

The fourth Digital Humanities Conference, DHN2019

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Abstract. The paper describes the main characteristics of the scientific programme of the fourth conference of Digital Humanities in the Nordic Countries (DHN2019) that took place in Copenhagen in March 2019. DHN2019, as the preceding DHN conferences, aimed to connect researchers and practitioners addressing all topics that generally belong under the Digital Humanities field. The DHN conferences address in particular researchers from the Nordic countries, comprising the Baltic region, but are also open to researchers from all over the world. Thus, DHN2019 attracted participants from 27 countries. The call for papers of DHN2019 followed the strategy proposed by the organizers of the DHN2018, who attempted to encompass two conference traditions, one from the humanities accepting abstracts as submissions and one from computer science accepting full papers of varying length. The latter type of submission was the most popular in 2019 and the present proceedings collect these papers. With respect to the topics addressed by the submissions to DHN2019, they cover most of the topics proposed by the most recent global digital humanities conferences. Furthermore, DHN2019 focussed on four specific thematic areas: NLP for digital humanities, multimodality and multimedia, digital pedagogy, and citizen science in digital humanities.

Keywords: Topics, Participation, Submission.

1 Introduction

The fourth Conference Digital Humanities in the Nordic Countries (DHN2019) took place in Copenhagen from the 5th to the 8th March 2019 and followed the conferences in Oslo (2016), Gothenburg (2017), and Helsinki (2018). The DHN2019 conference was preceded by tutorials and workshops.

The DHN conferences are still new and address Digital Humanities (DH), a research field that broadly covers digital approaches to humanities studies. Thus per definition DH comprises a variety of research questions, subjects, methods and resources. This is the strength of the field, and DH conferences offer their participants the opportunity of hearing about and learning from different research traditions and approaches to digitization. The DHN conferences are no exceptions being events where researchers and

practitioners from different fields meet and exchange experience about methodologies, tools, results and visions. As underlined in the preface to the DHN 2018 proceedings (Mäkelä and Tolonen 2018), DHN organizers have also to address different traditions of sharing knowledge in conferences since digital humanities attracts researchers from a broad spectrum of humanities' fields as well as computer science. The DHN2018 programme committee decided to combine these traditions, that is on the one hand, the tradition from many humanities' conferences of requiring as submissions short abstracts, that are collected in books of abstracts, and on the other hand the tradition in computer science conferences and workshops of requesting full paper submissions. The authors of accepted papers had the possibility of revising their contributions following the suggestions of the reviewers, and the final submissions are then published in the conference proceedings, the main channel to publish computer science research. We decided to follow this line of inviting both abstract and paper submissions, though slightly simplifying the submission types.

In the following, we present some of the characteristics of DHN2019, that both link it to and distinguish it from DHN2018.

2 The DHN2019 Organization, Topics and Special themes

The DHN2019 conference was organized by three different institutions, the University of Copenhagen, represented by the Department of Nordic Studies and Linguistics, and the Department of Media, Cognition, The Royal Danish Library and DIGHUMLAB, University of Aarhus. The Centre for Language Technology, under the Department of Nordic Studies and Linguistics, was the main responsible for the programme and conference organization. Moreover, it hosted the conference together with the Royal Danish Library.

One of the characteristics of all DHN conferences has been their openness welcoming all kinds of submissions related to digital humanities. The topics in which the submissions could be categorized have been inspired by the topics proposed in the global DH conferences. The topics are therefore divided into two main groups, humanities areas and digital topics. At DHN2019, we proposed 25 humanities areas and 42 digital topics. Submissions had to address at least one humanities area and one digital topic, and most submissions referred to more areas and topics at the same time. Examples of humanities areas are *Art history*, *Museology*, *Theology*, while examples of the digital topics are *Agent modeling and simulation*, *Infrastructure*, *Natural Language Processing*.

DHN conferences can also address special themes, and in DHN2019 we proposed four focus themes as follows:

1. NLP methods and resources for digital humanities: this theme comprises rule-based or data-driven NLP approaches as well as tools and data for processing and visualizing texts and/or speech.
2. Multimodality in digital humanities and digital arts: the theme covers inter alia research addressing various modalities and modi, such as speech and gestures in communication, texts and images, film, lyrics and music.

3. Digital pedagogy: this theme comprises tools and methods for e-learning as well as digital humanities in academic curricula and pedagogy.
4. Citizen science in digital humanities, crowdsourcing, open source: the theme also includes discussion of GDPR and other legal aspects use of NLP in digital humanities.

All four themes were represented in the submissions, and we received particularly many contributions addressing the first theme, that is NLP methods and resources for digital humanities. Moreover, the first three themes were covered by the presentations of the three keynote speakers.

3 Submissions

The submission call comprised abstract and paper contributions as well as tutorial and workshop proposals. We received four tutorials and five workshop proposals. Three of the tutorial and four of the workshop proposals were accepted, but in the end only one tutorial and four workshops were held. The workshop proposals also reflected different traditions. On the one hand, we got proposals of workshops as a kind of tutorials in which the participants are given exercises and learn about methods and tools for digital humanities in practice. On the other hand, we received proposals of workshops as thematic meetings in which the participants after a call for papers present and discuss their research. Both types of workshops were accepted, and the tutorial and the four workshops attracted between 10 and 45 participants. Full paper contributions were required by one of the workshops, *TwinTalks*, and the proceedings collecting these papers are published together with these conference proceedings.

111 submissions were uploaded to DHN2019. This number excludes 10 submissions, which were withdrawn. 82 of these 111 submissions were accepted, thus the acceptance rate was 75%. 44 of the accepted submissions were full papers with a length between 5 and 7 pages for short papers, and 8 and 16 pages for long papers. The accepted full papers are included in the present proceedings. To conclude, more than half of the DHN2019 submissions were regular papers.

Three sponsor abstracts were also submitted to a special DHN2019 sponsor track and all the accepted abstracts were included in the book of abstracts published on the conference site¹. It must be noted that some abstracts were rejected by the reviewers because they were too short (under half a page long). A suggestion to the organizers of future DHN conferences is to require that abstracts are at least one page long excluding tables and references. Another suggestion is to provide different criteria for reviews of abstracts and full papers, reflecting the different submission types.

The inclusion of a special sponsor track is also a DHN2019 novelty that could be interesting for the organizers of future DHN conferences.

¹ <http://cst.dk/DHN2019>

4 Topics of the DHN2019 Contributions

Nearly all digital topics suggested in the conference tool were addressed by one or more submissions. Figure 1 shows the distribution of submissions over the various topics.

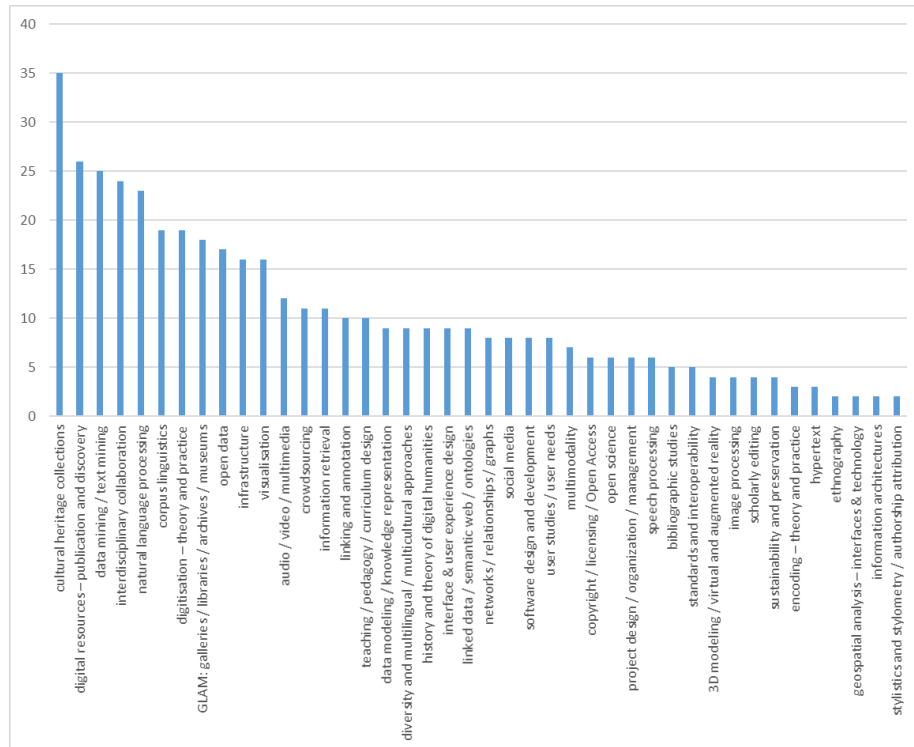


Fig. 1. DHN2019 submission distribution over digital topics.

As it can be seen, the most popular topics were cultural heritage collections, digital resources - publication and discovery-, data mining / text mining, interdisciplinary collaboration, natural language processing, corpus linguistics, digitisation - theory and practice -, GLAM: galleries/libraries/archives/museums, open data, infrastructure, visualization, audio/video/multimedia and crowdsourcing.

In Figure 2, we show the distribution of the submissions over the humanities fields.

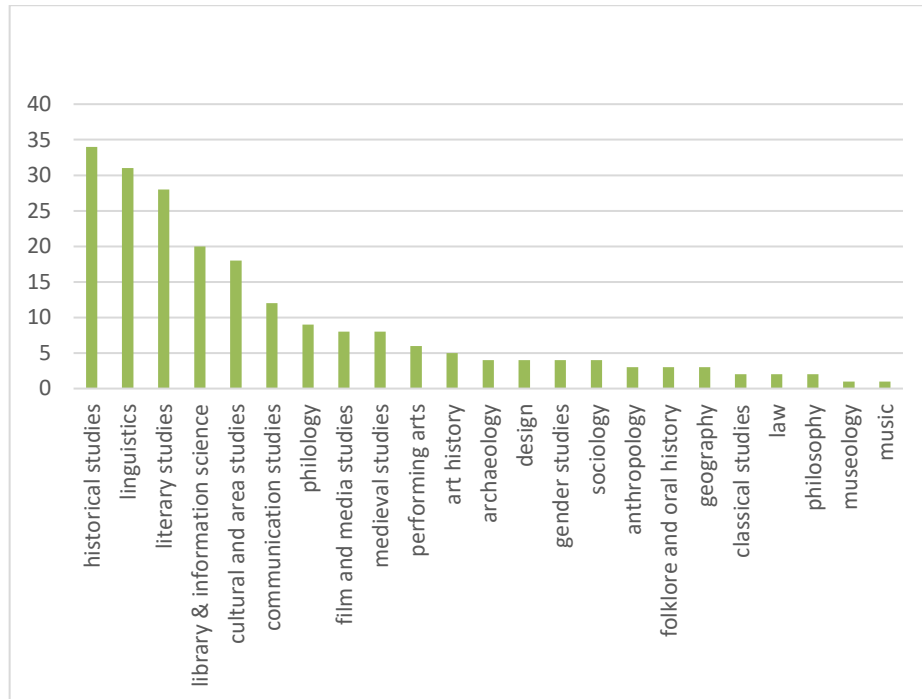


Fig. 2. DHN2019 submission distribution over humanities research areas.

The figure shows that the three most popular areas are *historical studies*, *linguistics* and *literary studies*. Most of the papers addressed more than two humanities topics as well as one or two digital topics. Comparing the submissions to DHN2019 with the DHN2018 contributions (Mäkelä and Tolonen 2018), it can be noted that the three most popular digital topics are common to both conferences. Natural language processing and corpus linguistics, while popular in both conferences, were addressed more often in DHN2019 than in DHN2018, reflecting the fact that natural language processing was one of the special themes of DHN2019. Games and meaningful play was unfortunately not addressed at all in 2019, while it was moderately popular in 2018 being one of the special themes of DHN2018.

It would be useful in future conferences to find ways to keep the interest alive in past special themes through e.g. tutorials, workshops or exhibitions, and to go on discussing the characteristics of digital humanities, a theme which was addressed not only in some of the workshops, but also during the conference.

5 Authors, Reviewers and Participants

The DHN conferences address mainly contributions from Nordic countries, comprising the Baltic countries, but they are also open to participants outside the Nordic area. This was certainly visible at DHN2019, which compared to the past editions attracted more authors and participants from all over the world. The number of authors of DHN2019

contributions varied from 1 to 9, and many co-authors were affiliated to different institutions often from different countries, underlining the cooperative nature of most research in digital humanities.

159 authors and co-authors contributed to DHN2019 and they were affiliated to institutions of 25 countries.

Reviewers and/or authors from DHN2018 were asked to act as reviewers at DHN2019. 143 accepted the invitation and contributed to the success of the conference.

We registered 210 participants from 27 countries. The distribution of Nordic participants by country is in Figure 3. Not surprisingly, most participants came from Denmark (31%), but there were also numerous participants from Finland (24%), Sweden (23%) and Norway (14%). There were also participants from Iceland and Estonia, and one participant from Latvia.

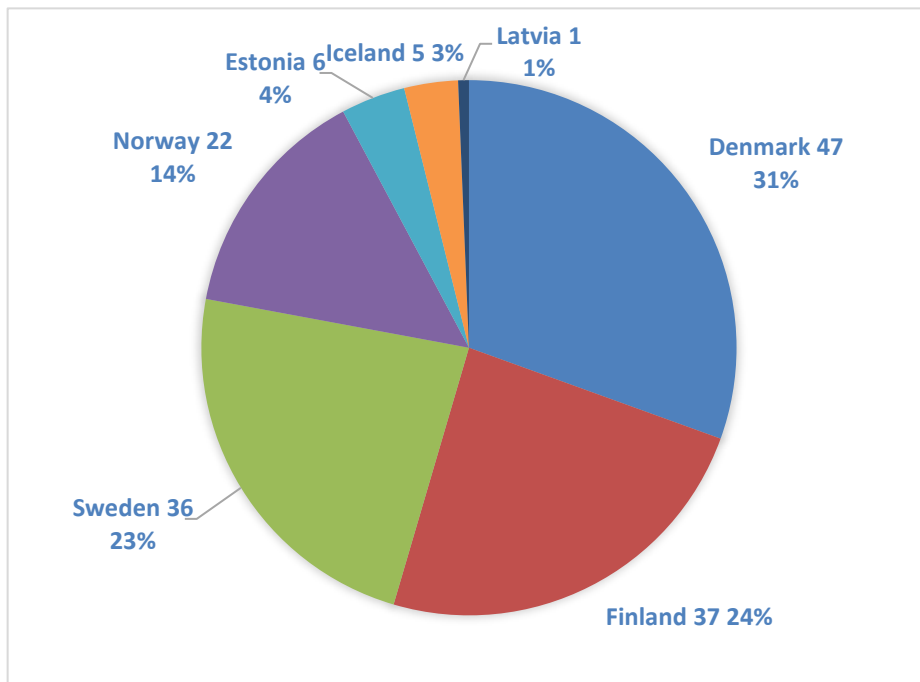


Fig. 3. Participants from the Nordic and Baltic Countries.

Table 1 shows the number and the relative percentage of participants from Denmark, Finland, Norway and Sweden, the four countries that have hosted the DHN conferences until now.

It is not surprising that the place hosting the conference influences who participates at it. With respect to the number of first authors of the submissions, 20 first authors come from Finland, 18 from Sweden, 15 from Denmark, 8 from Norway.

Table 1. Number and percentage of participants from the Nordic countries where DHN has been hosted

DHN Conference	DK	FI	NO	SE
2016 Oslo	14 (11%)	21 (16%)	35 (28%)	30 (25%)
2017 Gothenburg	21(13%)	47 (28%)	12 (7%)	40 (24%)
2018 Helsinki	14 (15%)	124 (41%)	13 (4%)	55 (18%)
2019 Copenhagen	47 (31%)	37 (24%)	22 (14%)	36 (23%)

The number of DHN2019 participants per country is shown in Figure 4.

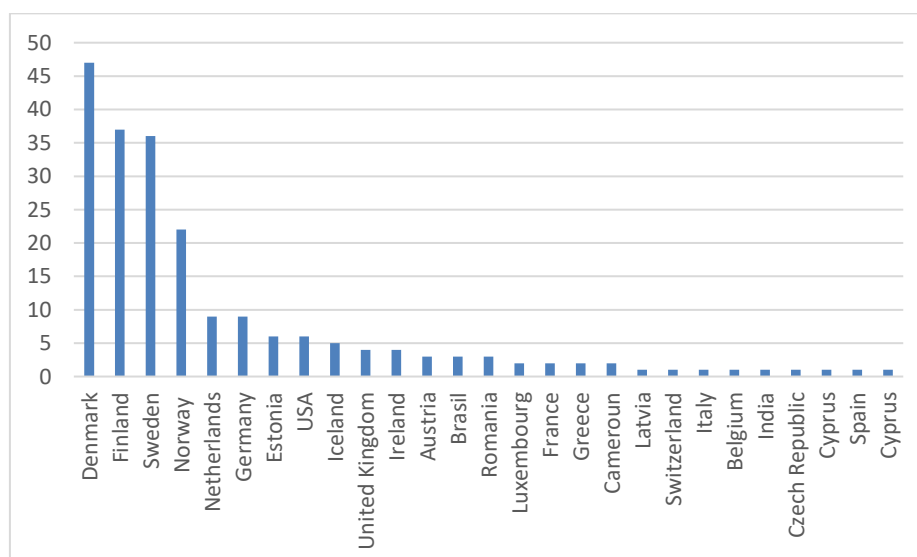


Fig. 4. Distribution of participants over country.

The figure shows that most participants came from European countries, but there were also participants from outside Europe.

The participants to DHN2019 were employed at universities and research institutions, archives, libraries and companies. Furthermore, there were many participants who were connected to CLARIN, the European Research Infrastructure for Language Resources and Technologies. With respect to gender representation, male and female participants were equally distributed at DHN2019.

6 The Proceedings

The papers in the proceedings are between 5 and 20 pages long and they reflect the variety of topics that characterized the contributions to the conference. More specifically, the subjects addressed by these papers comprise, corpus linguistics applied to historical or literary data, linked data for historical studies, the application of NLP methods for different tasks, and the automatic treatment of audio files. Other papers concern the use of eye tracking for improving speech analysis, the automatic identification of tweet bots, the use of photogrammetry and other technologies in the study of ancient museum objects, the automatic extraction of attitudes towards immigrants from media, improvements and evaluation of OCR methods and tools, and the construction of corpora from social media or from digitized data. The analysis of research methods for digital humanities, strategies for teaching computational methods to students from the humanities are also issues addressed in the proceedings.

Finally, the proceedings of the *TwinTalks* workshop, which accompany the DHN2019 proceedings, focus on the cooperative nature of digital humanities.

7 Conclusions

In this introduction, we have given some figures about the submissions to the fourth Digital Humanities in the Nordic countries conference, and the topics addressed by them. In the call for papers and in the topic organization of the DHN2019 conference, we followed the main guidelines proposed by the organizers of the preceding DHN conference in Helsinki (DHN2018). Comparing the submissions to DN2019 and to the preceding conference, we can conclude that (1) the most popular topics are the same, and (2) that the special themes proposed in the call for papers influence which topics are addressed in the submissions. Another characteristic of DHN2019 compared with previous years' editions of the conference is that DHN2019 attracted more participants outside the Nordic countries. Also, the relative number of full papers was higher in this year's conference than in DHN2018.

One suggestion to the organizers of future DHN conferences is to decide on a higher minimum length for abstract submissions. Another suggestion is to provide different criteria for reviews of abstracts and full papers, reflecting the different submission types.

References

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