

Conference: Modelling Vagueness and Uncertainty in Digital Humanities

The conference “Modelling Vagueness and Uncertainty” organized by the project HerCoRe (<https://www.inf.uni-hamburg.de/inst/dmp/hercore/projects.html>) (funded by Volkswagen-Foundation within the call “Mixed Methods in Humanities”) took place on July 9-10. Initially planned in Hamburg, the conference was eventually organized online using the DFN Conference Tool (conf.dfn.de). For two days 16 specialists in fuzzy logic and processing of uncertain information and scholars from various digital humanities’ projects attempting to model their vague and uncertain data discussed about models offered by computer science, power vs. limitations of current software solutions, exchanged views about terminology, data complexity, visualization, role of hermeneutics in representation and processing of vague and uncertain information.

The first day was opened by a Keynote by Manfred Thaller “*The Fog of History*”. The rest of the day was dedicated to DH-Projects:

- Cristina Vertan, Walther v. Hahn, University of Hamburg: „*Detecting, Processing and Visualising Vagueness and Uncertainty sources in multilingual historical data collections*“ ,
- Wieslawa Duzy, Polish Academy of Sciences „*Unclarity and Uncertainty of Historical Spatial data from Poland*“,
- Davor Lauc, University of Zagreb: „*Reasoning about inexact temporal expressions using fuzzy logic and deep learning*“,
- Dimitar Iliev, University of Sofia: „*What’s in a Name? Encoding Ambiguity in Ancient Greek Inscriptions from Bulgaria*“,
- Alexandra Poulouvassilis, Birkbeck Knowledge Lab: „*Managing missing and uncertain data on the UK museum sector*“,
- Marc Kupietz, IDS Mannheim, „*Coping with Uncertainty in Synchronous Corpus Linguistics*“.

The second day was opened by an invited talk given by Michael Piotrowski from the University of Lausanne “*What Are We Uncertain About? The Challenge of Historiographical Uncertainty*”.

It was followed by five talks describing computer science methods for representing and processing vague and uncertain information:

- Fairouz Zendaoui, Ecole Nationale Supérieure d'Informatique, Algier *Quantifying and Representing Uncertainty of Historical Information*,
- Umberto Straccia, Italian National Research Council, „*Fuzziness in Semantic Web languages*“,
- Francesca Lisi, University of Bari : „*Representing Fuzzy Quantified Sentences in OWL 2*“,
- Fernando Bobillo , University of Zaragoza, „*Fuzzy ontology reasoning and applications*“,
- Jesús Medina, University of Cadiz, *DIGital FORensics: evidence Analysis via intelligent Systems and Practices (DigForASP). COST Action 17124. Goals and intermediate achievements.*
- Finally, another DH–Project “Modelling vagueness in the deciphering of Classic Mayan hieroglyphs - A criteria-based approach for the qualitative assessment of readings proposals was presented by Franziska Diehr.

The conference ended up with a discussion session under participation of Martin Dörr (ICS-FORTH Heraklion, Greece), who presented methodological remarks on the proper distinction of vagueness, fuzziness, and uncertainty.

Abstracts of the contributions coming from Algeria, Bulgaria, Croatia, Germany, Italy, Poland, Spain, Switzerland and United Kingdom. can be found under

<https://www.inf.uni-hamburg.de/inst/dmp/hercore/publications/vaguenessuncertainty2020.html>

Recordings of the conference will be shortly available on the Lecture2go platform of the university of Hamburg (<https://lecture2go.uni-hamburg.de/>)

This was internationally the first academic event bringing together the two communities. They discussed methodological challenges of vagueness and uncertainty in DH and reflected on current instruments available from computer science as well. A remarkable feature was the broad thematic basis of the DH-Projects: ottoman studies, history, historical geography, classic philology, museology, corpus linguistics, genealogy, Maya language.

Most participants agreed on the preliminary estimation, that researchers from computer science underestimated versatility and mass requirements of DH. Scholars from DH on the other hand understood to a large extent the range and power of modern formalisms for modelling and representing vagueness and uncertainty. Additionally, DH communities experienced the marginal reflection of reasoning techniques in their fields.

A publication as well as follow-up events are in planning

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