

JOURNÉE D'ÉTUDE

**REPRÉSENTATION ET FORMALISATION
DES CONNAISSANCES :
DES OBSERVATIONS AUX DONNÉES**

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**KNOWLEDGE REPRESENTATION:
FROM OBSERVATIONS TO DATA**

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REPRÉSENTATION ET FORMALISATION DES CONNAISSANCES : DES OBSERVATIONS AUX DONNÉES

KNOWLEDGE REPRESENTATION: FROM OBSERVATIONS TO DATA

Une analyse de la recherche à l'intersection entre l'informatique et les sciences humaines fait apparaître un intérêt croissant pour la représentation des assertions des chercheurs dans les modèles formels. De ce point de vue, les «ressources» que nous manipulons dans les modèles ne sont pas seulement des entités du domaine, mais aussi ce que les chercheurs affirment à propos de ces entités. Ces assertions peuvent avoir une nature purement qualitative ou être exprimées en termes quantitatifs, par exemple parce qu'elles résultent de méthodes statistiques ou de mesures empiriques, entre autres procédures. Dans ce cadre, il reste toutefois beaucoup de place pour la recherche,

tant au niveau méthodologique et formel qu'au niveau de l'application. Par exemple, comment produire des données d'observation d'une manière qui soit cohérente par rapport à la connaissance des chercheurs ? Comme il est courant que les chercheurs - au sein d'une même communauté - adoptent des approches multiples et pas nécessairement compatibles pour leur travail, comment les modèles formels peuvent-ils donner un sens à cette pluralité théorique pour traiter les observations ? L'objectif de cette journée d'étude est de faire le point sur les connaissances, les expériences, les théories et les applications pour la modélisation des assertions d'experts.

From an analysis of the literature at the intersection between computer science and the humanities, there emerges an increasing interest for the representation of *scholarly statements* in formal models like ontologies (see some references below). In a sense, the «resources» we manipulate in the models are not only domain entities of different sorts but also what scholars claim of such entities. These claims can have a pure qualitative nature or could be expressed in quantitative terms, e.g., because they result from statistics methods or empirical measurements, among other procedures. For instance, we may have literary criticism data reflecting the points of view of scholars working with some specific interpretational approaches like Hermeneutics or Psychoanalysis; in musicology we can have data about the results of musicological analysis on certain compositions (as it is done in the CRIM project - <https://crimproject.org>); in archeology, we can encounter measurements on the objects found in archeological sites, and so on.

The goals of research efforts in these lines could be looked at from different perspectives. First of all, the modeling of scholarly views allows us to make sense of the debates as well as of the competing perspectives around the same resources. As claimed by Barabucci et al (2021), in the Humanities (but not only), « we use words such as facts and truths just to mean statements for which there is an acceptable trail of supporting

sources, or statements that are more or less accepted by the majority of the relevant scholars or even statements that so far have not been disproven.» Hence, by modeling scholarly statements, we «make sure that we fully document their existence, their strengths and the ideas behind them [...]. » From a computer science view, once we have collected - what one may call - observational data, we can envisage multiple ways to exploit them to support research at different levels. For instance, to compare multiple perspectives on the same resources in order to document their agreements or departing points; to integrate different but compatible perspectives on the same items; to analyze scholars' argumentative strategies or supporting sources, etc.

In this landscape, there remains plenty of space for research at both the methodological, formal, and application levels. For instance, how do we produce observational data in a way that is coherent with respect to scholarly knowledge? Also, since it is common for scholars - within the same community - to adopt multiple and not necessarily compatible approaches for their work, how can formal models make sense of this theoretical plurality to handle observations?

The purpose of the workshop is to collect knowledge, experiences, as well as theoretical and application insights on the topic of scholarly statements modeling.

QUELQUES RÉFÉRENCES / SOME REFERENCES

Barabucci, G., Tomasi, F., & Vitali, F. (2021). Supporting complexity and conjectures in cultural heritage descriptions.

Carriero, V. A., Gangemi, A., Mancinelli, M. L., Nuzzolese, A. G., Presutti, V., & Veninata, C. (2021). Pattern-based design applied to cultural heritage knowledge graphs. *Semantic Web*, 12(2), 313-357.

Doerr, M., Kritsotaki, A., & Boutsika, K. (2011). Factual argumentation—a core model for assertions making. *Journal on Computing and Cultural Heritage (JOCCH)*, 3(3), 1-34.

Gangemi, A., & Presutti, V. (2022). Formal Representation and Extraction of Perspectives. *Creating a More Transparent Internet: The Perspective Web*, 208.

Masolo, C., Botti Benevides, A., & Porello, D. (2018). The interplay between models and observations. *Applied Ontology*, 13(1), 41-71.

Sanfilippo, E. M., & Freedman, R. (2022). Ontology for Analytic Claims in Music. In *New Trends in Database and Information Systems: ADBIS 2022 - SWODCH workshop, Proceedings* (pp. 559-571). Cham: Springer International Publishing.

INTERVENANTS / SPEAKERS

Philippe Canguilhem, Centre d'Etudes Supérieures de la Renaissance (CESR), Université de Tours, France

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Emilio M. Sanfilippo, ISTC-CNR Laboratorio di ontologia applicata, Italia



PROGRAMME / AGENDA

09:00 - 09:15 | **Emilio Sanfilippo** *Introduction*

09:15 - 10:00 | **Aldo Gangemi** *Observations, perspectives, and framing: ontology and human interaction*

10:00 - 10:45 | **Franco Niccolucci** *FAIR data or a fairy tale? How to support data reliability for their Re-use*

10:45 - 11:15 | **Break**

11:15 - 12:00 | **Béatrice Markhoff** *Représentation des entités architecturales et des observations d'architectes dans le projet SESAMES*

12:00 - 12:45 | **Olivier Marlet** *OntoMatchGame pour l'apprentissage du CIDOC par une communauté spécifique : le cas de l'archéologie funéraire (Teaching CIDOC with OntoMatchGame for funerary archaeology)*

12:45 - 14:15 | **Break**

14:15 - 15:15 | **Philippe Canguilhem, Richard Freedman** *Connecting The Work, The Score, and the Critic: The CRIM Project and the OMAC Ontology*

15:15 - 16:00 | **Sébastien Plutniak** *Observer et représenter les relations archéologiques*

16:10 - 16:15 | **Break**

16:15 - 17:00 | **Elena Pierazzo** *Literature and knowledge representation: a possible partnership?*

17:00 - 18:00 | **Emilio Sanfilippo** *Ontological modeling of observations: Case studies in the Humanities*
Open discussion and conclusions

