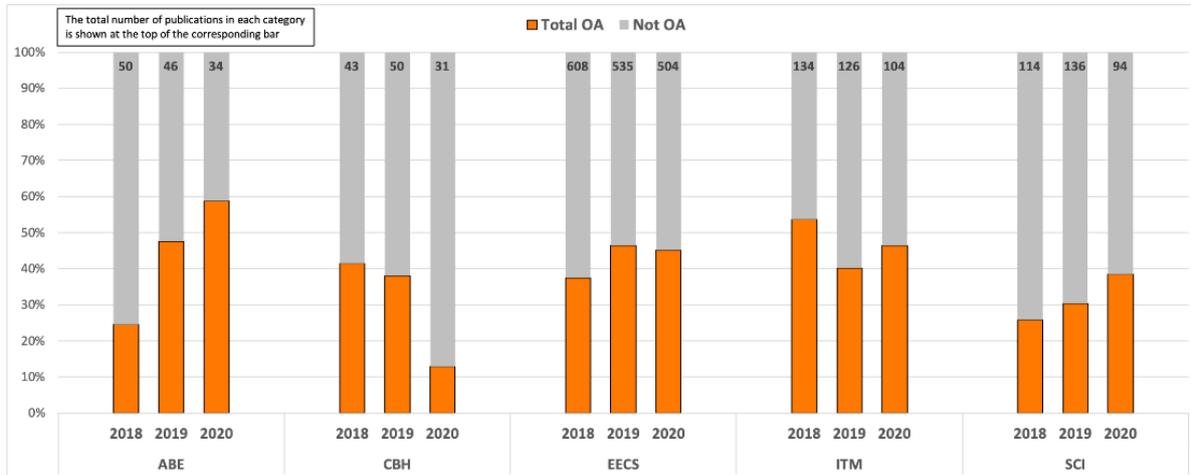


Figure 6. Share of OA for conference proceedings at KTH schools between 2018 and 2020.

Figure 6 shows the short-term trends on OA conference publishing for KTH schools between 2018 and 2020. The time span might still be too short for being able to see any definitive trends. For ABE, the share of OA is strongly increasing, for SCI it is slightly increasing. EECS and ITM show no particular trend. For CBH the trend seems to be decreasing but since the total amount of conference papers at CBH is much lower than at the other schools, the figures should be interpreted with caution.

3.5 Book chapter publishing by KTH researchers 2011–2020

Figure 7 shows the long-term trend on OA chapter publishing at KTH between 2011 and 2020. As for conference papers, we do not distinguish between the different types of OA for chapters but rather examine the total OA proportion.

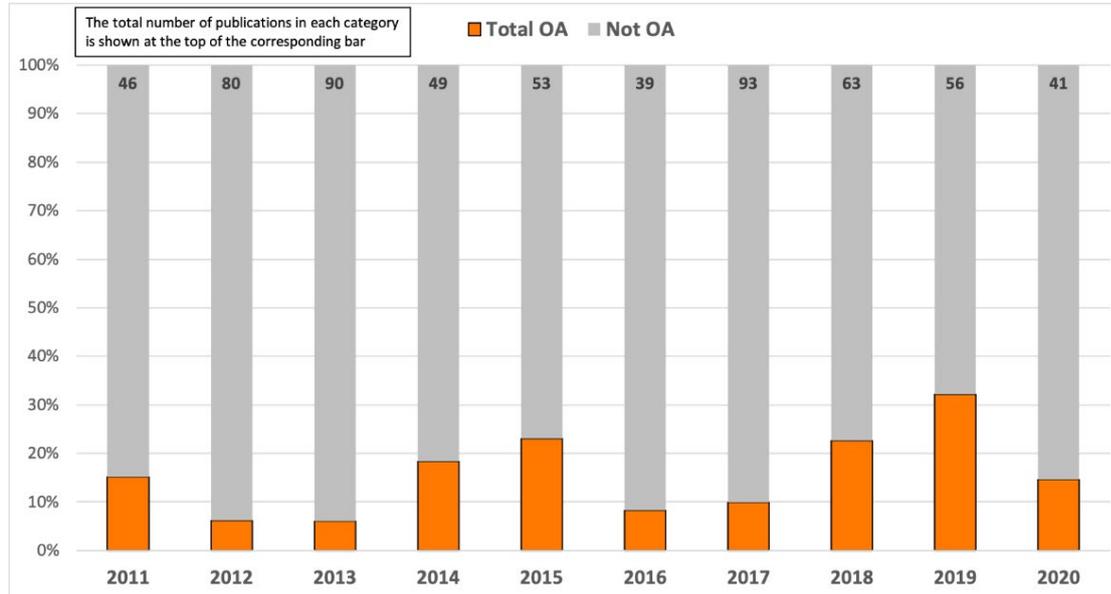


Figure 7. Share of OA by year for KTH book chapters between 2011 and 2020.

Chapter publishing is not so common at KTH, making the variations of OA share difficult to interpret. We can observe that the proportion of OA is generally quite low (below 30%), which may be explained by the fact that options for publishing book chapters as gold or hybrid OA are generally not offered by publishers. So far it is not possible to see any trend for this type of publications.

3.6 Venues for journal publishing

In this section we present the publication venues frequently used by KTH researchers in the year 2020. Since publishing practices can strongly differ from one research area to another, some schools would dominate journal publishing in terms of absolute number of articles should we present the most frequent venues for KTH as a whole, which would lead to a misleading result. Therefore, we present the results for each KTH school separately.

In the subsequent tables, the column *Percentage OA articles* refers to the proportion of OA articles published in the journal by the KTH school, including green OA. It should be noted that, in the case of gold or hybrid journal publishing, it is the institution of the corresponding author that pays the APCs for OA. The corresponding author of the articles included in the lists below are not always affiliated to KTH, hence these results are not directly related to the extent to which the KTH authors really take advantage of the possibility to choose OA in hybrid journal publishing.

3.6.1 Top journals at the ABE school

The top journals for publishing the ABE school in 2020 are shown in Table 1.

Table 1. Top 11 journals for publishing at the ABE school in 2020.

RANK	JOURNAL NAME	ISSN	NUMBER OF ARTICLES	PERCENTAGE OA ARTICLES	OA JOURNAL
1.	Sustainability	2071-1050	18	100	Yes
2.	Science of The Total Environment	0048-9697	7	43	No
	Land Use Policy	0264-8377	7	29	No
	Remote Sensing	2072-4292	7	100	Yes
5.	Construction and Building Materials	0950-0618	6	17	No
6.	Journal of Cleaner Production	0959-6526	5	60	No
	Transportation Research Part A: Policy and Practice	0965-8564	5	40	No
	Water Resources Research	0043-1397	5	100	No
	Building and Environment	0360-1323	5	40	No
10.	Urban Planning	2183-7635	4	100	Yes
	Journal of Rock Mechanics and Geotechnical Engineering	1674-7755	4	100	Yes

Sustainability, which is the journal most frequently chosen by ABE researchers for journal publishing, is an OA journal. Most of the other top journals are subscription-based, with the exception of *Remote Sensing* and *Urban Planning*, *Journal of Rock Mechanics* and *Geotechnical Engineering*, which are also OA journals. However, all the subscription-based journals have the option of making one specific article OA, i.e., they are hybrid journals. As a consequence, many articles published by ABE are OA even if the journal is subscription-based. For example, all the articles by ABE researchers in *Water Resources Research* are OA.

3.6.2 Top journals at the CBH school

The top journals for publishing at the CBH school in 2020 are show in Table 2.

Table 2. Top 11 journals for publishing at the CBH school in 2020.

RANK	JOURNAL NAME	ISBN	NUMBER OF ARTICLES	PERCENTAGE OA ARTICLES	OA JOURNAL
1.	ACS Applied Materials & Interfaces	1944-8244	24	25	No
2.	Biomacromolecules	1525-7797	22	41	No
3.	Nature Communications	2041-1723	20	100	Yes
	Scientific Reports	2045-2322	20	100	Yes
5.	ACS Sustainable Chemistry & Engineering	2168-0485	14	86	No
6.	The Journal of Physical Chemistry C	1932-7447	12	42	No
	Molecules	1420-3049	12	100	Yes
8.	Carbohydrate Polymers	0144-8617	11	36	No
9.	Corrosion Science	0010-938X	10	60	No
	Physical Chemistry Chemical Physics	1463-9076	10	80	No
	Polymers	2073-4360	10	100	Yes

For CBH too, the top journals are either subscription-based hybrid OA journals or gold OA journals. As can be seen in section 3.3.2, CBH has the biggest share of hybrid OA in 2020 together with ABE and SCI. Even when the journal is hybrid, the share of OA articles is rather high, especially for *ACS Sustainable Chemistry & Engineering*, *Physical Chemistry Chemical Physics* and *Corrosion Science*.

3.6.3 Top journals at the EECS school

The top journals for publishing at the EECS school in 2020 are shown in Table 3.

For EECS, the IEEE journals are strongly dominating. Only the top journal in the list, *IEEE Access*, is an OA journal. However, as seen in section 3.3.2, green OA is more common at EECS than at other schools, which is revealed by the relatively high percentage of OA articles for subscription-based journals. A reason for that might be that IEEE allows immediate parallel publishing. In total, EECS reaches over 65% OA for journal articles in 2020, as can be seen in Figure 4.

Table 3. Top 15 journals for publishing at the EECS school in 2020

RANK	JOURNAL NAME	ISSN	NUMBER OF ARTICLES	PERCENTAGE OA ARTICLES	OA JOURNAL
1.	IEEE Access	2169-3536	18	100	Yes
2.	IEEE Transactions on Automatic Control	0018-9286	14	71	No
3.	IEEE Robotics and Automation Letters	2377-3766	10	90	No
	Automatica	0005-1098	10	80	No
5.	Physica Scripta	0031-8949	9	11	No
	IEEE Transactions on Antennas and Propagation	0018-926X	9	44	No
7.	IEEE Transactions on Communications	0090-6778	8	63	No
	Journal of Geophysical Research: Space Physics	2169-9380	8	75	No
9.	Journal of Voice	0892-1997	6	50	No
	Electric Power Systems Research	0378-7796	6	67	No
	IEEE Transactions on Wireless Communications	1536-1276	6	50	No
	IEEE Transactions on Control Systems Technology	1063-6536	6	67	No
	IEEE Transactions on Microwave Theory and Techniques	0018-9480	6	17	No
	IEEE Transactions on Control of Network Systems	2325-5870	6	83	No
	Space Science Reviews	0038-6308	6	67	No

3.6.4 Top journals at the ITM school

The top journals for publishing at the ITM school in 2020 are shown in Table 4.

Table 4. Top 10 journals for publishing at the ITM school in 2020

RANK	JOURNAL NAME	ISSN	NUMBER OF ARTICLES	PERCENTAGE OA ARTICLES	OA JOURNAL
1.	Metals	2075-4701	20	100	Yes
2.	Sustainability	2071-1050	17	100	Yes
3.	Journal of Alloys and Compounds	0925-8388	9	0	No
	Energies	1996-1073	9	100	Yes
	Metallurgical and Materials Transactions B	1073-5615	9	22	No
6.	Journal of Cleaner Production	0959-6526	8	25	No
	Energy	0360-5442	8	50	No
	Scientific Reports	2045-2322	8	100	Yes
	SAE technical paper series	0148-7191	8	0	No
10.	steel research international	1611-3683	7	57	No

For ITM, four of the top 10 journals are fully OA. The percentage of OA articles in subscription-based journals is rather low, indicating that the option to publish hybrid OA, although available, is not often chosen.

3.6.5 Top journals at the SCI school

The top journals for publishing at the SCI school in 2020 are shown in Table 5.

Table 5. Top 10 journals for publishing at the SCI school in 2020.

RANK	JOURNAL NAME	ISSN	NUMBER OF ARTICLES	PERCENTAGE OA ARTICLES	OA JOURNAL
1.	Physical Review B	2469-9950	30	100	No
2.	Journal of High Energy Physics	1029-8479	27	100	Yes
3.	The European Physical Journal C	1434-6044	22	100	Yes
4.	Physics Letters B	0370-2693	20	100	Yes
	Journal of Fluid Mechanics	0022-1120	20	90	No
6.	Physical Review Letters	0031-9007	19	100	No
7.	Physical Review Fluids	2469-990X	15	80	No
8.	Physical Review D	2470-0010	14	100	No
9.	The Astrophysical Journal	0004-637X	12	75	No
10.	Scientific Reports	2045-2322	10	100	Yes

For SCI, four OA journals are among the top 10. Even for the hybrid journals, the share of OA is quite large, approaching or even reaching 100%. This can be explained by the fact that OA publishing is more common in the physics area, especially within the SCOAP³-agreement⁹.

3.6.6 Number of top 10 journals with a high percentage of Open Access

To get an overview of the progress of OA for each KTH school, we consider the evolution of the number of top 10 journals having a high proportion of OA publications from the school. Practically, we counted the number of top 10 journals in each school where more than 80% of the school's publications had been OA articles (i.e., where the value in the fifth column of Tables 1–5 is greater than 80). Figure 8 shows the evolution of this quantity between 2015 and 2020. In cases where several journals are tied for the last place of the top 10 (drawing more than 10 journals into the list), this quantity is normalized so as to correspond to a top 10, yielding a value that is not necessarily an integer.

The number of top 10 journals with more than 80% OA articles from KTH schools shows a general upward trend. Its evolution is monotonically increasing for SCI and EECS, irregularly increasing for ABE and ITM, and uncertain for CBH. As mentioned in the previous section, the SCI school publishes in OA journals to a much larger extent than the other KTH schools, which appears clearly in the graph: the number of top 10 journals publishing more than 80% OA articles for SCI is consistently more than twice than the number for all other KTH schools. Since 2015, this number has risen from half to almost all top 10 journals for SCI.

⁹ <https://scoap3.org/>

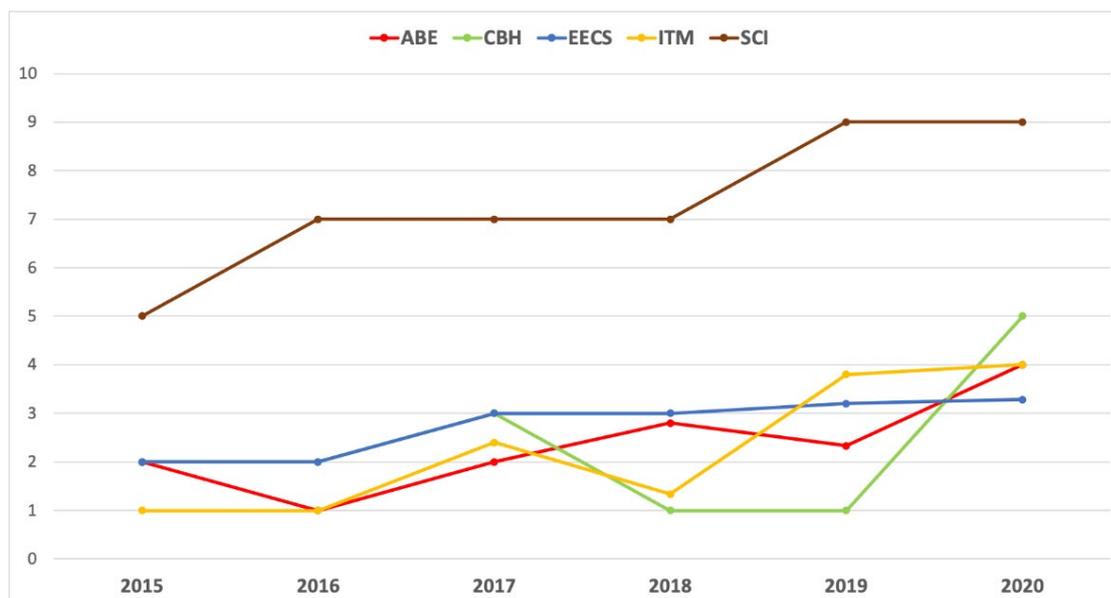


Figure 8. Number of journals in the top 10 of each KTH school having more than 80% articles from the school in OA.

3.7 Costs paid by KTH in article processing charges 2018–2020

In 2018, KTH decided to give the five schools 500 000 SEK each for covering the cost of APCs. Before that year, the cost for APCs were not accounted for separately, making it impossible to calculate how much was paid for OA. In 2019 the KTH library (KTHB) initiated the first Read and Publish deals and also started to pay for specific APCs from KTH researchers.

Table 6. Publishing costs per school 2018–2020 (in SEK).

	2018	2019	2020
ABE	182 692	907 112	191 797
EECS	745 033	470 983	179 062
ITM	129 504	462 092	98 353
CBH	1 820 985	2 811 164	842 440
SCI	353 638	726 042	172 983
KTHB		1 191 915	2 540 948
Total for KTH	3 231 852	6 569 308	4 025 583

From 2018 to 2019 there was almost a doubling of APC costs, followed by a decrease in 2020. This was probably due to a more favorable pricing as a result from the APCs being handled centrally since the KTH library offered to pay for and also wrote several agreements with publishers.

What is notable here is that all schools except EECS paid a lot more for APCs in 2019 than in 2018, probably following the information that the school got 500 000 SEK for this purpose. It seems that only EECS took notice of the KTH library paying for many of the costs for 2019. However, a significant reduction of OA expenses could be observed in 2020 for all schools, meaning that a large part of the APC costs was transferred to the KTH library.

Arguably, the costs for OA will increase further in the coming years since KTH strives for total OA – as can be seen in Figure 3, KTH has reached 70 % OA so far – and the trend to achieve this has been to increase gold and hybrid OA.

It is important to note is that these figures don't represent the total cost for what gold or hybrid OA: we can only calculate the cost for APCs while a significant part of the cost for OA comes from Read and Publish deals. These deals, however, include both the cost for subscriptions and the cost for OA publishing.

A more detailed analysis concerning the cost of open access at KTH, see Hinders et al¹⁰.

4 Concluding remarks

The results of this report confirm some of the trends that were enounced in the OA report from last year. We have also added some new data, for example the inclusion of diamond OA as a specific OA type and of student theses and book chapters as new publication types.

Firstly, it is clear that the share of KTH research published OA is still increasing. When it comes to journal publishing, the share of OA has been steadily increasing, mainly via gold and hybrid OA. This may be due to the willingness from KTH to pay for authors APCs, and also due to funder's mandatory policies when it comes to OA. In this report we have included an analysis of the share of diamond OA, which made a notable appearance in 2014 but have held a stable level since then. In the next few years, it will be interesting to observe whether this evolution slows down, if the share of OA will plateau or if it will climb all the way up to 100%. When it comes to conference papers, the tendency to publish OA seems rather stable through the years with a very slight increase. We are still in a transformative stage, and there are signs that any administrative actions may have an impact on the share of OA publishing, like the information drive towards doctoral theses or the library decision to pay for all APCs.

Secondly, the popular venues for publication are stable and mostly subscription-based although the traditional journals generally offer a hybrid option and, as pointed out above, the hybrid form of OA is increasing. Moreover, the number of top 10 journals having a large proportion of articles published by KTH schools as OA – whether it be gold, hybrid or green OA – has been increasing for all schools.

Thirdly, KTH's publishing policy has had an impact on the full text availability of theses, and the repeated information that are given to doctoral students and administrators handling theses have given positive results. This is confirmed by the analysis of student theses included in this report, which shows a steady increase of available full texts since administrators have been given the task of registering the theses.

Fourthly, we can observe that the newly signed OA agreements for KTH, together with the recent KTH Library policy to pay for all APCs for papers with corresponding authors affiliated to KTH, have significantly increased the OA publishing for these papers, and that this has come with a total increase in publishing costs. It is important to keep in mind that the affiliation of the corresponding author determines the possibility to choose the OA option. If the corresponding author is not from KTH nor from a university having an OA agreement, it may be difficult to choose gold or hybrid OA. Even if there is still the option of making the publication green OA, the author may not choose that option because of lack of information, or because of technical issues. Therefore, it would be interesting to examine the role of corresponding authors in the share of OA in future analyses.

¹⁰ Hinders J., Ahlström L., Hamrin G., & Wändahl A. (2020). *Huvudrapport från projektet om kostnadsanalys för Open access på KTH*, Report, KTH Royal Institute of Technology, urn:nbn:se:kth:diva-290023.