



Christophe Roche

Date of birth: 22/08/1956 | **Nationality:** French | **Phone number:** (+33) 686250705 (Mobile) |

Email address: roche.university@gmail.com | **Website:** <http://christophe-roche.fr/> | **Website:**

https://fr.wikipedia.org/wiki/Christophe_Roche | **Skype:** christophe_roche |

Address: 168 Route du Chatelard, 73370, Le Bourget du Lac, France (Home) |

Address: University of Crete, Panepistimioupoli, Gallos, 74100, Rethymno, Greece (Work)

EXECUTIVE SUMMARY

CURRENT

Biography

I have always been interested in artificial intelligence (AI), long before it was widespread. My first AI programs as a student led 2 private research centres in Computer Science to fund my PhD (Grenoble). My thesis, an expert system generator, was commercialised by the main AI company in France at the time (CRIL, Paris) which hired me as a project leader in AI. After gaining considerable experience in the private sector, I joined the University of Savoie as one of the first full Professors in AI in France (1988) at the age of 32. At that time the University of Savoie was one of the French leaders in AI: the IJCAI conference, the most important conference in AI globally until now, was hosted only once in France, by the University of Savoie, in 1991. My focus is still on using AI for innovation placing humans at the centre.

Domain of research: I am interested in the relationships between knowledge and language, natural or formal, and in the problems this raises, in particular how to reconcile the epistemological principles governing human knowledge and the epistemological principles underlying the formal knowledge representation languages of AI

Domain of application: from industry applications (Energy sector) to Digital Humanities

Creation of research centres: I have created 3: 2 funded by the French Ministry of Research, 1 funded by the China Foreign Expert Talent project

Setting up a scientific community: I founded Condillac Research Group (2003-) to bring together knowledge engineers, computer/information scientists on the one hand and linguists, terminologists, translators and form an interdisciplinary community from academia as well as industry. Condillac is in charge of the TOTH Conferences set up as a space for those interested in the interrelations between knowledge and human language(s) to meet, discuss and find innovative solutions.

Creation and management of international conferences: In 2007, I created the TOTH International Conferences and Workshops (Terminology & Ontology: Theories and Applications), which I organise every year at the University of Savoie, gathering the most recognized experts in the field from 20 different nationalities. The output is 15 edited volumes of TOTH Conferences and Workshops

Setting up international projects: 14 international projects, including 10 successful EU funded projects among which Linked Heritage and AthenaPlus

Setting up international innovative training: PhD courses, Summer Schools in France, Portugal, China.

I strongly believe in open science and knowledge sharing. There is no knowledge sharing without agreeing on the representation languages. That is why I am strongly involved in standardisation bodies that preserve linguistic diversity and standardise the only thing that can be standardised for sharing, knowledge

Standardization: Chairman of the AFNOR Terminology Committee. ISO Expert TC 37 (Language and Terminology), Project leader of the ISO 1087 (Terminology)

CURRENT

Highlights

- ERA Chair Professor in Artificial Intelligence for SSH, University of Crete (Greece)
- Emeritus Professor in Artificial Intelligence, University Savoie Mont-Blanc (France)
- Faculty member at University NOVA of Lisbon – CLUNL Linguistic Research Center (Portugal)
- Special Appointment Professor, University of Liaocheng (China)
- Head of the [Condillac Research Group](#) on « Terminology & Ontology » – LISTIC Lab. Savoie University
- Dean of the [KETRC](#) Research Center on « Knowledge Engineering and Terminology », Liaocheng University (China)
- PhD in Artificial Intelligence (INPG Grenoble – 1984)
- Domains of interest: Artificial Intelligence, Ontology, Linguistics, Terminology, Digital Humanities, Cultural Heritage
- Chairman of the [TOTH Conferences](#)
- Chairman of the AFNOR Commission on Terminology ([X03A](#))

- Project Leader of the ISO Standard on Terminology ([ISO 1087:2019](#))
 - 2017 Talent Foreign Expert (Shandong Province, China)
 - 2018 "Qilu Friendship" Award (Shandong Province)
 - 14 International Projects (10 funded by EC)
 - more than 10 international Summer Schools and PhD Courses
 - more than 120 publications and conference presentations
 - currently 4 supervised PhDs with Greece, Portugal, USA, Canada
 - Marketed Software in Artificial Intelligence
- ORCID id: 0000-0002-0756-0559

Link <http://christophe-roche.fr/>

● WORK EXPERIENCE

01/05/2023 – CURRENT Rethymno, Greece

ERA CHAIR PROFESSOR IN ARTIFICIAL INTELLIGENCE FOR SSH UNIVERSITY OF CRETE

Setting up a new Centre of Excellence in Artificial Intelligence for Social Sciences and Humanities at the University of Crete at Rethymno: [TALOS Research Centre](#)

European Project - ERA Chairs HORIZON-WIDERA-2022-TALENTS-01 - Project Number: 101087269

01/10/2023 – CURRENT France

PROFESSOR EMERITUS UNIVERSITY SAVOIE MONT BLANC

31/07/1988 – 30/09/2023 France

FULL PROFESSOR IN ARTIFICIAL INTELLIGENCE UNIVERSITY SAVOIE MONT-BLANC

- Leader of the [Condillac](#) Research Group on "Terminology & Ontology" - LISTIC lab (Computer Science) <http://new.condillac.org/>
- Chairman of the [TOTH](#) Conferences since their creation in 2007
- [Research](#) in Artificial Intelligence (Ontology, Knowledge Graph), Digital Humanities, Semantic Web, Terminology, Lexicography
- [Teaching](#) in Artificial Intelligence, Semantic Web, Knowledge Engineering, Digital Humanities, Logic, Object Oriented Programming, Graph theory, Theory of Language

31/12/2008 – 01/01/2022 Lisbon, Portugal

FACULTY MEMBER UNIVERSITY NOVA OF LISBON

[Centro de Linguística da Universidade NOVA de Lisboa](#) - Faculdade de Ciências Sociais e Humanas da Universidade NOVA de Lisboa

- Research in Terminology and Lexicography
- Teaching in Terminology and Ontology

04/11/2017 – CURRENT Liaocheng (Shandong Province), China

SPECIAL APPOINTMENT PROFESSOR UNIVERSITY OF LIAOCHENG

Dean of the [KETRC](#) "Knowledge Engineering and Terminology Research Center" (<http://ketrc.com/>)

The KETRC was launched on November 5th 2017 in collaboration with [Prof. Roche Christophe](#) (University Savoie Mont-Blanc, France) awarded by the Talent Program of the Shandong Province.

The main domains of interest of the KETRC are Knowledge Engineering (Artificial Intelligence) and Multilingual Terminology with a particular interest in Digital Humanities and ISO Standards.

03/06/2014 – 07/06/2023 Paris, France

CHAIRMAN OF THE X03A AFNOR COMMISSION AFNOR (ASSOCIATION FRANÇAISE DE NORMALISATION)

[AFNOR](#) is the French organisation that represents France at the International Organisation for Standardisation ([ISO](#)) and the European Committee for Standardisation ([CEN](#)).

The [X03A](#) is the mirror commission of the [ISO/TC37](#) Technical Committee. The ISO/TC37 prepares standards about methodology and principles for terminology and language resources. It is an "horizontal committee" providing guidelines for all other technical committees that develop standards on how to manage their terminological problems.

31/08/1987 – 30/07/1988 Paris

PROJECT LEADER IN ARTIFICIAL INTELLIGENCE CRIL (CONCEPTION ET RÉALISATION INDUSTRIELLES DE LOGICIELS)

CRIL (Paris) was one of the first companies in Artificial Intelligence in the 1980s and 1990s. CRIL carried out projects in Artificial Intelligence based on Expert Systems, Lisp and Prolog. My thesis (generator of expert systems written in Lisp) was marketed by CRIL under the name of [MP-LRO](#).

31/08/1986 – 30/08/1987 Neuchatel, Switzerland

INVITED PROFESSOR IN ARTIFICIAL INTELLIGENCE UNIVERSITY OF NEUCHATEL

I was in charge of setting up a new postgraduate course in Artificial Intelligence for the French-speaking Switzerland Universities (Neuchatel, Lausanne, Fribourg)

31/07/1984 – 30/08/1986 Paris, France

PROJECT LEADER IN ARTIFICIAL INTELLIGENCE CRIL (CONCEPTION ET RÉALISATION INDUSTRIELLES DE LOGICIELS)

CRIL (Paris) was one of the first companies in Artificial Intelligence in the 1980s and 1990s. CRIL carried out projects in Artificial Intelligence based on Expert Systems, Lisp and Prolog. My thesis (generator of expert systems written in Lisp) was marketed by CRIL under the name of [MP-LRO](#). CRIL funded my "Habilitation à Diriger les Recherches" and allowed me to teach Artificial Intelligence at Paris 6 University.

31/08/1982 – 30/07/1984 Grenoble, France

RESEARCH ENGINEER IN ARTIFICIAL INTELLIGENCE CAPGEMINI RESEARCH CENTER

My research (PhD in Artificial Intelligence at the University of Grenoble - INPG) was funded by the Research Center of Capgemini (Grenoble) and the Research Center of Symag (Grenoble). The subject was about symbolic artificial intelligence, experts systems, Lisp programming

● **EDUCATION AND TRAINING**

1985 France

RESEARCH DIRECTOR (HABILITATION À DIRIGER DES RECHERCHES) IN ARTIFICIAL INTELLIGENCE University of Savoie

1983 Grenoble, France

PHD IN ARTIFICIAL INTELLIGENCE University of Grenoble (INPG)

My thesis was about knowledge representation and expert systems. Written in Lisp, it resulted in a knowledge representation language (frames) and an expert system generator with variables including backtracking with learning. The company CRIL (Paris) marketed my PhD under the name [MP-LRO](#), which was used in various fields: diagnosis and task planning.

My PhD was funded by the Research Center of Capgemini software company (Grenoble) and Symag (software and hardware) company (Grenoble)

Final grade Doctor | **Thesis** Expert Systems and Knowledge Representation

1981 Grenoble, France

MASTER IN COMPUTER SCIENCE University of Grenoble

● **RESEARCH FIELDS**

31/08/1982 – CURRENT

A pluridisciplinary approach

My work is multidisciplinary. It lies at the intersection of Artificial Intelligence and Terminology. More generally, I am interested in the relationships between Knowledge and Languages with a strong interest in Standardisation for Knowledge Sharing.

My fields of application have been varied according to the research and industrial projects I have been conducting, mainly in the field of Energy (solar, hydraulic, nuclear), Human Resources, Knowledge Capitalisation and Technical Products.

Since 2011, I have been focusing on Digital Humanities (European projects FP7 "Linked Heritage" and "AthenaPlus") both because they define an important field for the preservation and dissemination of cultural heritage, but also because Humanities are a source of inspiration for Artificial Intelligence.

1987 – CURRENT

Artificial Intelligence

I am mainly interested in the nature of Human Knowledge and in the Languages, either natural or formal, of expressing it (this is why my research team is called "Condillac", after the French Enlightenment philosopher and disciple of John Locke).

I am particularly interested in the notion of Ontology defined as a conceptualisation of a domain and in the means of operationalising it for information processing purposes (multilingual semantic search engines, classification and naming of objects, etc.).

The aim is not to impose on domain experts, in particular Humanists, the theories of knowledge on which Artificial Intelligence tools are based. On the contrary, I am interested in studying the contributions of the Humanities, and in particular of Epistemology, to Artificial Intelligence. For example, in the context of ontologies, how to reconcile the intentional (Philosophy) and extensional (Description Logic) approaches in the organisation of objects that populate "a" reality.

1994 - CURRENT

Terminology

There is neither communication nor sharing of knowledge without agreement on the terms used. Furthermore, "putting in order" the objects which populate the world requires to name them as well as to name the concepts/classes which structure them. It is the purpose of a terminology understood as a "set of designations (terms) and concepts belonging to one domain or subject" [ISO 1087].

In this context, I am interested, in the continuity of my work in AI, in the double dimension of terminology, linguistic (terms) and conceptual (concepts), and in the relationships between these two dimensions (knowing that the lexical network does not strictly match with the conceptual network). We will thus be interested in studying the relationship between the formal definition of concepts and the natural language definition of terms.

From a methodological point of view, we will not oppose the semasiological and onomasiological approaches in the construction of a terminology/ontology, but rather combine them on the principle that a concept is a set of essential characteristics that is sufficiently stable to be considered as a concept.

1994 - CURRENT

Standardization

Knowledge sharing requires agreement on the one hand on terminology used and on the other hand on the means of representing it.

To achieve these objectives, standardization proposes principles and methods for the construction of terminologies - this is the objective of ISO TC 37 standards - and languages for representing them - this is the objective W3C standards. In this context, I actively participate in the definition of ISO Terminology standards (ISO expert for the TC 37 standards on "Language and Terminology" and leader of the latest version of the ISO 1087:2019 standard "Terminology work and terminology science — Vocabulary").

I am also interested in W3C standards for Terminology and e-Dictionary (H2020 Elexis Project)

2010 - CURRENT

Digital Humanities

Rather than a simple application of IT, AI, NLP tools, [Digital Humanities](#) offer a multidisciplinary perspective that has recently led to rethinking certain practices both in AI and DH, e.g., in the acquisition and representation of knowledge in the field, and opened up new perspectives for the disciplines concerned.

Semantic annotation of texts in Philology, Classification and naming artefacts in Archeology, are examples where Neural AI and Symbolic AI can bring powerful solutions. Conversely, such applications raise very interesting theoretical issues on knowledge building and the relationships between languages and knowledge leading us to explore AI from a Humanist perspective.

● **PROJECTS**

01/03/2023 - CURRENT

ERA Chairs HORIZON-WIDERA-2022-TALENTS-01

Thanks to the generous funding by the European Commission (ERA Chairs HORIZON-WIDERA-2022-TALENTS-01), the University of Crete will enhance its capacity building in the field of Digital Humanities. A new Center of Excellence will be established in Rethymnon: TALOS, named after the ancient robot/guardian of Crete. The activities of the Center will be led by Professor Christophe Roche, who has committed to put his long standing experience in Artificial Intelligence and Digital Humanities to the service of the UoC for the duration of the project (2023-2028).

Link <https://en.uoc.gr/announce/talos-center.html>

31/01/2018 - CURRENT

H2020 European Project « Elexis »

The project proposes to integrate, extend and harmonise national and regional efforts in the field of lexicography, both modern and historical, with the goal of creating a sustainable infrastructure that will (1) enable efficient access to high-quality lexical data in the digital age, and (2) bridge the gap between more advanced and lesser-resourced scholarly communities working on lexicographic resources. It is composed of content-holding institutions and researchers with complementary backgrounds – lexicography, digital humanities, language technology and standardisation – a crucial feature required to address the multi-disciplinary objectives of the project.

Link <http://www.elex.is/>

31/10/2017 – 29/10/2020

Talent Program of the Shandong Province (China)

The awarded program aims to set up a new Research Center on Knowledge Engineering and Terminology at the University of Liaocheng in relation to the activities carried out by the Condillac Research Group of the LISTIC lab. KETRC focuses on Knowledge Engineering and Terminology in the context of the Semantic Web both from a theoretical and practical point of view, with a special interest in Digital Humanities and ISO Standards.

Link <http://ketrc.com/>

31/05/2016 – 29/10/2017

Multilingual terminology of ancient Greek dress

This research carried out in collaboration of the University of Copenhagen has been implemented as part of the Marie Skłodowska-Curie project no. 657868 entitled “Chlamys. The cultural biography of a garment in Hellenistic Egypt”. It relies on ontoterminology approach of analysis of texts for terminological purposes.

Link http://ontoterminology.com/wp-content/uploads/2020/05/GreekDress.en_.html

2012 – 2017

FP 7 European Project « AthenaPlus »

I was in charge of the multilingual terminology issues. A software environment called TMP2 was developed based on an ontoterminology-oriented engine. The principal objectives of the AthenaPlus project were to: I) Contribute more than 3.6 million metadata records to Europeana; II) Improve search, retrieval and re-use of Europeana’s content, bettering multilingual terminology management; III) Experiment with enriched metadata their re-use adapted for users with different needs.

Link <http://www.athenaplus.eu/>

31/12/2014 – 30/12/2015

XU GUANGQI Project (China)

A one-year project in collaboration with the University of Liaocheng (Shandong district, China) about multilingual terminology applied to the ISO Standards.

2012 – 2015

INTERREG IV European Project « Ontoreverse » (Switzerland)

University of Savoie was in charge of the ontoterminology dimension of the project. An ontoterminology-oriented engine dedicated to software engineering was developed. The domain ontoterminologies were specified in collaboration with experts. The Ontoreverse project is about reverse engineering based on domain ontologies. The main idea is that understanding programs relies on matching domain concepts with software structures.

2011 – 2014

PAULIF Project – 2012-2014 (Portugal)

A two-years project with Portugal (University NOVA of Lisbon) on Terminology, Ontology and Knowledge Organization in Medicine

2010 – 2014

FP 7 European Project « SIERA »

The general objective of the project is to reinforce closer scientific cooperation between EU and Palestinian scientists in the field of multilingual and multicultural knowledge sharing technologies (The diversity of languages, cultures and standards are the main barriers to sharing and consuming knowledge).

2010 – 2013

FP 7 European Project « Linked Heritage »

I was in charge of the Work Package 3 on Terminology. The [Linked Heritage](#) Project had 3 main objectives: I) to contribute large quantities of new content to Europeana, from both the public and private sectors; II) to demonstrate enhancement of quality of content, in terms of metadata richness, re-use potential and uniqueness; III) to demonstrate enable improved search, retrieval and use of Europeana content.

Link <http://www.linkedheritage.org/>

2009 – 2012

TEMPUS European Project « Pal-Gov »

Advanced tutorials on Knowledge Engineering, Ontology, Terminology, and Lexical Semantics. The project aims to develop a set of contemporary knowledge materials by the Partner Universities, consistent with EU standards that will fulfill the needs of the national plans of Palestine to implement IT based solutions for e-Government. The project will foster the transfer of state-of-the-art knowledge and best practices from Europe to Palestine on electronic services in general, and e-Governmental services in particular.

2005 – 2008

INTERREG III European Project « GICOM » (Switzerland)

The French-Swiss Project « Gestion Innovante des Compétences de l'Organisation et des Métiers » was set up in collaboration with the Federal Polytechnic School of Lausanne (Ecole Polytechnique Fédérale de Lausanne, Switzerland). It succeeded to propose a new method of knowledge and skill management based on a domain ontology of competency.

2005 – 2008

FP6 European Project « ASTECH »

The main technical goal of the project was to set-up Technology Resource Centres in Europe, with the aim of building bridges between the technology providers (research centres, architects, local actors...)

1998 – 2002

INTERREG II European Project « MAPPING » (Italy)

The French-Italian Project « MAPPING : Méthode d'Aide au Pilotage de Projets Innovation Globale » was set up in collaboration with the CERIS lab. of the Italian National Research Council (CNR). Its main goal was to specify an assessment method of innovation relying on the representation of the strategic knowledge of enterprise and of its know-how.

1995 – 2002

EUREKA European Project « PVS98 »

The main objective of the EU 1439 Eureka project was to specify and develop a new architecture based on a FIPA (Foundation for Intelligent Physical Agents) Multi-Agent System and Ontology for Enterprise Modeling.

● **CREATION AND MANAGEMENT OF RESEARCH STRUCTURES**

04/11/2017 – CURRENT

Knowledge Engineering & Terminology Research Center (KETRC) - University of Liaocheng (China)

The [KETRC](#), for Knowledge Engineering & Terminology Research Center, is a new Research Center (15 members) of the [University of Liaocheng](#) (Shandong Province, China). The KETRC was launched on November 5th 2017 in collaboration with Prof. Roche Christophe awarded by the Talent Program of the Shandong Province (2017). The main domains of interest of the KETRC are Knowledge Engineering (Artificial Intelligence) and Multilingual Terminology with a particular interest in Digital Humanities and ISO Standards.

Link <http://ketrc.com/>

31/12/2002 – CURRENT

Condillac Research Group on Terminology and Ontology - University Savoie Mont-Blanc

Created in 2003 from the [Condillac Research Group](#) in Knowledge Engineering at the University of Savoie (Equipe de Recherche Technologique Condillac No. 20032288, French Ministry of Research), Condillac (18 members) is today an international research group whose interests concern Terminology and Ontology, and, in a more general way, the links

between Language and Knowledge. Condillac is in charge of the organization of the [TOTh International Conference](#) on Terminology and Ontology.

Link <http://new.condillac.org/>

1990 – 1999

LGIS - Software Engineering Lab - University Savoie Mont-Blanc

Created in 1991, LGIS (Laboratoire de Génie Informatique de Savoie) was accredited by the French Ministry of Research (JE n° 950191). Its main domains of interest were software engineering applied to Artificial Intelligence: Knowledge Representation and Multi-Agent Systems applied to industry (AEGIS company, Bourget du Lac)

● **ORGANISATION OF CONFERENCES**

2006 – CURRENT

Annual International Conferences TOTh "Terminology & Ontology: Theories and applications"

In 2007 I created the [TOTh](#) Conferences, which I organise every year at University Savoie Mont-Blanc and for which I chair the Programme Committee (<http://toth.condillac.org/>).

The TOTh Conferences draws together researchers, teachers, trainers, practitioners, users and industrialists whose interests concern terminology and, in a more general way, the links between language and knowledge. Its [Programme Committee](#) comprises **more than 20 different nationalities** and the most prominent personalities in the domain. The conference is with a **call for papers, peer-review** and **publication** of the [proceedings](#).

Link <http://toth.condillac.org/>

2009 – CURRENT

Workshops TOTh

The [TOTh Workshops](#), initiated in 2011 as a complement to the TOTh Conferences, provide the opportunity to probe deeply into a subject related to the themes of the TOTh Conferences. They are organised and hosted by a partner (university or organisation) in agreement with the TOTh steering committee: "The definition in Terminology" Lisbon 2011, "*Contexts and Notes in Terminology*" Forli 2012, "*Verbal and nonverbal representation in terminology*" Copenhagen 2013, "*Multilingual Thesaurus and Terminology*" Bruxelles 2014, "*Terminology and Standards*" Luxembourg 2015, "*Neology in Terminology*" Paris 2016, "Terminology and e-dictionaries" Castelló 2017, "Terms used in business and other organisations" Marseille 2018, "Term Formation" Dublin 2019, "Terminology, interoperability and Data integration: Issues and Challenges" Paris 2020 postponed in 2021. (<http://toth.condillac.org/previous-workshops>)

19/09/2018

Workshop Rossio Project: Terminology and Ontology for knowledge management (Lisbon)

Hosted by the ROSSIO infrastructure for the Social Sciences, Arts and Humanities, this workshop has an informative goal and aims to show the role that terminology and ontologies have in the organization of knowledge, regardless of the domains.

Link <https://rossio.fcsh.unl.pt/2019/01/28/workshop-terminology/>

23/06/2017

TOTh-TKE Workshop "Theoretical Foundations of Terminology Science and Applications" (Vienna)

Organized by TOTh and TKE (Terminology and Knowledge Engineering Conference), this workshop focused on the theoretical foundations of terminology science and applications. Particular attention was paid to the ISO standards and their capabilities to meet the challenges of the digital world, but also to more recent theories from both linguistic and conceptual points of view (e.g. ontology for terminology).

<http://new.condillac.org/toth-tke-2017-vienna-workshop/>
Vienna, Austria

Link <http://new.condillac.org/toth-tke-2017-vienna-workshop/>

23/06/2016

Workshop TKE on "Terminology Teaching & Training" - Copenhagen

Terminology is being, and has been taught, for some time in various academic and non-academic contexts, but questions regarding the didactics of the subject have not been fully tackled. Therefore, the European Association for Terminology (EAFT) and the International Institute for Terminology Research (IITF) organizes a workshop during TKE 2016, where various aspects of terminology teaching and training (TT&T) will be discussed. Terminology and Knowledge Engineering Conference (TKE)

Copenhagen, Denmark

2011

Area "Ontologies and Terminology" - COLING 2012 (Conference on Computational Linguistics) (Mumbai)

Area "Ontologies and Terminology" organized during the 24th International Conference on Computational Linguistics" COLING 2012
Mumbai, India;

Link <https://aclanthology.org/C12-1000.pdf>

26/05/2012

ColabTKR 2012 Workshop on "Terminology and Knowledge Representation" - LREC12 (Istambul)

13/08/2010

TKE 2010 "Ontologies as a basis for terminological resources" (Dublin)

Dublin, August 14th, Ireland

30/11/2008

JFO 2008 (Lyon)

JFO 2008 : Journées Francophones sur les Ontologies - Lyon, 1-3 décembre 2008 - co-organisateur

30/11/2006

Terminologie et Ontologie : descriptions du réel (Paris)

Colloque de la Société française de Terminologie, « Terminologie et Ontologie : descriptions du réel », Paris, 1er Décembre 2006, Ecole Normale Supérieure (rue d'Ulm, Paris)

28/06/2006

Workshop IEA/AIE "Ontology and Text" (Annecy)

Workshop IEA/AIE "Ontology and Text", Annecy, June 29th, 2006

1996

Workshop ICMCM&SC on "Agent and Knowledge-oriented Concurrent Engineering" (Washington)

Workshop ICMCM&SC on "Agent and Knowledge-oriented Concurrent Engineering", Washington, USA, 1997

● **PROGRAMME COMMITTEE MEMBER**

2006 – CURRENT

TOTH: "Terminology and Ontology: Theories and applications"

Chairman of the [Programme Committee](#)

Link <http://toth.condillac.org/>

2009 – CURRENT

Workshop TOTH

EGC: "Extraction"

The "Knowledge Extraction and Management" conference (EGC in French) is an annual event that brings together researchers and practitioners from disciplines within the data and knowledge sciences. These disciplines include machine learning, knowledge engineering and representation, reasoning about data and knowledge, data mining and analysis, information systems, databases, semantic web and open data, etc.

Link <https://www.egc.asso.fr/>

2018 – CURRENT

SEMAPRO (International Conference on Advances in Semantic Processing)

2006 – 2018

NLPCS (Natural Language Processing and Cognitive Science)

The international workshops of Natural Language and Cognitive Science (NLPCS) are dedicated to exploring the special relationship between natural language processing and cognitive science and the contribution of computer science to these two fields.

Link [http://www.wikicfp.com/cfp/program?id=2217&s=NLPCS&f=Natural Language Processing and Cognitive Science](http://www.wikicfp.com/cfp/program?id=2217&s=NLPCS&f=Natural+Language+Processing+and+Cognitive+Science)

2011 – 2019

META4eS (Methods, Evaluation, Tools and Applications for the Creation and Consumption of Structured Data for the e-Society) 2018, 2017, 2015, 2014, 2013, 2012

Methods, Evaluation, Tools and Applications for the Creation and Consumption of Structured Data for the e-Society

2012 – CURRENT

WEB (Building and Exploring Web Based Environments)

2008 – 2014

Flairs

In cooperation with the American Association for Artificial Intelligence

2017

Lex DH & AI (eLexicography: Between Digital Humanities and Artificial Intelligence)

2010 – 2013

VORTE (Vocabularies, Ontologies, and Rules for the Enterprise)

2012 – 2015

OnToContent (Ontology Content)

2011 – 2013

RISE (Recherche d'Information SEMantique)

DHW (Digital Humanities Workshop) 2021 (Kiev)

Digital Humanities Workshop (DHW) is a peer-reviewed international workshop focusing on applications of digital technologies to the study of the humanities with the recognition that the printed word is no longer the main medium for knowledge production and distribution.

2021

MDTT (Multilingual Digital Terminology Today) 2022 (Padova)

Producing new terminological resources requires eclectic research skills. The first international conference on “Digital terminology today. Design, representation formats and management systems” aims to bring together specialists in the disciplines of terminology, terminography, computational terminology, computational linguistics, NLP, in order to share methodological reflections on design approaches, representation formats and management systems of the digital terminology contained in the terminological resources.

Link <http://www.maldura.unipd.it/digital-terminology/fr/>

2021

SCIA (Workshop on Social Communication and Information Activity in Digital Humanities) 2022 (Lviv)

1st International Workshop on Social Communication and Information Activity in Digital Humanities (SCIA-2022)

● **ORGANISATION OF POSTGRADUATE COURSES - SUMMER SCHOOLS**

2020

Demystifying Ontologies for Humanists (online)

This [workshop](#) is primarily addressed to Humanists, especially Archaeologists, Historians, Linguists, Classical, Textual and Literary Scholars. Computer and Data Scientists interested in Digital Humanities, Semantic Web and Graph technologies are welcome.

For Humanists, Ontologies can be instrumental in the semantic annotation of texts as well as images through the linking of words or phrases (e.g., named entities such as persons, places, etc., events, dates) of unstructured text with elements of the ontology (e.g., entities, relations), rendering data findable, accessible, interoperable, reproducible. Instructors: Dr Maria Papadopoulou, Pr Christophe Roche

Link <http://o4dh.com/demystifying-ontologies>

2019

Terminology & Ontology in the Digital Age (Pekin)

This [one week course](#) (5 x 3 h) aims to master, both from a theoretical and practical point of view, the principles, methods and tools in Terminology Ontology and International Standards. The teaching will alternate theoretical courses with exercises on computers. To illustrate the potential of Terminology and Ontology, two different unrelated domains of application have been chosen. The first one concerns Smart City Standards (W3C and IEC), the second one is about Digital Humanities in the context of the Semantic Web.

<http://o4dh.com/wp-content/uploads/2020/07/DH-Flyer.pdf>

Renmin University, Peking, China, 26-30 October 2020

Link <http://ketrc.com/wp-content/uploads/2020/12/0.-Presentation-Renmin-2020.pdf>

2019

Digital Humanities & Cultural Heritage Course (online)

This 12-hour seminar is an [introduction to Digital Humanities](#) defined as the application of methods and tools from Information and Communication Technologies to areas of Arts, Humanities and Social Sciences. In the framework of this training, the focus will be on the digital representation of cultural objects in the form of Linked and Open Data accessible by means of standards of the Semantic Web. To validate the acquired knowledge, the seminar includes a full day of hands-on practice on how to query and to structure data in cultural heritage collections.

This course was prepared and co-taught in collaboration with Dr Maria Papadopoulou.

<http://o4dh.com/wp-content/uploads/2020/07/DH-Flyer.pdf>

Link <http://o4dh.com/wp-content/uploads/2020/07/DH-Flyer.pdf>

2018

Digital Humanities and Cultural Heritage Course (Nanjing University)

30 hours of training spread over 2 weeks, 3 hours per day. The general objective of the [course](#) is to provide students from different fields of the humanities and cultural heritage with an introduction to contemporary debates in the field of ontological modelling and classification, terminology and semantic web technologies for the digital humanities and cultural heritage.

This course was prepared and co-taught in collaboration with Dr Maria Papadopoulou.

Nanjing University, China, 19-30 August 2019

<http://ketrc.com/nuaa-2019>

Link <http://ketrc.com/nuaa-2019>

2018

Termino-Logic (Lisbon)

15 hours of training spread over 1 week, 3 hours per day. An introduction to logic, this course aims to equip participants with the logic skills needed for terminology work from both a theoretical and practical point of view. Nova University of Lisbon, 2-6 September 2019

06/2018

Semantics in Terminology (Lisbon)

15 h, Nova University of Lisbon, Portugal, 2-6 July 2018

06/2017

Knowledge Representation for Terminology (Lisbon)

15 h, Nova University of Lisbon, Portugal, 3-7 July 2017

2013 – 2016

Terminology, Knowledge Representation and Ontology (Lisbon)

15h Lisbon, 4-9 July 2016, Lisbon 6-11 July 2015, 7-11 July 2014

● PHD COURSES

2019 – CURRENT

Symbolic Artificial Intelligence (Grenoble, Savoie)

12h - Artificial Intelligence is back in fashion. It has become efficient thanks to the technical progress made in computing power and storage capacity. Artificial Intelligence is at the heart of many applications and technological innovations in various domains: medicine, smart city, economics, digital humanities, etc. It is nowadays most often associated with Deep Learning based on neural networks. But "human intelligence is much more than just pattern recognition, and Artificial Intelligence is much more than just Machine Learning" (cyc.com).

PhD schools of University of Grenoble and University Savoie Mont-Blanc

2019 – CURRENT

Digital Humanities

12h - This course is designed for PhD students of the Universities of Grenoble and Savoie Mont-Blanc. Based on the summer schools on Digital Humanities, it focuses on (RDF) Knowledge Graphs in DH and how to query them in SPARQL

Link <http://o4dh.com/wp-content/uploads/2021/03/DH-Flyer-2021.pdf>

2013 – 2017

Knowledge Theory (Epistemology)

12h course on the theory of knowledge from Philosophy to Artificial Intelligence, illustrated with quotations drawn from some of the most important philosophers in the domain, from Aristotle, the Logic of Port Royal, to Frege and Russell

La Terminologie Scientifique

12h de cours d'introduction à la Terminologie scientifique en tant que discipline. Des premiers travaux dans ce domaine au sens moderne du terme avec le discours fondateur de Lavoisier sur la nomenclature de la chimie (1787) aux travaux les plus récents de l'ISO (International Organization for Standardization) en la matière.

● TEACHING AT UNIVERSITY SAVOIE MONT-BLANC

2015 – CURRENT

Semantic Web (Master 2)

Master 2

28h courses on Knowledge Graph, Data Web, Linked and Open Data, Semantic Web: W3C Standards (RDF,/RDFS, DC, FOAF, SKOS, etc.) including practical works on querying RDF Graphs in SPARQL (Wikidata, Babelnet, European Data Portal, Open Archives (HAL, Persée), DBpedia, National Library of France, MAKG, etc.)
<http://christophe-roche.fr/wp-content/uploads/2022/03/SW-2022-Students-Print.pdf>

Link <http://christophe-roche.fr/wp-content/uploads/2022/03/SW-2022-Students-Print.pdf>

2017 – CURRENT

Knnowledge Engineering (Master 2)

28h course on Knowledge Engineering focusing on Ontology including practical works with Protégé
<http://christophe-roche.fr/wp-content/uploads/2021/12/Slides-IC-Tools-Students-2021.pdf>

Link <http://christophe-roche.fr/wp-content/uploads/2021/12/Slides-IC-Tools-Students-2021.pdf>

2005 – CURRENT

Artificial Intelligence (Master 1)

27h course on Symbolic Artificial Intelligence: Theory of Knowlege, Knowledge Representation (Frame System), Expert Systems including practical works (programming an expert system)

2015 – CURRENT

Graph Theory (Bachelor 3)

27h course on Graph Theory

1992 – CURRENT

Advanced Object Oriented Programming (Bachelor 3)

27h course on Advanced Object-Oriented Programming

1992 – 2018

Logic (Bachelor 3)

27h course on logic

1992 – 2013

Theory of Language - Calculability (Bachelor 3)

27 h course on Theory of Language and Calculability

● **TEACHING OUTSIDE UNIVERSITY OF SAVOIE**

2008 – CURRENT

Terminology and Ontology (Master 2) Faculdade de Ciências Sociais e Humanas da Universidade NOVA de Lisboa

2016 – CURRENT

Knowledge Graph & Semantic Web (Master 2 & PhD) University of Liaocheng (China)

2016 – CURRENT

Terminology & Ontology (Master 2 & PhD) University of Liaocheng (China)

2006 – 2015

Ontology (M2 in Artificial Intelligence) University of Paris Dauphine

1991 – 2006

Artificial Intelligence (M2 in Multilingual Engineering (DESS)) INALCO - Paris

Institut national des langues et civilisations orientales (INALCO) - Paris

2005 – 2010

Ontology (M2) University of Brest

1986 – 1988

Advanced Artificial Intelligence (Switzerland)

Universities of Neuchâtel, Lausanne, Fribourg

● **SOFTWARE**

2014 – CURRENT

TEDI: ontoTerminology EDitor

Specification and Programming of [Tedi](http://ontoterminology.com/tedi), for ontoTerminology **ED**itor.

Tedi is a software environment dedicated to building multilingual [ontoterminology](http://ontoterminology.com) (an ontoterminology is a terminology whose conceptual system is a formal ontology). Tedi allows to define the formal ontology and the set of terms in the different languages independently of each other. The different set of terms are linked through the shared ontology.

Tedi offers a set of tools for building ontologies and the lists of terms. It also allows objects and proper names editing as well as export in RDF/OWL (Protégé), HTML (e-Dictionary), and CSV (CmapTools).

<http://www.ontologia.fr/Tedi/Tedi%20Introduction%202021.pdf>

<http://ontoterminology.com/tedi>

Link <http://ontoterminology.com/tedi>

2010 – 2015

TMP: Terminology Management Platform

The TMP2 (ThesaurusManagement Platform), is a web portal for thesauri management developed during the FP7 AthenaPlus project.

The TMP offers:

- creation and editing of thesauri, favouring a conceptual approach
- specification of all types of hierarchical relations (generic, instancial, partitive)
- extensive concept information (notes, images etc.)
- management of multilingualism
- integration of ISO standards 25964-1 and ISO 25964-2 on thesauri
- import and export in SKOS, JSON and RDF
- thesaurus mapping.

Link https://commons.wikimedia.org/wiki/File:TMP_Athena.jpg

2012 – 2015

Ote-for-Soft

Ote-for-Soft is a software environment dedicated to [ontoterminologies](#) building developed during the European Project Interreg IV « Ontoreverse »

2006 – 2015

OCW : Ontology Craft Workbench

[OCW](#), Ontology Craft Workbench, is a software environment dedicated to building ontology as Porphyry tree. OCW is based on an agent-oriented architecture written in Smalltalk, and on a dedicated language for writing ontologies by specific differentiation called LOK, Language for Ontological Knowledge, a « à la Lisp » language.

Link <http://christophe-roche.fr/ontology>

1983 – 1990

MP-LRO

In 90's CRIL was the first company in Artificial Intelligence in France (Paris). CRIL carried out projects in Artificial Intelligence based on Expert Systems, Lisp and Prolog. My thesis (generator of expert systems written in Lisp) was marketed by CRIL under the name of [MP-LRO](#).

Link https://upload.wikimedia.org/wikipedia/commons/c/ca/MP-LRO_Expert_System.jpg

● **SYNERGY WITH INDUSTRY**

2019 – CURRENT

Transportation

The aim is to study the contribution of neuro-symbolic AI (DL/ML and ontology) for container shipping management This collaboration is carried out with the company [ByCo](#) within the framework of a thesis fully funded by the R&D of ByCo

2002 – 2015

Energy (Solar, Hydraulic, Nuclear)

In collaboration with EDF (Electricité de France) and CIH (Centre d'Ingénierie Hydraulique)

- Solar Energy: Multilingual Ontology-oriented Content Management System (2006-2008)
- Hydraulic Energy: Expert Knowledge Modeling, Knowledge Graphs, Ontology and Terminology, e-Dictionary (2006-2008)
- Nuclear Energy: Long-life knowledge modelling for 900 MW nuclear power plants, Ontology and Terminology (2003-2005)

2012 – 2015

Reverse Engineering

The aim is to reduce the cost of software maintenance through a better understanding of knowledge embedded in software using ontology and terminology of the domain.

The result were applied to heat exchanger software in collaboration with CMDL and CIAT (Compagnie Industrielle d'Applications Thermique)

● **PHD SUPERVISION**

24/06/2021 – CURRENT

GreekPhilOnto: Knowledge Graph for Digital Classics. Aplication to Ancient Greek Philosophy

University Savoie Mont-Blanc - Tufts University (USA)

The objective of the GreekPhilOnto thesis is to create a domain ontology (knowledge graph) and terminology of ancient Greek philosophy for knowledge sharing. The GreekPhilOnto knowledge graph will encode different types of knowledge in the domain of Greek philosophy: concepts, e.g. schools of philosophy, objects (endurants), events(perdurants), named entities, e.g., people and places. It will enable multiple perspectives on the text and on related resources, and allow users to query the GreekPhilOnto knowledge base and other linked repositories in the Semantic Web, such as the Internet Philosophy Ontology (InPhO), Perseus Digital Library, and Wikidata.

The GreekPhilOnto model and the annotated graph will be openly accessible, so as to make it possible to search and navigate via relations among philosophical ideas, scholars and their schools, works, social networks, and biographical information. The resulting model could serve as a semantic bridge between cultural content providers, a tagset for semantic annotation, or a question answering system competent to answer questions on the people, works, philosophical ideas.

24/05/2021 - CURRENT

Terminology harmonization: a conceptual approach - Application to Physical Education and Sports Science

University Savoie Mont-Blanc - University of Athens (Greece)

The aim of this thesis is to harmonize terminologies related to a same domain. Starting from the fact that it is futile to try to standardize a specialised language, we will study the methods of terminology matching and propose a method taking into account the advances of digital technology. To this end, we will study the perspectives offered by the ontological turn in terminology. Indeed, if we postulate that a term is a verbal designation of a concept, we can transpose the problem of term mapping onto the problem of concept mapping. Ontology mapping and alignment will have to be studied from a terminological perspective. Finally, today a terminology must be open and shareable, i.e. accessible on the Linked and Open Data [LOD]. For this we will rely on the W3C semantic web standards. It will then remain to study the problem of the compatibility of the concept theories on which the semantic web and the ontological approach to terminology are based.

The application and validation domain will be that of multilingual terminology of physical education and sports science in Greek and English.

16/07/2020 - CURRENT

Neuro-Symbolic Artificial Intelligence applied to Container Shipping Supply Chain Transformation

University Savoie Mont-Blanc - University of Laval (Canada)

As the shipping industry deals with a large number of unstructured documents, some of which are legal contracts between stakeholders, it is important to be able to automate the processing of all documents for classification and verification purposes. Initial studies have shown that the results can be improved by embedding a semantic dimension. The thesis will be particularly interested in ontology-based machine learning for semantic multiclass classification in the domain of Container Shipping.

03/05/2020 - CURRENT

Ontoterminological modelling of non-material objects: the case of the balance of payments

University Savoie Mont-Blanc - University of Lison (Portugal)

This thesis takes place in the framework of conceptual terminology. Its aim is to model the knowledge of the field of the balance of payments and the international investment position, i.e. the concepts and the terms denoting them. The object studied is a social construct. This will allow modelling of different concept systems existing in different geographical areas as well as building of the terminologies associated to the former in three different languages. Natural language processing (NLP) tools and an ontoterminology editor will be used, and the work will imply interactions with domain experts. The ontoterminologies built will be exported in machine readable exchange formats, e.g. W3C. The ultimate goal of this thesis is to elaborate an e-dictionary that will facilitate knowledge sharing and transfer to non-experts.

31/08/2017 - 03/12/2020

Terminology and Ontology for Cultural Heritage: Application to Chinese Ceramic Vessels

University Savoie Mont-Blanc - University of Liaocheng (China)

There are many collections of vases in different museums in China. Although some of these collections have been digitized, they are rarely accessible in an open format and remain isolated. In addition, the lack of clearly identified terminologies is an obstacle to communication and knowledge sharing. Our work aims to respond to this issue by implementing practices drawn from the semantic web and knowledge engineering, and more particularly by building in a W3C format an ontology dedicated to the Chinese vases of the Ming and Qing dynasties.

Link <https://tel.archives-ouvertes.fr/tel-03167916/document>

22/11/2020

Knowledge Organisation and Terminology: Application to the cork industry

University Savoie Mont-Blanc - University of Lisbon (Portugal)

This PhD thesis aims to prove the relevance of texts within the conceptual strand of terminological work. Our methodology serves to demonstrate how linguists can infer knowledge information from texts and subsequently systematise it, either through semi-formal or formal representations. We mainly focus on the terminological analysis of specialised corpora resorting to semi-automatic tools for text analysis to systematise lexical-semantic relationships observed in specialised discourse context and subsequent modelling of the underlying conceptual system. The ultimate goal of this methodology is to propose a typology that can help lexicographers to write definitions.

12/09/2019

Terminology and Knowledge Representation: Ceramic Artefacts of al-Andalus

University Savoie Mont-Blanc - University of Lisbon (Portugal)

This PhD thesis aims at establishing theoretical and methodological foundations for the creation of an ontoterminological resource in order to promote terminology harmonisation and to further knowledge in al-Andalusian pottery studies.

In view of the objective of this thesis, applied ontology is brought to the forefront of terminology work, thereby emphasising contributions from philosophy and knowledge representation. In particular, it is thought that OntoAndalus, an ontology on al-Andalusian pottery, may constitute the conceptual backbone of a future terminological resource.

19/12/2018

Term Formation and Neologism in Terminology: Application to the Chinese language

University Savoie Mont-Blanc - University of Liaocheng (China)

The ISO 704 Standard on principles and methods of terminology work states that a term is a representation of a concept by linguistic means and "acts as a synthesis of the definition". Term formation, and more specifically the creation of new terms, can be built in such a way that the definition of the concept is embedded into the term. This research will focus on Terminology in Chinese. Chinese is a well-suited language for terminology due to its word formation by combining characters. We will study the relationships between the formation of terms in Chinese and the definition of concepts, as well as Chinese term abbreviation, that is in itself a method of generating new terms. The work is done in the context of the ISO Standards on Terminology and in the context of Ontology used for representing the concept system of Terminology.

19/12/2018

The Ontological Turn in Terminology

University Savoie Mont-Blanc - University of Liaocheng (China)

The operationalization of terminologies for information processing purposes requires a computational representation of the conceptual system. The theory of concept currently defined in ISO Terminology does not allow a computational representation. Although ISO standards on Terminology do not aim to operationalize terminologies but communication between humans, they should be used to model information and data [ISO 704: 2009]. The results of disciplines such as knowledge engineering highlighted the need for a theory of concept that could lead to a computational representation. In this context, ontologies, from knowledge engineering, is one of the most interesting perspectives to model the conceptual system of Terminology.

20/09/2018

Terminological approach to knowledge organization within the scope of endometriosis: the EndoTerm project

Co-supervision University Savoie Mont-Blanc - University of Lisbon (Portugal)

This PhD thesis aims to describe the conception, development and implementation of EndoTerm, a knowledge-based terminological resource focused on endometriosis which seeks to contribute to a more effective way of organizing and sharing the current knowledge regarding this particular subject field.

Overall, EndoTerm's theoretical and methodological principles are anchored in the synergies between Terminology - with its double-dimensional nature - and ontologies.

15/07/2018

Modélisation des connaissances pour systèmes intelligents distribués

07/05/2007

Référentiels des compétences et des métiers : une approche ontologique

23/11/2006

La cartographie sémantique. Des connaissances à la carte

27/11/2005

Modèles et Architectures Informatiques de Traitement du Langage pour le Soutien de l'Activité Située

06/07/1999

Représentation et Acquisition d'Ontologies par différenciation spécifique

11/1998

Conception et Réalisation d'un Environnement de Génie Linguistique

05/1997

Les Activités Multiparticipants Coordonnées : Une boîte à outils pour la construction d'éditeurs partagés

08/1995

Représentation des Connaissances et Génie Logiciel

01/1994

Modèles organisationnels et réflexifs des architectures à objets concurrents - Implémentation en Smalltalk-80

10/1989

Florian: un système déductif de gestion de bases de connaissances centrées objet

● **AWARDS**

09/08/2018

Qilu Friendship Award 2018 - Shandong Province

The Qilu Friendship Award is the highest honor given by the Shandong provincial government to foreign experts who have made important contributions to Shandong's economic and social development as well as international cooperation

https://commons.wikimedia.org/wiki/File:Qilu_Prize.jpg

Link https://commons.wikimedia.org/wiki/File:Qilu_Prize.jpg

10/2018

Best Paper Award – SEMAPRO 2018

M. Papadopoulou, C. Roche (2018). "[Tedi: a platform for ontologisation of multilingual terminologies for the Semantic Web](#)", SEMAPRO 2018: The Twelfth International Conference on Advances in Semantic Processing. 18-22 November 2018, Athens, Greece

Link http://ontologia.fr/Bibliography/CR/2018/Semapro_2018_Papadopoulou_Roche.pdf

2000

First Prize "Information Technology" of the Rhône-Alpes Futur Foundation

First Prize "Information Technology" of the Rhône-Alpes Futur Foundation (Premier Prix "Technologie de l'Information" de la Fondation Rhône-Alpes Futur): Ontology of competences and skills: application to job and competence alignment.

● **COMMITTEES AT UNIVERSITY SAVOIE MONT-BLANC**

1990 – 1997

Member of the Board of the "Fondamental and Applied Sciences" Faculty

The Board of of the "Fondamental and Applied Sciences" Faculty was in charge of the research (labs) and training (courses) policy of the Faculty

1987 – CURRENT

Member of the Recruitment Board in Computer Science

this Board is in charge of the recruitment of the permanent staff in computer science (20 members)

2002 – CURRENT

Member of the Director of Research Board of the LISTIC lab

The Director of Research Board defines the research strategy of the lab

LISTIC lab: 100

Director of Research Board : 15

2002 – 2010

Member of the LISTIC lab Board

● EDITORIAL ACTIVITIES

03/10/2017 – CURRENT

University Press Savoie Mont-Blanc

- Member of the Editorial Board of the University Press Savoie Mont-Blanc

- Director of the Terminologica collection

Link <https://btk.univ-smb.fr/livres/>

05/2007 – CURRENT

Editorial Director of the TOTH Proceedings

In charge of editing the proceedings of the TOTH Conferences

Link https://btk.univ-smb.fr/livres/?fwp_collections_revues=terminologica

● PUBLICATIONS

Selected Publications

List of selected publications

For other publications see:

- [HAL](#) Open Science Archive
- [Personal website](#)

2019

[The names of lighting artefacts: extraction and representation of Portuguese and Spanish terms in the archaeology of al-Andalus](#)

This paper is focussed on the Portuguese and Spanish terms for lighting artefacts, which were extracted from a corpus on the archaeology of al-Andalus. The purpose of the work described in this paper is the creation of an ontology-based multilingual terminological resource. Domain knowledge is represented through OntoAndalus, an OWL ontology which uses DOLCE+DnS Ultralite as a foundation. Language-specific information are modelled through Lemon, the Lexicon Model for Ontologies, which is currently in development by a community group within the W3C. Lemon allows for the representation of grammatical and semantic information, most notably lexicosemantic relations between terms and their reference to ontology elements in OntoAndalus.

Revue internationale Traitement Automatique des Langues. TAL et humanités numériques. 2019 Volume 6

Link https://www.atala.org/sites/default/files/TAL-60-3_AlmeidaEtAl_TheNamesOfLightingArtefacts.pdf

2019

[Terminological resources in the digital age](#)

In a globalised society, terminology dictionaries, including resources such as knowledge and terminology databases, ontologies, wordnets, “traditional” dictionaries, etc., should comply with not only to human needs, but also to machine needs. The changes regarding information and language processing demanded by the evolution of society have led to a series of consequences in what concerns: (i) the design of terminological resources; (ii) the way data and knowledge are represented; (iii) the way data are interrelated, both within the resource and between resources; (iv) the way users access data; and (v) users’ expectations.

Special issue of Terminology 25:2 (2019), John Benjamins Publishing Company, pp. 139–145

Link <https://www.jbe-platform.com/content/journals/10.1075/term.00033.roc>

2019

Knowledge-based terminological e-dictionaries: The EndoTerm and al-Andalus Pottery projects

The advent of the Semantic Web and of the Linked Data initiative have contributed to new perspectives and opportunities regarding terminology work. Among them are the double dimension approach and the theoretical perspective of ontoterminology anchored therein, which explore the synergies resulting from the systematic organisation of both term systems and concept systems. By doing so, they provide a theoretical and methodological foundation underlying the creation of knowledge-based terminological products that can support the conception and development of different types of e-dictionaries. Within that scope, and based on examples pertaining to two different subject fields, namely endometriosis and Islamic archaeology, this article aims to propose a framework for the creation of a terminological e-dictionary, defined as a reference resource in a specific domain that gathers, structures and describes linguistic data in a systematic way in one, two or more languages, in order to define concepts that are denoted by terms.

Special Issue of Terminology John Benjamins Publishing, 25:2 (2019), pp. 259-290

Link <https://benjamins.com/catalog/term.00038.roc>

2018

Ontologization of Terminology. A worked example from the domain of ancient Greek dress

Ontology, in the sense of knowledge engineering, is nowadays one of the most promising routes for Terminology. The ontologization of terminology gave rise to the notion of ontoterminology, a terminology whose conceptual system is a formal ontology. Representing concepts explicitly and formally opens up new perspectives and is not without consequences on Terminology and its methods. The definitions of the terms in natural language are based on the definitions of the concepts in a formal language, thus achieving the degree of standardization necessary for the communication among experts, the operationalization of domain knowledge, and the exporting of terminological data in machine readable and human readable formats. Taking ancient Greek dress as knowledge domain, this paper illustrates the principles of ontologization of terminology and the tool-assisted method used for building multilingual ontoterminologies, i.e. sets of terminologies in different languages linked by means of a shared conceptual model (ontology). The tool used is a new software environment, the ontoTerminology editor (Tedi).

AIDAinformazioni Journal, number 1-2/2018, volume XXXVI

Link http://www.aidainformazioni.it/wp-content/archivio/anno36_n1_2_2018/papadopoulou_roche.pdf

2020

Rencontre entre une philologue et un terminologue au pays des ontologies

La classification des objets, le choix des termes et leur définition au regard des connaissances du domaine, sont des préoccupations constantes en Humanités Numériques (HN). Dans ce cadre, et dans le contexte du partage et de l'interopérabilité des données sur le Web, les ontologies au sens de l'Ingénierie des Connaissances (IC) constituent une des avancées les plus intéressantes. Mais les principes sous-jacents à la conceptualisation d'un domaine tels que l'entendent l'IC et les HN ne sont pas nécessairement les mêmes. À cela s'ajoute un problème de Terminologie en tant que discipline souvent sous-estimée aussi bien par les uns que par les autres. Cet article s'intéresse à la façon de procéder des experts dans leur « définition des choses » et dans la manière de les nommer. Cela nous a conduits à définir une méthode outillée de construction de terminologies dont le système conceptuel est une ontologie formelle, dans le respect des normes ISO et des standards du W3C. Cette méthode est illustrée à l'aide du premier dictionnaire ontoterminologique des vêtements de la Grèce antique.

Revue Ouverte d'Intelligence Artificielle, Volume 1, n°1 (2020), pp. 43-70

Link <https://hal.archives-ouvertes.fr/hal-02933273/document>

2020

Terminologie et Ontologie pour les Humanités Numériques. Le cas des vêtements de la Grèce antique

Cet article présente les résultats d'une collaboration entre une philologue et un terminologue initiée lors d'un projet européen portant sur les vêtements de la Grèce antique (Marie Skłodowska Curie Actions Project *Chlamys. The Cultural Biography of a Garment in Hellenistic Egypt*, grant 657898).

Le flou terminologique qui règne autour des études consacrées aux vêtements de cette époque, dont les sources sont souvent lacunaires (Delaporte 1981, 7), entrave fortement la communication et le partage de connaissances entre experts. Identifier clairement ce que désignent les termes dans ce qu'ils ont de précis, mais aussi de vague, et également bien nommer les choses ont été au cœur de notre projet, qui a nécessité une représentation explicite des connaissances définissant les différents types de vêtements.

Link <http://www.humanisti.ca/revue/revue-hn-sommaires-des-numeros-1-et-2/>

2015

Ontological definition

The operationalization of terminologies in a data processing context has once again placed the primacy of the concept in the foreground and raised the issue of how it can be defined and computationally represented. Within this scope, ontologies, in the sense of knowledge engineering (i.e. a formal specification of the conceptualization of a subject field), pave the way towards modeling the notional system. By the same token, however, putting ontology at the heart of and making it the starting point of terminological work also means rethinking terminology's very principles and methods, thus reminding us of the fact that knowledge of the subject field must also be taken into account. Terminology is more than just specialized lexicography, in the same way a concept, by its extra linguistic nature, cannot be reduced to the terms speaking of it. By recognizing terminology's double conceptual and linguistic dimension – terminology is both a science of objects and a science of words – ontology yields a distinction between the *definition of a term written in natural language* (i.e. a linguistic explanation of a term) and the *definition of a concept written in a formal language* (i.e. a formal specification of a concept, its *ontological definition*). It is the only one to be standardized vis-à-vis the knowledge of the subject field and thus upholds linguistic diversity.

Handbook of Terminology, Volume 1, John Benjamins Publishing, 2015, pp.128-152

Link <https://benjamins.com/catalog/hot.1.ont1>

2020

An Ontology of Chinese Ceramic Vases

Extensive collections of Chinese ceramic vases are housed in museums throughout China. They could serve as rich sources of data for historical research. Although some data sources have been digitized, the vision of heritage institutions is not only to display objects and simple descriptions (drawn from metadata) but also to allow for understanding relationships between objects (created by semantically interrelated metadata). The key to achieving this goal is to utilize the technologies of the Semantic Web, whose core is Ontology. The focus of this paper is to describe the construction of the TAO CI (“ceramics” in Chinese) ontology of the domain of ceramic vases of the Ming (1368-1644) and Qing (1644-1911) dynasties. The theoretical and methodological approach adopted to construct the TAO CI ontology is term-and-characteristic guided, i.e., it relies on a morphological analysis of the Chinese terms used in the domain, and respects the ISO principles on Terminology (ISO 1087 and 704), according to which concepts are defined by means of essential characteristics. The research presented in this article aims to publish the resulting structured data on the Semantic Web for the use of anybody interested, including museums hosting collections of these vessels, and to enrich existing methodologies on domain ontology building.
<https://hal.archives-ouvertes.fr/hal-03134730/document>

KEOD, ISBN 978-989-758-474-9, pages 53-63, 2-4 November 2020. DOI: 10.5220/0010110600530063

Link <https://www.scitepress.org/PublicationsDetail.aspx?ID=a2nTEyfla/o=&t=1>

2019

Mind the Gap: Ontology Authoring for Humanists

Ontologies are software artefacts used for representing knowledge. The use of OWL formalisms to capture knowledge in the field of Digital Classics and Classical Archaeology is mandatory, if linking, sharing, and reusing data from multiple heterogeneous sources is to be accomplished. For the time being, the ontology authoring is out of bounds for humanists. The reason is that OWL requires having a solid background in Description Logics and more generally in Logic for Computer Science. This paper presents an alternative method and tool for ontology authoring by humanists interested in publishing the terms of their domain in Semantic Web formats. Tedi (ontoTerminology editor) is a specially built tool that allows exporting and visualizing the resulting ontologies in Protégé. The advantage of Tedi is that it takes into account the way of thinking of humanists relying on Aristotelian definition, separating the linguistic dimension from the conceptual dimension. Based on the main idea that experts know the terms of their domain and that a concept is a set of essential characteristics, which is stable enough to be named by a term in a natural language, domain experts are then guided by the tool in defining formal domain concepts. Furthermore, it is then possible to generate patterns of definition of terms in natural language based on the formal definition of the concepts denoted by the terms. Tedi does not aim to replace existing tools, but rather complement them while opening ontology authoring to humanists. This paper will present and illustrate this approach with an example from the field of Classics.

<http://ceur-ws.org/Vol-2518/paper-WODHSA7.pdf>

Link <http://ceur-ws.org/Vol-2518/paper-WODHSA7.pdf>

2021

Using ISO and Semantic Web standard for building a multilingual terminology e-Dictionary: A use case of Chinese ceramic vases

Cultural heritage is the legacy of physical artefacts and intangible attributes of a group or society that is inherited from past generations. Terminology is a tool for the dissemination and communication of cultural heritage. The lack of clearly identified terminologies is an obstacle to communication and knowledge sharing. Especially, for experts with different languages, it is difficult to understand what the term refers to only through terms. Our work aims to respond to this issue by implementing practices drawn from the Semantic Web and ISO Terminology standards (ISO 704 and ISO 1087-1) and more particularly, by building in a W3C format ontology as knowledge infrastructure to construct a multilingual terminology e-Dictionary. The Chinese ceramic vases of the Ming and Qing dynasties are the application cases of our work. The method of building ontology is the 'term-and-characteristic guided method', which follows the ISO principles of Terminology. The main result of this work is an online terminology e-Dictionary. The terminology e-Dictionary could help archaeologists communicate and understand the concepts denoted by terms in different languages and provide a new perspective based on ontology for the digital protection of cultural heritage. The e-Dictionary was published at <http://www.dh.ketrc.com/e-dictionary.html>.
<https://doi.org/10.1177%2F01655515211022185>

Journal of Information Science 1-16 June 2021

Link <https://journals.sagepub.com/doi/abs/10.1177/01655515211022185>

2020

Terminologie et Ontologie pour l'Héritage Culturel : Le projet TAO CI

La publication de données culturelles dans un format ouvert et interopérable, ainsi que leur mise en relation avec des collections existantes, sont devenues des enjeux prioritaires pour la préservation et la diffusion de l'Héritage Culturel. Dans ce contexte, les ontologies du web sémantique constituent une des approches les plus intéressantes pour la description et la structuration des objets culturels qui aboutissent à des représentations ouvertes et partageables. Elles permettent également de définir une terminologie multilingue, élément indispensable à la communication et au partage des connaissances. Dans le cadre de cet article, nous nous sommes intéressés à la construction de l'ontologie et de la terminologie (ontoterminologie) des vases chinois en céramique des dynasties Ming et Qing.

TOTh 2020 Proceedings, pp 175-198

Link <http://christophe-roche.fr/wp-content/uploads/2022/03/TOTh-2020-09-W.-Tong-et-al.pdf>

Building ontology-based dictionaries for Greek material culture terms

Define what the objects of the domain and the terms that designate them are, are constant ontological concerns in researching antiquity. As archaeological finds come down to us like a picture book without names, and as texts furnish names for objects without providing illustrations, deciding 'what was what' is not easy. Names for things are what the discipline of Terminology calls "terms". In Terminology, the terms of a given domain are defined by means of concepts, which are, by default, extra-linguistic, and like the objects, they are abstracted from, can be formalized and standardized. Semantic web requirements for interoperability point in the direction of adding a computable layer to human-readable terminologies. The best digital artefacts to do that are ontologies. Our chosen field of application is the field of ancient Greek dress, in order to propose a solution to the terminology problem that greatly hinders communication among experts. The article will show that the complexity of the terms of this domain justifies the use of a tool-based method which provides useful automation to help scholars define the concepts and terms of this knowledge domain and publish them on the web as human-readable ontology-based dictionaries and in machine tractable semantic web compliant formats, i.e. OWL. The result is a W3C compliant ontology-based dictionary of the domain built with Tedi, a new tool, comprised of a set of editors, which implements the ISO-1087 definition of term and concept.

Workshop on Open Data and Ontologies for Cultural Heritage. Rome, Italy, pp 61-71, June 3, 2019

Link <http://ceur-ws.org/Vol-2375/paper6.pdf>

2019

Twinning Classics and A.I.: Building the new generation of ontology-based lexicographical tools and resources for Humanists on the Semantic Web

This Twin Talk is about the ongoing collaboration between an expert in Classics and an expert in Artificial Intelligence (A.I.). Our approach set out to answer two interlinked issues, ubiquitous in the study of material culture: first, pairing things to their names (designations) and, second, having access to multi-lingual digital resources that provide information on things and their designations. Our chosen domain of application was ancient Greek dress, an iconic feature of ancient Greek culture offering a privileged window into the Greek belief systems and societal values. Our goal was to place the Humanist/domain expert at the centre of the endeavour enabling her to build the formal domain

ontology, without requiring the assistance of an ontology engineer. The role of A.I. was to provide automations that lower the cognitive load for users unfamiliar with knowledge modelling. Building the model consisted in distinguishing between concept level (i.e. the stable domain knowledge) and term level (i.e. the terms that name the concepts in different natural languages), putting these into relation (i.e. linking the terms in different languages to their denoted concepts), and providing complete and consistent definitions for concepts (in formal language) and terms (in natural language).

Twin Talks: Understanding Collaboration in DH at DHN 2019, Copenhagen (Denmark), 5 March 2019

Link http://ceur-ws.org/Vol-2365/08-TwinTalks-DHN2019_paper_8.pdf

2018 **Tedi: a platform for ontologisation of multilingual terminologies for the Semantic Web**

Best paper award

The vision of the Semantic Web is machine understandability for all data currently stored in web-based resources. Human and machine readable terminological resources, which follow the ISO standards on terminology in defining concepts as unique combinations of essential characteristics [ISO 1087-1], need to become computable and Semantic Web compliant. This paper, first, describes the theoretical approach and the tool-assisted method which underlies the turning of these terminologies into Semantic web compliant ontologies. Next, this paper presents Tedi (ontoTerminology editor), the platform developed for building multilingual terminologies which share the same formal domain ontology. Tedi allows to export these terminologies into OWL/RDF ontologies, JSON, and in a number of other formats, including multilingual electronic dictionaries of terms in the form of static and dynamic html. Tedi is based on a theory of concept dedicated to Terminology, the discipline which defines semantics as the relation between terms (natural language units with meaning specialized to a domain of knowledge) and concepts (units of thought whose meaning is formally expressed as a set of essential characteristics).

The 12th International Conference on Advances in Semantic Processing, pp 42-47. 18-22 November 2018

Link http://ontologia.fr/Bibliography/CR/2018/Semapro_2018_Papadopoulou_Roche.pdf

2008 **Chapter II. Aristotelian Ontologies and OWL Modeling**

This chapter shows how the Aristotelian or epistemological approach to ontologies can be understood in the framework of recent domain ontology modeling languages like the Web ontology language (OWL). After a short introduction to the specific properties of the Aristotelian approach to ontological modelling, we discuss one detailed example of a reformulation of such an ontology with OWL. In the final discussion, we give some indications concerning the differences in applying an epistemological vs. a more common object oriented approach to domain knowledge engineering in practice.

Handbook of Ontologies for Business Interaction, Hershey – New York, 2008. pp. 21 – 33

2016 **Terminology and ontology development in the domain of Islamic archaeology**

TKE 2016, 12th International conference on Terminology and Knowledge Engineering

This paper describes an example regarding the terminology of Islamic pottery artefacts in Portuguese and Spanish in the context of an ongoing Ph D project. The approach followed in this paper places knowledge representation at the core of terminology work. More specifically, the development of an ontology, i.e. a formal and computational conceptualisation, enables the integration of a multilingual termbase in the semantic web as linked data, targeted at experts and students of archaeology. This approach allows for the preservation of linguistic diversity, as reflected by the different linguistic practices engaged by Portuguese and Spanish archaeologists in scholarly communication.

TKE 2016 - Copenhagen, 22nd – 24th June 2016, pp.147-156

Link <https://hal.archives-ouvertes.fr/hal-01354325/document>

2016 **LESS Can Indeed Be More: Linguistic and Conceptual Challenges in the Age of Interoperability**

TKE 2016, 12th International conference on Terminology and Knowledge Engineering,

The advent of the Semantic Web and, more recently, of the Linked Data initiative, has paved the way for new perspectives and opportunities in Terminology, namely regarding the operationalization of terminological products. Within the biomedical domain, changes have been substantial in the past decades and at their heart stand the current challenges regarding the production, use, storage and dissemination of medical data, information, and knowledge. In a context where biomedical terminological resources are becoming increasingly concept-oriented, terminology work should reflect a double dimension (both linguistic and conceptual) that may, in turn, support the aspired

operationalization and in-teroperability in this field. Therefore, the purpose of this paper is to present a case study, based around the concept of , in which a methodology anchored in Terminology's double dimension aims to contribute to the enrichment of the Systematized Nomenclature of Medicine-Clinical Terms (SNOMED CT).

TKE 2016 - Copenhagen, 22nd – 24th June 2016, pp.157-167

Link <https://hal.archives-ouvertes.fr/hal-01829900>

Pour une renovatio du thesaurus PREALP, au coeur des humanités numériques

TOTH 2016, Terminology & Ontology: Theories and application

Dans le cadre des réflexions conduites à la Maison des Sciences de l'Homme -Alpes (Grenoble) sur les liens entre Humanités numériques et Patrimoine, un vaste projet de « rénovation » du thesaurus multilingue PREALP dédié aux peintures murales des régions alpines entre la fin du Moyen Âge et le début de la Première Modernité a été entrepris. Il vise tout particulièrement l'accessibilité « intelligente » à des données numérisées et validées scientifiquement qui pourront non seulement être échangées mais aussi utilisées pour divers usages.

TOTH 2016, Chambéry (France), 9-10 juin 2016 pp 121-139

Link <https://hal.archives-ouvertes.fr/hal-01851025>

2016

Ontoterminology meets lexicography: The Multimodal Online Dictionary of Endometriosis (MODE)

With the advent of the Semantic Web and, more recently, of the Linked Data initiative, the need to operationalise lexicographic resources, i.e. to represent them in a computer-readable format, has become increasingly important, as it contributes to pave the way to the ultimate goal of interoperability. Moreover, the collaborative work involving Terminology and ontologies has led to the emergence of new theoretical perspectives, namely to the notion of Ontoterminology, which aims to reconcile Terminology's linguistic and conceptual dimension whilst preserving their core identities. This can be particularly relevant in subject fields such as Medicine, where concept-oriented and ontology-based approaches have become the cornerstone of the most recent (bio)medical terminological resources, and where non-verbal concept representations play a key role

GLOBALEX 2016, Lexicographic Resources for Human Language Technology, Portorož, Slovenia, May 2016

Link <https://hal.archives-ouvertes.fr/hal-01829907/document>

Should Terminology Principles be re-examined?

Operationalization of terminology for IT applications has revived the Wüsterian approach. The conceptual dimension once more prevails after taking back seat to specialised lexicography. This is demonstrated by the emergence of ontology in terminology. While the Terminology Principles as defined in Felber's manual and the ISO standards remain at the core of traditional terminology , their computational implementation raises some issues. In this article, while reiterating their importance, we will be re-examining these Principles from a dual perspective: that of logic in the mathematical sense of the term and that of epistemology as in the theory of knowledge. We will thus be clarifying and describing some of them so as to take into account advances in knowledge engineering (ontology) and formal systems (logic). The notion of ontoterminology, terminology whose conceptual system is a formal ontology, results from this approach.

TKE 2012. 10th Terminology and Knowledge Engineering Conference, pp. 17-32. 19-22 June 2012, Madrid

Link <https://hal.archives-ouvertes.fr/hal-01180279>

2012

Ontoterminology: How to unify terminology and ontology into a single paradigm

LREC 2012 - Eighth international conference on Language Resources and Evaluation – Istanbul - 21-27 May 2012. pp. 2626-2630.

Terminology is assigned to play a more and more important role in the Information Society. The need for a computational representation of terminology for IT applications raises new challenges for terminology. Ontology appears to be one of the most suitable solutions for such an issue. But an ontology is not a terminology as well as a terminology is not an ontology. Terminology, especially for technical domains, relies on two different semiotic systems: the linguistic one, which is directly linked to the " Language for Special Purposes " and the conceptual system that describes the domain knowledge. These two systems must be both separated and linked. The new paradigm of ontoterminology, i.e. a terminology whose conceptual system is a formal ontology, emphasizes the difference between the linguistic and conceptual dimensions of terminology while unifying them. A double semantic triangle is introduced in order to link terms (signifiers) to concept names on a first hand and meanings (signified) to concepts on the other hand. Such an approach allows two kinds of definition to be introduced. The definition of terms written in natural

language is considered as a linguistic explanation while the definition of concepts written in a formal language is viewed as a formal specification that allows operationalization of terminology.

LREC 2012 - Istanbul - 21-27 May 2012. pp. 2626-2630.

Link <https://hal.archives-ouvertes.fr/hal-01180280>

2009

Ontoterminology: A new paradigm for terminology

International Conference on Knowledge Engineering and Ontology Development

Today, collaboration and the exchange of information are increasing steadily and players need to agree on the meaning of words. The first task is therefore to define the domain's terminology. However, terminology building remains a demanding and time-consuming task, even in specialised domains where standards already exist. While reaching a consensus on the definition of terms written in natural language remains difficult, we have observed that in specialised technical domains, experts agree on the domain conceptualisation when it is defined in a formal language. Based on this observation, we have introduced a new paradigm for terminology called ontoterminology. The main idea is to separate the linguistic dimension from the conceptual dimension of terminology and establish relationships between them. The linguistic component consists of terms (both normalised and non-normalised specialised words) linked by linguistic relationships such as hyponymy and synonymy. The term definition, written in natural-language, is considered a linguistic explanation. The conceptual component is a formal ontology whose concepts are linked by conceptual relationships like the is-a (kind of) and part-of relations. The concept definition, written in a formal language, is viewed as logical specification. An ontoterminology enables us to link these two non-isomorphic networks in a global and coherent system.

KEOD 2009 - 5-8 October, Madeira (Portugal) pp 321-326.

Link <https://hal.archives-ouvertes.fr/hal-00622132v1>

2007

Saying is not modelling

Natural Language Processing and Cognitive Science, Funchal (Portugal), 12-13 June 2007, pp. 47-56

In this article we claim that the conceptual modelling built from text is rarely an ontology. Such a conceptualization is corpus-dependent and does not offer the main properties we expect from ontology, e.g. reusability and soundness. Furthermore, ontology extracted from text in general does not match ontology defined by expert using a formal language. Such a result is not surprising since ontology is an extra-linguistic conceptualization whereas knowledge extracted from text is the concern of textual linguistics. Incompleteness of text and using rhetorical figures, like synecdoche, deeply modify the perception of the conceptualization we may have. It means that ontological knowledge, which is necessary for text understanding, is not in general embedded into documents. The article will end on some remarks about formal languages. If they allow to define "a specification of a conceptualization" they nevertheless raise their own issues mainly due to their epistemological neutrality. Ontology design remains an epistemological issue.

NLPCS 2007 - Funchal (Portugal), 12-13 June 2007, pp. 47-56

2005

Terminologie et ontologie

Terminologie et ontologie. Deux termes qui pourraient s'opposer à plus d'un titre – le premier portant sur une pratique, le deuxième relevant de la métaphysique – et qui sont néanmoins de plus en plus associés. Deux termes qui, s'ils partagent une même visée normative, restent à préciser.

Cet article a pour objet de présenter et de situer les principales approches relevant de la terminologie et de l'ontologie et d'indiquer en quoi elles peuvent être liées. Nous verrons en particulier quels peuvent être les apports de l'ontologie, tant d'un point de vue méthodologique que pratique, pour la modélisation et la représentation de la signification des termes. Pour cela nous serons amenés à distinguer ce qui relève de l'usage, de l'intellection et de la représentation.

Revue Langages, 39e année, n°157, 2005, pp. 48-62

Link https://www.persee.fr/doc/lgge_0458-726x_2005_num_39_157_974

2021

De la définition formelle du concept à la définition en langue du terme

En définissant le terme comme une « désignation verbale d'un concept », et le concept comme « une unité de connaissance », la Terminologie dite « classique » ou « conceptuelle » met l'accent sur la double dimension de la Terminologie, linguistique (désignation verbale) et conceptuelle (unité de connaissance). Elle insiste également sur le rôle premier tenu par le concept : il n'y a pas de terme sans concept, la réciproque n'étant pas nécessairement vraie. On s'intéressera donc ici, non pas au sens du terme qui se construit en discours (ce qui inclut le sens référentiel), mais

à ce que le terme dénote en dehors de tout discours. La « définition du terme » est alors une définition dite de « chose », c'est-à-dire une explication de ce que sont les choses dénotées par le terme. En explicitant le concept, c'est-à-dire en le définissant dans un langage formel, la « définition du terme » apparaît alors comme une « traduction » en langue naturelle de la « définition logique du concept ». Se posent alors deux questions principales. La première concerne ce que l'on entend par « définition logique » d'un concept, et dans quel langage elle s'écrit. La seconde porte sur le processus de « traduction » en langue naturelle d'une définition formelle, sa faisabilité et son automatisation. Ces deux questions fondamentales dépendent directement du langage formel utilisé et de la théorie du concept sur laquelle repose ce langage. Cet article est structuré en trois parties. Dans un premier temps nous rappelons ce que nous entendons par Terminologie considérée comme discipline comme le préconisent la Théorie Générale de la Terminologie (Felber 1984) et les normes ISO en Terminologie (ISO 1087) (ISO 704). Nous étudions ensuite la notion de «concept» : comment la définir, quelles sont les principales théories du concept, et enfin quels sont les langages formels permettant de définir des systèmes conceptuels. Cela nous amènera à la notion d'ontologie au sens de l'ingénierie des connaissances. La dernière section sera dédiée aux rapports qu'entretiennent la définition formelle du concept et la définition en langue naturelle du terme. Nous verrons en particulier qu'il est possible, si la théorie du concept est choisie de façon adéquate, de générer automatiquement des patrons de définition en langue naturelle à partir de la définition formelle. Il restera à l'expert à les éditer pour en améliorer la formulation.

Academic Journal of Modern Philology - ISSN 2299-7164 Vol. 13 (2021) Special Issue s. 275-290

Link <https://hal.archives-ouvertes.fr/hal-03549751/document>

2008

Ontology: a survey

8th Symposium on Automated Systems Based on Human Skill and Knowledge – IFAC, September 22-24 2003, Göteborg, Sweden

During the last decade, the explosive growth of information technologies led to a shift in the market and economic view of the society: communication and knowledge sharing became the new economic stakes. But everyone speaks his own language, with his own terms and meanings. Ontologies seem to be one of the most suitable solutions faced with this problem and have become a very popular research topic in knowledge representation. But several problems remain which claim for clarification. The main objective of this survey is to make explicit the main questions about ontology and to draw some guidelines about the possible answers.

IFAC, September 22-24 2003, Göteborg, Sweden pp 187-192

Link [https://reader.elsevier.com/reader/sd/pii/S1474667017377157?](https://reader.elsevier.com/reader/sd/pii/S1474667017377157?token=D4DE89A5A947B04513EF52D9627F495A4D21DFFC4CCD64F851C718E8575BCCA7A13064F1283A989F632936C263281842&origin=west-1&originCreation=20220314182206)

[token=D4DE89A5A947B04513EF52D9627F495A4D21DFFC4CCD64F851C718E8575BCCA7A13064F1283A989F632936C263281842&origin=west-1&originCreation=20220314182206](https://reader.elsevier.com/reader/sd/pii/S1474667017377157?token=D4DE89A5A947B04513EF52D9627F495A4D21DFFC4CCD64F851C718E8575BCCA7A13064F1283A989F632936C263281842&origin=west-1&originCreation=20220314182206)

Étude comparative de deux méthodes outillées pour la construction de terminologies et d'ontologies

TOTH 2019: "Terminology & Ontology : Theories and applications", Chambéry (France), pp 37-54, 6-7 June 2019.

Cet article propose de comparer deux approches outillées pour la construction de terminologies dont le système conceptuel est une ontologie formelle. Le premier, Protégé, est le logiciel le plus utilisé pour la construction et la maintenance d'ontologies. Logiciel libre, il est supporté par une très large communauté d'utilisateurs. Sa théorie du concept (classe) repose sur la logique des descriptions. Le second, Tedi, est une méthode outillée de construction d'ontotermologies qui se veut en accord avec la façon de penser des experts. Il repose sur une théorie du concept compatible avec les normes ISO en Terminologie. Le domaine d'application choisi relève des Humanités Numériques. Notre exemple se limite à la définition de quelques termes désignant différents types de vases de la Grèce antique. Les critères de comparaison pris en compte portent sur le logiciel lui-même (architecture, disponibilité, ergonomie, interopérabilité, documentation), sur la dimension conceptuelle (théorie du concept), la dimension linguistique (théorie du terme), la méthodologie (construction de la terminologie et de l'ontologie) et enfin le point de vue de l'expert (prise en main, autonomie, réponses à ses besoins).

TOTH 2019 - Chambéry (France), pp 37-54, 6-7

Link <https://hal.archives-ouvertes.fr/hal-02904475/document>

● **DIGITAL SKILLS**

Artificial Intelligence

Artificial Intelligence | Artificial Intelligence related problem solving. | Artificial Intelligence and Machine Learning concepts | Knowledge Representation | Expert System | Frame System

Knowledge Graph & Ontology

Knowledge Graphs and Semantic Technologies | Ontologies engineering (OWL, RDFS, SKOS, Protégé ..) | Linked Data (RDF, Sparql, TripleStores) | Protege Ontology editor | FOAF ontology | Ontology Engineering | Ontology Development (OWL)

Digital Humanities

Digital Humanities | Humanities

Linguistics - Lexicography - Terminology

Computational Linguistic Tools | Terminology | Corpus and terminology tools | Terminology management | AI terminology | Multilingual Terminology | Lexical semantics | e-Dictionary

Standards

ISO Standards TC 37 | W3C Standards | ISO1087 | ISO 704 | ISO | W3C | ISO 24613-x | OntoLex-Lemon

Programming

Functional programming | Knowledge of programming paradigms (object oriented, parallel, logical and functional) | Ada | Smalltalk | C++ | Object-oriented-programming | Lisp | Java | Python

Office software suite & Communication

Microsoft Office | Internet user | Google Drive | Google Docs | Zoom | Organizational and planning skills | Skype

Linked and Open Data & Semantic Web

SPARQL | Semantic Web | LOD | RDF

Creation of web sites

<http://ketrc.com/> | <http://christophe-roche.fr/> | <https://du.condillac.org/> | <http://o4dh.com/> | <http://ontoterminology.com/> | <http://toth.condillac.org/>

● LANGUAGE SKILLS

Mother tongue(s): **FRENCH**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C2	C2	C2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● HOBBIES AND INTERESTS

Sport: Rowing

Rowing is a great school for surpassing oneself, where success is collective. There is no success without a team, without coordination, without mutual support.

8 rowing Junior French Champion (1974), 8 rowing Master French Champion (2010)

<http://christophe-roche.fr/wp-content/uploads/2022/03/Vichy-2010-scaled.jpg>

<http://christophe-roche.fr/wp-content/uploads/2022/03/Christophe.mp4>

Link <http://christophe-roche.fr/wp-content/uploads/2022/03/Vichy-2010-scaled.jpg>