

HORIZON  
2020

# Integration and analysis of heterogeneous big data for precision medicine and suggested treatments for different types of patients

## Results

### Project Information

#### IASIS

Grant agreement ID: 727658

[Project website](#)

#### DOI

[10.3030/727658](https://doi.org/10.3030/727658)

Project closed

#### EC signature date

31 March 2017

#### Start date

1 April 2017

#### End date

30 June 2020

#### Funded under

SOCIETAL CHALLENGES - Health, demographic change and well-being

#### Total cost

€ 4 337 475,00

#### EU contribution

€ 4 337 475,00

#### Coordinated by

"NATIONAL CENTER FOR  
SCIENTIFIC RESEARCH

""DEMOKRITOS""

 Greece

CORDIS provides links to public deliverables and publications of HORIZON projects.

Links to deliverables and publications from FP7 projects, as well as links to some specific result types such as dataset and software, are dynamically retrieved from [OpenAIRE](#).

# Deliverables

## Documents, reports (9)

### [Dissemination & Communication Report V2.0](#)

Final version of the report on accomplished dissemination activities and planned activities.

### [Training Activities Report](#)

Reporting on accomplished training activities.

### [IASIS Conceptual Schema and Integration Rules v2.0](#)

The final version of the IASIS conceptual schema and the integration rules will be reported in this deliverable.

### [Interoperability analysis of biomedical data](#)

This deliverable will report the interoperability analysis results.

### [Dissemination & Communication Report V1.0](#)

Reporting on accomplished dissemination activities and planned activities for the first reporting period.

### [Data Management Plan](#)

This deliverable will outline the different data management services to be implemented by the project.

### [Definition of System Architecture](#)

This is the deliverable that will detail the design of the system architecture including the user interfaces and technical specifications.

### [Communication Plan](#)

Document describing the overall strategy for dissemination and communications during the project.

### [IASIS Conceptual Schema and Integration Rules v1.0](#)

The first version of the IASIS conceptual schema and the integration rules will be reported in this deliverable.

## Demonstrators, pilots, prototypes (24)

### [Initial Platform Prototype](#)

This deliverable will be the first prototype of the IASIS platform.

[Clinical notes & image analysis v1.0](#)

This deliverable will contain the first prototypes of the text and image analysis components.

[Predictive modelling v2.0](#)

This deliverable will contain the first prototype of the predictive modelling module.

[Harvesting services for open data v2.0](#)

This deliverable will contain the final version of data harvesting module that will fetch the open data.

[Predictive modelling v1.0](#)

This deliverable will contain the first prototype of the predictive modelling module.

[EHR semantic indexing v2.0](#)

This deliverable will contain the final version of the semantic indexing module and indexed EHR.

[High-Level Analysis Services v2.0](#)

This deliverable will include the final prototype of the high-level analysis services developed in task T5.6.

[Genomic semantic indexing v1.0](#)

This deliverable will contain the first version of semantic indexing module and indexed genomic data.

[Harvesting services for clinical data v2.0](#)

This deliverable will contain the final version of the data harvesting components that will fetch the EHR data.

[EHR semantic indexing v1.0](#)

This deliverable will contain the first version of the semantic indexing module and indexed EHR.

[Open data semantic indexing v1.0](#)

This deliverable will contain the first version of semantic indexing module and the indexed open data.

[Genomic semantic indexing v2.0](#)

This deliverable will contain the final version of semantic indexing module and indexed genomic data.

#### [Genomic data analysis v1.0](#)

This deliverable will contain the first version of the genomic analysis module.

#### [Clinical notes & image analysis v2.0](#)

This deliverable will contain the final prototypes of the text and image analysis components.

#### [Open data semantic indexing v2.0](#)

This deliverable will contain the final version of semantic indexing module and the indexed open data.

#### [Data Management Services](#)

In this deliverable, the prototype of the data management services will be made available.

#### [Final Platform Prototype](#)

This deliverable will be the final prototype of the IASIS platform.

#### [Genomic data analysis v2.0](#)

This deliverable will contain the final version of the genomic analysis module.

#### [Harvesting services for genomic data v1.0](#)

This deliverable will contain the first version of data harvesting component that will fetch the genomic data.

#### [Open data analysis v1.0](#)

This deliverable will contain the first version of the open data analysis module.

#### [Open data analysis v2.0](#)

This deliverable will contain the final version of the open data analysis module.

#### [High-Level Analysis Services v1.0](#)

This deliverable will include the first prototype of the high-level analysis services developed in task T5.6.

#### [Harvesting services for genomic data v2.0](#)

This deliverable will contain the final version of data harvesting component that will fetch the genomic data.

#### [Harvesting services for open data v1.0](#)

This deliverable will contain the first version of data harvesting module that will fetch the open data.

Websites, patent filings, videos etc. (1) 

[Project Website](#) 

Project website for the public, scientists, and with a private area for document sharing.

## Publications

Peer reviewed articles (7) 

[DISNET: a framework for extracting phenotypic disease information from public sources](#) 

**Author(s):** Gerardo Lagunes-García, Alejandro Rodríguez-González, Lucía Prieto-Santamaría, Eduardo P. García del Valle, Massimiliano Zanin, Ernestina Menasalvas-Ruiz

**Published in:** PeerJ, Issue 8, 2020, Page(s) e8580, ISSN 2167-8359

**Publisher:** PeerJ

**DOI:** 10.7717/peerj.8580

[RNAct: Protein–RNA interaction predictions for model organisms with supporting experimental data](#) 

**Author(s):** Benjamin Lang, Alexandros Armaos, Gian G Tartaglia

**Published in:** Nucleic Acids Research, Issue 47/D1, 2018, Page(s) D601-D606, ISSN 0305-1048

**Publisher:** Oxford University Press

**DOI:** 10.1093/nar/gky967

[Compacting frequent star patterns in RDF graphs](#) 

**Author(s):** Farah Karim, Maria-Esther Vidal, Sören Auer

**Published in:** Journal of Intelligent Information Systems, 2020, ISSN 0925-9902

**Publisher:** Kluwer Academic Publishers

**DOI:** 10.1007/s10844-020-00595-9

[Transforming Heterogeneous Data into Knowledge for Personalized Treatments—A Use Case](#) 

**Author(s):** Maria-Esther Vidal, Kemele M. Endris, Samaneh Jazashoori, Ahmad Sakor, Ariam Rivas

**Published in:** Datenbank-Spektrum, Issue 19/2, 2019, Page(s) 95-106, ISSN 1618-2162

**Publisher:** Springer

**DOI:** 10.1007/s13222-019-00312-z

[SEOM clinical guidelines for the treatment of small-cell lung cancer \(SCLC\) \(2019\)](#) 

**Author(s):** M. Dómine, T. Moran, D. Isla, J. L. Martí, I. Sullivan, M. Provencio, M. E. Olmedo, S. Ponce, A. Blasco, M. Cobo

**Published in:** Clinical and Translational Oncology, Issue 22/2, 2020, Page(s) 245-255, ISSN 1699-048X

**Publisher:** Doyma

**DOI:** 10.1007/s12094-020-02295-w

[Profiling Lung Cancer Patients Using Electronic Health Records](#) 

**Author(s):** Ernestina Menasalvas Ruiz, Juan Manuel Tuñas, Guzmán Bermejo, Consuelo Gonzalo Martín, Alejandro Rodríguez-González, Massimiliano Zanin, Cristina González de Pedro, Marta Méndez, Olga Zaretskaia, Jesús Rey, Consuelo Parejo, Juan Luis Cruz Bermudez, Mariano Provencio

**Published in:** Journal of Medical Systems, Issue 42/7, 2018, ISSN 0148-5598

**Publisher:** Kluwer Academic/Plenum Publishers

**DOI:** 10.1007/s10916-018-0975-9

[Supervoxels-Based Histon as a New Alzheimer's Disease Imaging Biomarker](#) 

**Author(s):** César Toro, Consuelo Gonzalo-Martín, Angel García-Pedrero, Ernestina Menasalvas Ruiz

**Published in:** Sensors, Issue 18/6, 2018, Page(s) 1752, ISSN 1424-8220

**Publisher:** Multidisciplinary Digital Publishing Institute (MDPI)

**DOI:** 10.3390/s18061752

## Book chapters (14)

[Towards a Multi-way Similarity Join Operator](#) 

**Author(s):** Mikhail Galkin, Maria-Esther Vidal, Sören Auer

**Published in:** New Trends in Databases and Information Systems, Issue 767, 2017, Page(s) 267-274, ISBN 978-3-319-67161-1

**Publisher:** Springer International Publishing

**DOI:** 10.1007/978-3-319-67162-8\_26

[PURE: A Privacy Aware Rule-Based Framework over Knowledge Graphs](#) 

**Author(s):** Marlene Goncalves, Maria-Esther Vidal, Kemele M. Endris

**Published in:** Database and Expert Systems Applications - 30th International Conference, DEXA 2019, Linz, Austria, August 26–29, 2019, Proceedings, Part I, Issue 11706, 2019, Page(s) 205-214, ISBN 978-3-030-27614-0

**Publisher:** Springer International Publishing

**DOI:** 10.1007/978-3-030-27615-7\_15

[SJoin: A Semantic Join Operator to Integrate Heterogeneous RDF Graphs](#) 

**Author(s):** Mikhail Galkin, Diego Collarana, Ignacio Traverso-Ribón, Maria-Esther Vidal, Sören Auer

**Published in:** Database and Expert Systems Applications, Issue 10438, 2017, Page(s) 206-221, ISBN 978-3-319-64467-7

**Publisher:** Springer International Publishing

**DOI:** 10.1007/978-3-319-64468-4\_16

[A Knowledge-Driven Pipeline for Transforming Big Data into Actionable Knowledge](#)

**Author(s):** Maria-Esther Vidal, Kemele M. Endris, Samaneh Jozashoori, Guillermo Palma

**Published in:** Data Integration in the Life Sciences - 13th International Conference, DILS 2018, Hannover, Germany, November 20-21, 2018, Proceedings, Issue 11371, 2019, Page(s) 44-49, ISBN 978-3-030-06015-2

**Publisher:** Springer International Publishing

**DOI:** 10.1007/978-3-030-06016-9\_4

[Querying Interlinked Data by Bridging RDF Molecule Templates](#)

**Author(s):** Kemele M. Endris, Mikhail Galkin, Ioanna Lytra, Mohamed Nadjib Mami, Maria-Esther Vidal, Sören Auer

**Published in:** Transactions on Large-Scale Data- and Knowledge-Centered Systems XXXIX - Special Issue on Database- and Expert-Systems Applications, Issue 11310, 2018, Page(s) 1-42, ISBN 978-3-662-58414-9

**Publisher:** Springer Berlin Heidelberg

**DOI:** 10.1007/978-3-662-58415-6\_1

[MateTee: A Semantic Similarity Metric Based on Translation Embeddings for Knowledge Graphs](#)

**Author(s):** Camilo Morales, Diego Collarana, Maria-Esther Vidal, Sören Auer

**Published in:** Web Engineering, Issue 10360, 2017, Page(s) 246-263, ISBN 978-3-319-60130-4

**Publisher:** Springer International Publishing

**DOI:** 10.1007/978-3-319-60131-1\_14

[MULDER: Querying the Linked Data Web by Bridging RDF Molecule Templates](#)

**Author(s):** Kemele M. Endris, Mikhail Galkin, Ioanna Lytra, Mohamed Nadjib Mami, Maria-Esther Vidal, Sören Auer

**Published in:** Database and Expert Systems Applications, Issue 10438, 2017, Page(s) 3-18, ISBN 978-3-319-64467-7

**Publisher:** Springer International Publishing

**DOI:** 10.1007/978-3-319-64468-4\_1

[COMET: A Contextualized Molecule-Based Matching Technique](#)

**Author(s):** Mayesha Tasnim, Diego Collarana, Damien Graux, Mikhail Galkin, Maria-Esther Vidal

**Published in:** Database and Expert Systems Applications - 30th International

Conference, DEXA 2019, Linz, Austria, August 26–29, 2019, Proceedings, Part I, Issue 11706, 2019, Page(s) 175-185, ISBN 978-3-030-27614-0

**Publisher:** Springer International Publishing

**DOI:** 10.1007/978-3-030-27615-7\_13

[What Are the Parameters that Affect the Construction of a Knowledge Graph? !\[\]\(3d8c13c92b853674f749aac6fa869926\_img.jpg\)](#)

**Author(s):** David Chaves-Fraga, Kemele M. Endris, Enrique Iglesias, Oscar Corcho, Maria-Esther Vidal

**Published in:** On the Move to Meaningful Internet Systems: OTM 2019 Conferences - Confederated International Conferences: CoopIS, ODBASE, C&TC 2019, Rhodes, Greece, October 21–25, 2019, Proceedings, Issue 11877, 2019, Page(s) 695-713, ISBN 978-3-030-33245-7

**Publisher:** Springer International Publishing

**DOI:** 10.1007/978-3-030-33246-4\_43

[Lung Cancer Concept Annotation from Spanish Clinical Narratives !\[\]\(e8fb589d58dad1692debababa5e928b6\_img.jpg\)](#)

**Author(s):** Marjan Najafabadipour, Juan Manuel Tuñas, Alejandro Rodríguez-González, Ernestina Menasalvas

**Published in:** Data Integration in the Life Sciences - 13th International Conference, DILS 2018, Hannover, Germany, November 20-21, 2018, Proceedings, Issue 11371, 2019, Page(s) 153-163, ISBN 978-3-030-06015-2

**Publisher:** Springer International Publishing

**DOI:** 10.1007/978-3-030-06016-9\_15

[Ontario: Federated Query Processing Against a Semantic Data Lake !\[\]\(e9474ce1d70442456f8fe9c393ea149c\_img.jpg\)](#)

**Author(s):** Kemele M. Endris, Philipp D. Rohde, Maria-Esther Vidal, Sören Auer

**Published in:** Database and Expert Systems Applications - 30th International Conference, DEXA 2019, Linz, Austria, August 26–29, 2019, Proceedings, Part I, Issue 11706, 2019, Page(s) 379-395, ISBN 978-3-030-27614-0

**Publisher:** Springer International Publishing

**DOI:** 10.1007/978-3-030-27615-7\_29

[MapSDI: A Scaled-Up Semantic Data Integration Framework for Knowledge Graph Creation !\[\]\(bcece9a353e60caece619217f5c1ea39\_img.jpg\)](#)

**Author(s):** Samaneh Jozashoori, Maria-Esther Vidal

**Published in:** On the Move to Meaningful Internet Systems: OTM 2019 Conferences - Confederated International Conferences: CoopIS, ODBASE, C&TC 2019, Rhodes, Greece, October 21–25, 2019, Proceedings, Issue 11877, 2019, Page(s) 58-75, ISBN 978-3-030-33245-7

**Publisher:** Springer International Publishing

**DOI:** 10.1007/978-3-030-33246-4\_4

[Interaction Network Analysis Using Semantic Similarity Based on Translation Embeddings !\[\]\(98e0dd3c5f32ab687ab08e39ab3c4a93\_img.jpg\)](#)

**Author(s):** Awais Manzoor Bajwa, Diego Collarana, Maria-Esther Vidal

**Published in:** Semantic Systems. The Power of AI and Knowledge Graphs -

15th International Conference, SEMANTiCS 2019, Karlsruhe, Germany, September 9–12, 2019, Proceedings, Issue 11702, 2019, Page(s) 249-255, ISBN 978-3-030-33219-8

**Publisher:** Springer International Publishing

**DOI:** 10.1007/978-3-030-33220-4\_18

[Semantic Data Integration of Big Biomedical Data for Supporting Personalised Medicine](#)

**Author(s):** Maria-Esther Vidal, Kemele M. Endris, Samaneh Jozashoori, Farah Karim, Guillermo Palma

**Published in:** Current Trends in Semantic Web Technologies: Theory and Practice, Issue 815, 2019, Page(s) 25-56, ISBN 978-3-030-06148-7

**Publisher:** Springer International Publishing

**DOI:** 10.1007/978-3-030-06149-4\_2

## Conference proceedings (40)

[When humans and machines collaborate - cross-lingual label editing in wikidata](#)

**Author(s):** Lucie-Aimée Kaffee, Kemele M. Endris, Elena Simperl

**Published in:** Proceedings of the 15th International Symposium on Open Collaboration, 2019, Page(s) 1-9, ISBN 9781450363198

**Publisher:** ACM

**DOI:** 10.1145/3306446.3340826

[Wikipedia Disease Articles: An Analysis of their Content and Evolution](#)

**Author(s):** García, Gerardo Lagunes; Santamaría, Lucia Prieto; Valle, Eduardo P. García Del; Zanin, Massimiliano; Ruiz, Ernestina Menasalvas; González, Alejandro Rodríguez

**Published in:** CBMS, Issue 4, 2018

**Publisher:** ACM

**DOI:** 10.5281/zenodo.1469699

[A data-driven approach for analyzing healthcare services extracted from clinical records](#)

**Author(s):** Scurti, Manuel; Ruiz, Ernestina Menasalvas; Serodio, Maria Esther Vidal; Torrente, Maria; Vogiatzis, Dimitrios; Paliouras, George; Provencio, Mariano; González, Alejandro Rodríguez

**Published in:** Issue 3, 2020

**Publisher:** Zenodo

**DOI:** 10.5281/zenodo.3862244

[Capturing Knowledge in Semantically-typed Relational Patterns to Enhance Relation Linking](#)

**Author(s):** Kuldeep Singh, Isaiah Onando Mulang', Ioanna Lytra, Mohamad Yaser Jaradeh, Ahmad Sakor, Maria-Esther Vidal, Christoph Lange, Sören Auer

**Published in:** Proceedings of the Knowledge Capture Conference on - K-CAP 2017, 2017, Page(s) 1-8, ISBN 9781450355537

**Publisher:** ACM Press

**DOI:** 10.1145/3148011.3148031

[IASIS and BigMedilytics: Towards personalized medicine in Europe](#) 

**Author(s):** Ruiz, Ernestina Menasalvas; Rodríguez-González, Alejandro; Martín, Consuelo Gonzalo; Zanin, Massimiliano; Tuñas, Juan Manuel; Provencio, Mariano; Torrente, Maria; Franco, Fabio; Calvo, Virginia; Nuñez, Beatriz

**Published in:** CAEPIA 2018 conference, Issue 2, 2018

**Publisher:** CAEPIA

**DOI:** 10.5281/zenodo.4008126

[Radiomics Textural Features Extracted from Subcortical Structures of Grey Matter Probability for Alzheimers Disease Detection.](#) 

**Author(s):** César Antonio Ortiz Toro; Nuria Gutiérrez Sánchez; Consuelo Gonzalo-Martín; Roberto Garrido García; Alejandro Rodriguez González; Ernestina Menasalvas Ruiz

**Published in:** CBMS, Issue 2, 2019

**Publisher:** Spain

**DOI:** 10.5281/zenodo.2650197

[Old is Gold: Linguistic Driven Approach for Entity and Relation Linking of Short Text](#) 

**Author(s):** Ahmad Sakor, Isaiah Onando Mulang', Kuldeep Singh, Saeedeh Shekarpour, Maria Esther Vidal, Jens Lehmann, Sören Auer

**Published in:** Proceedings of the 2019 Conference of the North, 2019, Page(s) 2336-2346

**Publisher:** Association for Computational Linguistics

**DOI:** 10.18653/v1/n19-1243

[iASiS Open Data Graph: Automated Semantic Integration of Disease-Specific Knowledge](#) 

**Author(s):** Nentidis, Anastasios; Bougiatiotis, Konstantinos; Krithara, Anastasia; Paliouras, Georgios

**Published in:** Issue 3, 2020

**Publisher:** CBMS

**DOI:** 10.1109/cbms49503.2020.00049

[Ranking Knowledge Graphs By Capturing Knowledge about Languages and Labels](#) 

**Author(s):** Lucie-Aimée Kaffee, Kemele M. Endris, Elena Simperl, Maria-Esther Vidal

**Published in:** Proceedings of the 10th International Conference on Knowledge Capture, 2019, Page(s) 21-28, ISBN 9781450370080

**Publisher:** ACM

**DOI:** 10.1145/3360901.3364443

[Summarizing Entity Temporal Evolution in Knowledge Graphs](#)

**Author(s):** Tasnim, Mayesha; Collarana, Diego; Graux, Damien; Orlandi, Fabrizio; Vidal, Maria-Esther

**Published in:** New York, NY : ACM Press 961-965 (2019).

doi:10.1145/3308560.3316521, Issue 2, 2019

**Publisher:** ACM

**DOI:** 10.18154/rwth-2019-06971

[Semantic Data Integration for Knowledge Graph Construction at Query Time](#)

**Author(s):** Diego Collarana, Mikhail Galkin, Ignacio Traverso-Ribon, Christoph Lange, Maria-Esther Vidal, Soren Auer

**Published in:** 2017 IEEE 11th International Conference on Semantic Computing (ICSC), 2017, Page(s) 109-116, ISBN 978-1-5090-4284-5

**Publisher:** IEEE

**DOI:** 10.1109/ICSC.2017.85

[Unveiling Scholarly Communities over Knowledge Graphs](#)

**Author(s):** Sahar Vahdati, Guillermo Palma, Rahul Jyoti Nath, Christoph Lange, Sören Auer, Maria-Esther Vidal

**Published in:** Digital Libraries for Open Knowledge - 22nd International Conference on Theory and Practice of Digital Libraries, TPDL 2018, Porto, Portugal, September 10–13, 2018, Proceedings, Issue 11057, 2018, Page(s) 103-115, ISBN 978-3-030-00065-3

**Publisher:** Springer International Publishing

**DOI:** 10.1007/978-3-030-00066-0\_9

[Semantic Data Integration Techniques for Transforming Big Biomedical Data into Actionable Knowledge](#)

**Author(s):** Maria-Esther Vidal, Samaneh Jozashoori, Ahmad Sakor

**Published in:** 2019 IEEE 32nd International Symposium on Computer-Based Medical Systems (CBMS), 2019, Page(s) 563-566, ISBN 978-1-7281-2286-1

**Publisher:** IEEE

**DOI:** 10.1109/cbms.2019.00116

[Recognition of Time Expressions in Spanish Electronic Health Records](#)

**Author(s):** Najafabadipour, Marjan; Zanin, Massimiliano; Rodríguez-González, Alejandro; Gonzalo-Martín, Consuelo; Nuñez García, Beatriz; Calvo, Virginia; Luis Cruz Bermudez, Juan; Provencio, Mariano; Menasalvas, Ernestina

**Published in:** CBMS, Issue 30, 2019

**Publisher:** CBMS

**DOI:** 10.5281/zenodo.2871453

[iASiS: Towards Heterogeneous Big Data Analysis for Personalized Medicine](#)

**Author(s):** Anastasia Krithara, Fotis Aisopos, Vassiliki Rentoumi, Anastasios Nentidis, Konstantinos Bougatiotis, Maria-Esther Vidal, Ernestina Menasalvas, Alejandro Rodriguez-Gonzalez, Eleftherios Samaras, Peter Garrard, Maria Torrente, Mariano Provencio Pulla, Nikos Dimakopoulos, Rui Mauricio, Jordi Rambla De Argila, Gian Gaetano Tartaglia, George Paliouras

**Published in:** 2019 IEEE 32nd International Symposium on Computer-Based Medical Systems (CBMS), 2019, Page(s) 106-111, ISBN 978-1-7281-2286-1

**Publisher:** IEEE

**DOI:** 10.1109/cbms.2019.00032

[Disease networks and their contribution to disease understanding and drug repurposing. A survey of the state of the art](#)

**Author(s):** García del Valle, Eduardo P.; García, Gerardo Lagunes; Santamaría, Lucía Prieto; Zanin, Massimiliano; Ruiz, Ernestina Menasalvas; Rodríguez-González, Alejandro

**Published in:** Issue 1, 2019

**Publisher:** Heidelberg : Springer Verlag

**DOI:** 10.1101/415257

[Drug-Drug Interaction Prediction on a Biomedical Literature Knowledge Graph](#)

**Author(s):** Bougiatiotis, Konstantinos; Aisopos, Fotis; Nentidis, Anastasios; Krithara, Anastasia; Paliouras, Georgios

**Published in:** AIME 2020, Issue 2, 2020

**Publisher:** Springer

**DOI:** 10.5281/zenodo.4006459

[Optimizing Federated Queries Based on the Physical Design of a Data Lake](#)

**Author(s):** Rohde, Philipp D.; Vidal, Maria-Esther

**Published in:** Workshops of the 23rd International Conference on Extending Database Technology/23rd International Conference on Database Theory, EDBT-ICDT-WS 2020, Issue 2578, 2020, ISSN 1613-0073

**Publisher:** EDBT/ICDT 2020 Joint Conference

**DOI:** 10.5281/zenodo.4008119

[Completing missing MeSH code mappings in UMLS through alternative expert-curated sources](#)

**Author(s):** García del Valle, Eduardo P.; Lagunes García, Gerardo; Prieto Santamaría, Lucia; Zanin, Massimiliano; Rodríguez González, Alejandro; Menasalvas Ruiz, Ernestina

**Published in:** CBMS, Issue 12, 2019

**Publisher:** Cold Spring Harbor Laboratory

**DOI:** 10.1101/602540

Why Reinvent the Wheel- Let's Build Question Answering Systems Together.

**Author(s):** Kuldeep Singh, Arun Sethupat Radhakrishna, Andreas Both, Saeedeh Shekarpour, Ioanna Lytra, Ricardo Usbeck, Akhilesh Vyas, Akmal Khikmatullaev, Dharmen Punjani, Christoph Lange, Maria-Esther Vidal, Jens Lehmann and Sören Auer.

**Published in:** 2018

**Publisher:** The Web Conference WWW 2018

ESWC 2018 Project Networking Track Title: iASiS: Big Data for Supporting Precision Medicine and Public Health Policy-Making Description: This extended abstract describes the objectives of the iASiS project, the main characteristics of the iASiS knowledge graph and the components of the iASiS framework. Resources that will be made available to the Semantic Web community are described as well.

**Author(s):** Maria-Esther Vidal

**Published in:** 2018

**Publisher:** European Semantic Web Conference

HARE: An Engine for Enhancing Answer Completeness of SPARQL Queries via Crowdsourcing.

**Author(s):** Maribel Acosta, Elena Simperl, Fabian Flöck and Maria Esther Vidal.

**Published in:** 2018

**Publisher:** The Web Conference WWW 2018

Automatic Detection of Linguistic indicators as a means of early detection of Alzheimer's and of related dementias: A Computational Linguistics analysis

**Author(s):** Rentoumi Vassiliki, Dimitra Arfani, Katerina Fragkopoulou, Eva Danasi, Spyridoula Varlokosta, Spyros Papadatos and George Paliouras

**Published in:** 2017

**Publisher:** Cognitive Infocommunications (CogInfoCom), 2017 8th IEEE International Conference on Cognitive Infocommunications

Big Data for Supporting Precision Medicine in Lung Cancer Patient.

**Author(s):** Maria Torrente, Fernando FrancoErnestina Mensalvas, , Alejandro Rodriguez-Gonzalez, Virginia Calvo, Maria Auxiliadora Brenes, George Paliouras, Mariano Provencio-Pulla

**Published in:** 2018

**Publisher:** American Society of Clinical Oncology

BOUNCER: Privacy-aware Query Processing Over Federations of RDF Dataset Description: This paper describes BOUNCER, a framework for enforcing data privacy and access control regulations. BOUNCER relies on novel query execution strategy to ensure that data access regulations are satisfied during query execution.

**Author(s):** Kemele M. Endris, Zuhair Almhithawi, Ioanna Lytra, Maria-Esther Vidal, Sören Auer

**Published in:** 2018

**Publisher:** DEXA 2018 29th International Conference on Database and Expert Systems Applications

Evaluating Wikipedia as a source of information for disease understanding

**Author(s):** Eduardo P. García del Valle, Gerardo Lagunes García, Lucia Prieto Santamaría, Massimiliano Zanin, Alejandro Rodríguez González, Ernestina Menasalvas Ruiz

**Published in:** 2018

**Publisher:** 31st IEEE CBMS International Symposium on Computer-Based Medical Systems

AAIC '18 - Alzheimer's Association International Conference iASiS: Big Data for Precision Medicine. Automatic Detection of Linguistic Indicators as a Means of Early Prediction of Alzheimer's and of Related Dementias

**Author(s):** Vassiliki Rentoumi, George Paliouras, Anastasia Krithara, Peter Garrard, and Anastasios Nentidis

**Published in:** 2018

**Publisher:** Alzheimer's Association International Conference

EU Project Description - iASiS: Big Data for Supporting Precision Medicine and Public Health Policy-Making

**Author(s):** Maria-Esther Vidal

**Published in:** Data Integration in the Life Sciences 2018, 2018

**Publisher:** Data Integration in the Life Sciences 2018

iASiS: Big Data for Supporting Precision Medicine and Public Health Policy-Making

**Author(s):** Anastasia Krithara, George Paliouras, Anna Triantafillou, Maria-Esther Vidal, Soren Auer, Ernestina Menasalvas, Mariano Provencio Pulla, Maria Torrente, Peter Garrard, Alison Evans, Roderic Guigo, Louiqa Raschid

**Published in:** 2017

**Publisher:** ESWC2017

Semantic integration of disease-specific knowledge

**Author(s):** Anastasios Nentidis, Konstantinos Bougiatiotis, Anastasia Krithara and Georgios Paliouras

**Published in:** 2018

**Publisher:** 17TH EUROPEAN CONFERENCE ON COMPUTATIONAL BIOLOGY

GARUM: A Semantic Similarity Measure Based on Machine Learning and Entity Characteristics

Description: This paper presents GARUM, a semantic similarity measure that resorts to machine learning methods for learning the most suitable characteristics to consider during the computation of the relatedness of two entities. Knowledge graphs are used to represent the entities, and semantics encoded in the

**Author(s):** Ignacio Traverso-Ribon, Maria-Esther Vidal

**Published in:** 2018

**Publisher:** DEXA 2018 29th International Conference on Database and Expert Systems Applications

Aristotelieio Glosologia - Automatic extraction of linguistic features in Alzheimer's disease: A computational linguistics approach

**Author(s):** Rentoumi Vassiliki, Dimitra Arfani, Katerina Fragkopoulou, Spyridoula Varlokosta, and George Paliouras

**Published in:** 2018

**Publisher:** 39th Annual Meeting of the Department of Linguistics, School of Philosophy

Synthesizing Knowledge Graphs from web sources with the MINTE+ framework

**Author(s):** Diego Collarana, Michael Galkin, Christoph Lange, Simon Scerri, Sören Auer and Maria-Esther Vidal

**Published in:** 2018

**Publisher:** 17th International Semantic Web Conference

[Automatic Recording and Analysis of Somniloquy through the use of Mobile Devices to Support the Diagnosis of Psychological Pathologies](#) 

**Author(s):** Virginia Aparicio-Paniagua, Jorge Pérez-Muñoz, Alejandro Rodríguez-González, Ángel García-Pedrero, Juan Miguel Gomez-Berbis, Consuelo Gonzalo-Martin, Ernestina Menasalvas-Ruiz, Giner Alor-Hernández

**Published in:** Issue 24-27 October 2017, 2017, Page(s) 169-180

**Publisher:** Springer International Publishing

**DOI:** 10.1007/978-3-319-67283-0\_13

[Beyond MeSH: Fine-Grained Semantic Indexing of Biomedical Literature Based on Weak Supervision](#) 

**Author(s):** Anastasios Nentidis, Anastasia Krithara, Grigorios Tsoumakas, Georgios Paliouras

**Published in:** 2019 IEEE 32nd International Symposium on Computer-Based Medical Systems (CBMS), 2019, Page(s) 180-185, ISBN 978-1-7281-2286-1

**Publisher:** IEEE

**DOI:** 10.1109/cbms.2019.00045

[MINTE - semantically integrating RDF graphs](#) 

**Author(s):** Diego Collarana, Mikhail Galkin, Ignacio Traverso-Ribón, Maria-Esther Vidal, Christoph Lange, Sören Auer

**Published in:** Proceedings of the 7th International Conference on Web Intelligence, Mining and Semantics, 2017, Page(s) 1-11, ISBN 9781450352253

**Publisher:** ACM

**DOI:** 10.1145/3102254.3102280

[FedSDM: Semantic Data Manager for Federations of RDF Datasets](#) 

**Author(s):** Endris, Kemele M.; Vidal, Maria-Esther; Auer, Sören

**Published in:** DILS, Issue 8, 2018

**Publisher:** DILS

**DOI:** 10.13140/rg.2.2.22850.84160

[SMJoin - A Multi-way Join Operator for SPARQL Queries](#) 

**Author(s):** Mikhail Galkin, Kemele M. Endris, Maribel Acosta, Diego Collarana, Maria-Esther Vidal, Sören Auer

**Published in:** Proceedings of the 13th International Conference on Semantic Systems - Semantics2017, 2017, Page(s) 104-111, ISBN 9781450352963

**Publisher:** ACM Press

**DOI:** 10.1145/3132218.3132220

[Data Integration for Supporting Biomedical Knowledge Graph Creation at Large-Scale](#) 

**Author(s):** Jozashoori, Samaneh; Novikova, Tatiana; Vidal, Maria-Esther

**Published in:** Issue 3, 2018

**Publisher:** Springer International Publishing

**DOI:** 10.1007/978-3-030-06016-9\_9

[Evaluating Wikipedia as a Source of Information for Disease Understanding](#) 

**Author(s):** Eduardo P. Garcia del Valle, Gerardo Lagunes Garcia, Lucia Prieto Santamaria, Massimiliano Zanin, Ernestina Menasalvas Ruiz, Alejandro Rodriguez Gonzalez

**Published in:** 2018 IEEE 31st International Symposium on Computer-Based Medical Systems (CBMS), 2018, Page(s) 399-404, ISBN 978-1-5386-6060-7

**Publisher:** IEEE

**DOI:** 10.1109/cbms.2018.00076

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[Falcon 2.0: An Entity and Relation Linking Tool over Wikidata](#) 

**Author(s):** Sakor, Ahmad; Singh, Kuldeep; Patel, Anery; Vidal, Maria-Esther

**Published in:** Issue 2, 2019

**Publisher:** Arxiv

**DOI:** 10.5281/zenodo.4008148

[Structural analysis of SARS-CoV-2 and prediction of the human interactome](#) 

**Author(s):** Vandelli, Andrea; Monti, Michele; Milanetti, Edoardo; Ponti, Riccardo Delli; Tartaglia, Gian Gaetano

**Published in:** Issue 4, 2020

**Publisher:** Biorxiv

**DOI:** 10.1101/2020.03.28.013789

[Spa-neg: an approach for negation detection in clinical text written in Spanish](#) 

**Author(s):** , Oswaldo; , Ernestina; , Alejandro

**Published in:** Issue 5, 2020

**Publisher:** Zenodo

**DOI:** 10.5281/zenodo.3625499

[Error detection in Knowledge Graphs: Path Ranking, Embeddings or both?](#) 

**Author(s):** Fasoulis, R.; Bougiatiotis, K.; Aisopos, F.; Nentidis, A.; Paliouras, G.

**Published in:** Issue 3, 2020

**Publisher:** Arxiv

**DOI:** 10.5281/zenodo.4006124

[Reconstructing the Patient's Natural History from Electronic Health Records](#) 

**Author(s):** Najafabadipour, Marjan; Zanin, Massimiliano; Rodríguez-González, Alejandro; Torrente, Maria; Nuñez García, Beatriz; Cruz Bermudez, Juan Luis; Provencio, Mariano; Menasalvas, Ernestina

**Published in:** Issue 8, 2020

**Publisher:** Zenodo

**DOI:** 10.5281/zenodo.3765826

## Software

Software via OpenAIRE (1)



RNAct

**Author(s):** Lang, Benjamin; Tartaglia, Gian Gaetano

**Publisher:** bio.tools

## Other Research Products

Other Research Products via OpenAire (2)



[Identifying the presence and severity of dementia by applying interpretable machine learning techniques on structured clinical records](#) 

**Author(s):** Vyas, Akhilesh; Aisopos, F.; Vidal, M.-E.; Garrard, P.; Paliouras, G.

**Published in:** London : BioMed Central

[Calibrating mini-mental state examination scores to predict misdiagnosed dementia patients](#) 

**Author(s):** Vyas, Akhilesh; Aisopos, Fotis; Vidal, Maria-Esther; Garrard, Peter; Paliouras, George

**Published in:** Basel : MDPI AG

**Last update:** 1 September 2023

**Permalink:** <https://cordis.europa.eu/project/id/727658/results>

European Union, 2025