

SLang Huygens Descartes Lecture (2025-02), Abstracts

200-word Abstract Lecture

Computational Approaches to Early Modern Chemistry

The early modern print revolution significantly transformed the production, communication, and organisation of scientific knowledge, leaving a vast corpus of sources that traditional methods struggle to analyse comprehensively. Computational humanities, particularly approaches such as distant reading and distant viewing, offer innovative solutions to these challenges.

This talk explores computational methods applied to early modern chemistry through three case studies. The first examines early modern books of secrets as serial sources for the history of science, demonstrating the potential and challenges of large-scale analyses. The second highlights the use of digital tools to decrypt a historical cipher. The third applies computational techniques to study images in early modern handbooks of chemistry, metallurgy, and distillation, focusing on their increasing use of scientific illustrations in the period's growing culture of knowledge organisation.

While computational approaches require hermeneutic processes rooted in the humanities, their integration into the history of science remains limited despite their potential. The presentation also addresses broader questions about integrating traditional history of science with digital and computational humanities, emphasising the need for interdisciplinary collaboration and resources for large-scale research. It further reflects how digitisation politics shape research priorities and underscores the necessity of combining historical and data literacy.

150-word workshop abstract (actually 280 words)

In recent years, the digital humanities (DH) have increasingly embraced critical approaches, including critical DH, critical data studies, and critical code studies. These frameworks draw on the humanities' unique expertise, such as historical source criticism, to develop a digital hermeneutics that critically interrogates data and algorithms. Such data literacy skills are vital for anyone working with data, whether historians with deep domain knowledge but limited technical experience or technically proficient individuals seeking to reuse datasets for machine learning or other applications.

This workshop explores ethical and technical aspects of data literacy by teaching how to describe and analyze digital resources through the creation of datasheets for datasets. Introduced in 2018 by

Timnit Gebru and colleagues, *datasheets for datasets* document a dataset's purpose, composition, collection process, and recommended uses, thus enhancing transparency, mitigating biases and improving reproducibility. This is an essential practice for understanding the capabilities and limitations of a dataset, identifying data or digitization gaps, and ensuring ethical and technical considerations such as data reusability.

Participants will explore datasets from the Huygens digital resources, which include a broad range of materials on naval history, trade history, the East India Company, biographical dictionaries, and more. Such datasets based on historical data typically reflect historical biases, such as the overrepresentation of the interests of elite Western men in correspondence, diaries, or city chronicles. These are key types of sources in the Huygens digital collection, and the institute is acutely aware of the inherent bias in these sources and is also developing methods to redeem them where possible. However, given their historical nature, we cannot simply recollect the data and thus, and need ways to make do with the sources we have. One such way is analysing whose interests datasets represent, as suggested in *datasheets for datasets* or the recent Data Feminism movement. Participants will create *datasheets* for their chosen datasets.