

# Oya Deniz BEYAN

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PhD (in Health Informatics)  
MS (in Information Systems)  
MS (in Sociology)

I am Oya Beyan, a postdoctoral researcher and lecturer at Informatik 5, RWTH Aachen University and at Fraunhofer Institute for Applied Information Technology FIT. I conduct research related to data reusability and FAIR data management, distributed analytics on sensitive data, and data-driven transformation in medicine.

My ambition is to achieve semantically interpretable machine actionable data and services to foster data-driven science and industry, without compromising fairness, equity, privacy, and confidentiality of individuals as well as social groups and communities. My areas of expertise are medical informatics, semantic web technologies, clinical decision support, patient empowerment, research data management, and ethical and social challenges of data.

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## PERSONAL WEBSITES

<http://oyabeyan.info>  
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## E-MAILS

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## SOCIAL MEDIA

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## ADDRESS

Lehrstuhl Informatik 5 6235, 2nd floor, Building: E2 Ahornstr. 55  
52056 Aachen Germany

## LANGUAGES

English (Fluent)  
German (Intermediate)  
Turkish (Native)

## Postdoctoral Researcher, Lecturer

[Informatik 5, RWTH Aachen University](#)

[Fraunhofer Institute for Applied Information Technology FIT](#)

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## Memberships

- \* [EOSC FAIR Working Group Member](#)
- \* [RDA Germany Board Member](#)
- \* [RDA Ethics and Social Aspects of Data Interest Group Co-Chair](#)
- \* [RDA Reproducible Health Data Services Working Group Co-Chair](#)
- \* [GO-FAIR Personal Health Train Implementation Network Co-Coordinator](#)
- \* [W3C Semantic Web in Health Care and Life Sciences Community Group Member](#)

## RESEARCH INTERESTS

### BIOMEDICAL INFORMATICS

Data Driven Medicine, Electronic Health Records, Research and Registry Data Repositories, Health Care Standards, Knowledge Graphs for Biomedicine.

### SEMANTIC WEB TECHNOLOGIES AND FAIR DATA MANAGEMENT

Reproducible Data Science, FAIR Data Workflows, FAIR Data Sharing, Open Data, Linked Data, Ontology Engineering, Metadata Management.

### DATA ANALYTICS

Distributed Data Analytics, Big Data Analytics in Biomedicine, Machine Learning in Biomedical Data, Knowledge Representation.

### ETHICAL AND SOCIAL ASPECTS OF DATA

Ethics in Big Data Analytics, Machine Processable Ethical Review Processes, Patient Empowerment.

## EDUCATION

Year	Degree	University
2010	Doctor of Philosophy (in Medical Informatics)	Middle East Technical University, Informatics Institute, Department of Health Informatics
2010	Master of Science (in Sociology)	Middle East Technical University, Faculty of Arts and Sciences, Department of Sociology
2003	Master of Science (in Information Systems)	Middle East Technical University, Informatics Institute, Department of Health Informatics

# Experience

## ACADEMIC EXPERIENCE

Date	Position-University
August 2016- Today	Researcher Fraunhofer Institute for Applied Information Technology FIT, Germany
October 2015- Today	Postdoctoral Researcher, Lecturer Informatik 5, RWTH Aachen University, Germany.
2012-2015	Postdoctoral Researcher, Visiting Researcher, Adjunct Lecturer INSIGHT Centre for Data Analytics, Innovative Personalised Medicine Technologies Research Centre. NUI Galway, Ireland
2011-2012	Assistant Professor Faculty of Engineering, Department of Computer Engineering, Atilim University, Ankara, Turkey
2012-2015	Research Assistant Informatics Institute, Department of Health Informatics, Middle East Technical University (METU), Ankara, Turkey.

## SCIENTIFIC EVENT ORGANIZATIONS

- \* **GO FAIR PHT IN:** Member of Organization Committee. GO FAIR PHT Implementation Network, German Chapter Workshop. Berlin-Germany, 12 February 2019.
- \* **SWAT4HCLS 2018:** Program Chair. SWAT4HCLS 2018 (Semantic Web Applications and Tools for Health Care and Life Sciences). Antwerp-Belgium, 3rd-6th December 2018.
- \* **ESWC 2018:** Workshop Organization and SeWeBMeDA co-chair. Editors of Joint proceedings of the MEPDaW, SeWeBMeDA, SWeTI co-located with ESWC 2018. 15th European Semantic Web Conference (ESWC). Heraklion-Greece, 3rd-7th June 2018
- \* **SWAT4HCLS 2017:** Hackathon Organization (Track C). SWAT4HCLS 2017 (Semantic Web Applications and Tools for Health care and Life Sciences). Roma-Italy, 4th-7th December 2017
- \* **HIBIT 2007:** Member of Organization Committee. HIBIT'07 International Symposium on Health Informatics and Bioinformatics. Informatics Institute, METU. Antalya-Turkey, April 2007
- \* **HIBIT 2005:** Member of Organization Committee. Editors of HIBIT International Symposium on Health Informatics and Bioinformatics (Yalabik, Y, Akman E, Togan İ, Koçgil OD). HIBIT International Symposium on Health Informatics and Bioinformatics. Informatics Institute, METU. Antalya-Turkey, November 2005.

# Projects

Project Name and Type	Duration and Position
<a href="#">FAIRplus</a> H2020 (EU.3.1.7. - Innovative Medicines Initiative 2 (IMI2))	2019-Today Researcher. Fraunhofer FIT
<a href="#">prepCDCA</a> RWTH Project	2019-Today Researcher. RWTH Aachen
<a href="#">Smart Medical Information Technology for Healthcare (SMITH)</a> BMBF Project	2017-Today Researcher. RWTH Aachen
<a href="#">A Personalised Integrated Care Approach for Service Organisations and Care Models for Patients with Multi-Morbidity and Chronic Conditions (PICASO)</a> H2020 (EU.3.1.6. - Health care provision and integrated care)	2017-2018 Researcher. RWTH Aachen
<a href="#">POLY-stakeholders for integrated CARE for chronic patients in acute phases (POLYCARE)</a> H2020 (EU.3.1.6. - Health care provision and integrated care)	2017-2018 Researcher. Fraunhofer FIT
<a href="#">MARIO Managing Active and healthy aging with use of caring service Robots</a> H2020 (EU.3.1. - SOCIETAL CHALLENGES - Health, demographic change and well-being)	2015-2016 Member of the coordination team, acquired funding as co-producer. Insight, NUI Galway.
<a href="#">Irish Research Council: Digital Repository of Ireland-Irish Record Linkage, 1864-1913</a> Irish Research Council (IRC)	2014-2015 Ontology Engineer. Insight, NUI, Galway
<a href="#">Semantic Infostructure interlinking an open source Finite Element tool and libraries with a model repository for the multi-scale Modelling and 3d visualization of the inner-ear (SIFEM)</a> FP7 (ICT - Specific Programme "Cooperation": Information and communication technologies)	2014-2015 Researcher. Insight, NUI, Galway.

Project Name and Type	Duration and Position
<p><a href="#">A Next-Generation, Secure Linked Data Medical Information Space For Semantically-Interconnecting Electronic Health Records and Clinical Trials Systems Advancing Patients Safety In Clinical Research (Linked2Safety)</a></p> <p>FP7 (ICT - Specific Programme "Cooperation": Information and communication technologies)</p>	<p>2011-2014</p> <p>Researcher. Insight, NUI, Galway.</p>
<p><a href="#">Upgrading the Statistical System of Turkey Programme (SSTP) Phase I, Technical Assistance to Improve the Information and Communication Technology (ICT) system in the State Institute of Statistics (SIS) of the Republic of Turkey</a></p> <p>EU-State Institute of Statistics (SIS) of the Republic of Turkey</p>	<p>2005-2006</p> <p>Expert (data warehousing and data mining) (METEKSAN System)</p>
<p>URBAS: National Radiology and PACS Development Project</p> <p>Company</p>	<p>2004-2005</p> <p>Consultant (TURMAP Information Technologies)</p>
<p><a href="#">Core Resources Management System (CRMS), Ministry of Health</a></p> <p>The World Bank, Ministry of Health (Turkey)</p>	<p>1998-2000</p> <p>Software Quality Manager (LIKOM Software)</p>
<p>YEŞKEP Urban Rehabilitation Project</p> <p>United Nations Development Programme (UNDP)</p>	<p>1996-1997</p> <p>Expert (Yenimahalle Municipality)</p>
<p><a href="#">Black Sea Environmental Programme (BSEP)</a></p> <p>Global Environment Facility (GEF), United Nations Development Programme (UNDP)</p>	<p>1994-1996</p> <p>Expert (DAMPO Company)</p>

# Teaching

## A. Courses

RWTH AACHEN UNIVERSITY	
Data Driven Medicine (Lecture)	2017 (SS) 2017-2018 (WS) 2018-2019 (WS)
Big Data in Medical Informatics (Lecture)	2016-2017 (WS)
Knowledge Graphs Praktikum (Practical Course)	2018 (SS) 2019 (SS)
Big Data in Personalized Medicine (Seminar)	2016 (SS) 2016-2017 (WS) 2017 (SS) 2017-2018 (WS)
Research Data Management (Seminar)	2017 (SS)
Methods for Data Reusability (Seminar)	2018-2019 (WS)
Linked Data (Seminar)	2015-2016 (WS) 2016 (SS) 2016-2017 (WS) 2017 (SS)
ATILIM UNIVERSITY (ANKARA, TURKEY)	
COMPE 111- Introduction to Computer Engineering	2011-2012 (1)
SE 112 Introduction to Software Engineering	2011-2012 (2)
SE 322- Software Design and Architecture	2011-2012 (2)
COMPE 343- Database Systems and Programming	2011-2012 (3)
COMPE 491- Senior Project	2011-2012 (1) 2011-2012 (2)
MIDDLE EAST TECHNICAL UNIVERSITY-METU (TURKEY)	
MIN 502- Introduction to Medical Informatics	2008-2009 (2) 2009-2010 (2)
IS 503-Database Concepts and Application	2010-2011 (2)
IS 580- Knowledge Representation and Data Mining	2009-2010 (1) 2010-2011 (1)
IS 100- Introduction to Information Technologies and Applications	2000 through 2003

## B. Supervised Theses

### RUNNING THESES

FAIR Identifier Registry for Distributed Systems (Supervised by Prof. Dr. Stefan Decker; Advisors: Dr. Oya Deniz Beyan) (Master)

Classification of Cancer with Methylation Aware Motifs (Supervised by Prof. Dr. Stefan Decker; Advisors: Dr. Oya Deniz Beyan, Md. Rezaul Karim, M.Sc.) (Bachelor)

A Data Mining Approach to Automate Curation of Semi-structured Data (Supervised by Prof. Dr. Stefan Decker; Advisors: Dr. Oya Deniz Beyan, Dr. Heiner Oberkamp) (Bachelor)

An Explainable and Fully Automated Localization and Semantic Segmentation Technique for Biomedical Imaging (Nazmi Shafin; Supervised by Prof. Dr. Stefan Decker; Advisors: Dr. Oya Deniz Beyan, Md. Rezaul Karim, M.Sc.) (Master)

### FINISHED THESES

Semantic Anomaly Detection in Medical Time Series (Completed by Sven Festag in 2019; Supervised by Prof. Dr. Stefan Decker, Dr. rer. nat. Cord Spreckelsen; Advisor: Dr. Oya Deniz Beyan) (Master)

Deep Learning-based Knee Osteoarthritis Diagnosis from Radiographs and Magnetic Resonance Images (Completed by Jiao Jiao in 2019; Supervised by Prof. Dr. Stefan Decker; Advisors: Dr. Oya Deniz Beyan, Dr. Michael Cochez, Md. Rezaul Karim, M.Sc.) (Master)

Developing a machine-actionable process model for ethical approval workflows (Completed by Verena Schwaiger in 2019; Supervised by Prof. Dr. Stefan Decker; Advisor: Dr. Oya Deniz Beyan) (Master)

Unsupervised Anomaly Detection in Medical Time Series Data (Completed by Tobias Brockhoff in 2019; Supervised by Prof. Dr. Stefan Decker; Advisor: Dr. Oya Deniz Beyan) (Master)

Patterns zur Integration regel- und prozessbasierter Modellkomponenten bei der Operationalisierung klinischer Leitlinien. (Completed by Florian Lammers in 2019; Supervised by Prof. Dr. Stefan Decker, Dr. rer. nat. Cord Spreckelsen; Advisor: Dr. Oya Deniz Beyan) (Master)

Arden Syntax in Use of Data Analysis Pipelines – Development of a DSL Based on the Arden Syntax, supporting recruitment for clinical trails (Completed by Felix Michael Fuchs in 2019; Supervised by Prof. Dr. Stefan Decker, Dr. rer. nat. Cord Spreckelsen; Advisor: Dr. Oya Deniz Beyan) (Bachelor)

Design and Implementation of an adaptable visual query tool for graph based health data (Completed by Maximilian Orth in 2019; Supervised by Prof. Dr. Stefan Decker; Advisor(s): Dr. Oya Deniz Beyan) (Master)

Implementation of Clinical Decision Support Services to Detect Drug Interactions using Clinical Quality Language (Completed by Nguyen, Binh-Phi in 2019; Supervised by Prof. Dr. Stefan Decker; Advisor(s): Dr. Oya Deniz Beyan, Md. Rezaul Karim, M.Sc.) (Master)

Using Deep Neural Networks and Copy Number Variations for Cancer Detection (Completed by Rahman, Md Ashiqur in 2018; Supervised by Prof. Dr. Stefan Decker; Advisor(s): Dr. Oya Deniz Beyan, Md. Rezaul Karim, M.Sc.) (Master)



Semantic Data Profiling in Data Lake (Completed by Ansari, Jasim Waheed in 2018; Supervised by Prof. Dr. Stefan Decker; Advisor(s): Dr. Oya Deniz Beyan, Naila Karim, Dr. Michael Cochez) (Master)

Analysis of Breast Cancer Genomic Data with Multimodal Deep Belief Network (Completed by Wicaksono, Galih Gilang in 2018; Supervised by Prof. Dr. Stefan Decker; Advisor(s): Dr. Oya Deniz Beyan, Md. Rezaul Karim, M.Sc.) (Master)

Smart Quality Check for FHIR Resources System (Completed by Mughis, Hareem in 2017; Supervised by Prof. Dr. Stefan Decker; Advisor(s): Dr. Oya Deniz Beyan) (Master)

The Design and Implementation of an Integrated Care Plan Application for Chronic Patients with the FHIR Standard (Completed by Grüter, Maren in 2017; Supervised by Prof. Dr. Stefan Decker; Advisor(s): Dr. Oya Deniz Beyan) (Bachelor)

Development and Optimization of a STOPP/START Rule Base to Identify Potential Adverse Drug Reactions in Polypharmacy Cases (Completed by Könnig, Jonas W. in 2017; Supervised by Prof. Dr. Stefan Decker; Advisor(s): Dr. Oya Deniz Beyan) (Bachelor)

## C. Others

### CONTRIBUTION TO STANDARDIZATION ACTIVITIES

World Wide Web Consortium (W3C). A Minimum Representation of Potential Drug-Drug Interaction Knowledge and Evidence – Technical and User-centered Foundation. Final Community Group Report 18 May 2019.

HL7 FHIR. Potential Drug-Drug Interaction (PDDI) CDS IG R1/STU.

### PROGRAM COORDINATION

Sağlık Bilgi Sistemleri (SBS) Sertifika Programı (Healthcare Information Systems Certification Program), Middle East Technical University (METU) (in Turkish).

ION Informatics Online Master Program, Middle East Technical University (METU).

### CURRICULUM & COURSE DEVELOPMENT

Data Driven Medicine, RWHT Aachen University.

Sağlık Bilgi Sistemleri (SBS) Sertifika Programı (Healthcare Information Systems Certification Program), Middle East Technical University (METU) (in Turkish).

Introduction to Information Technologies and Applications, Middle East Technical University (METU).



# Publications

## JOURNAL PAPERS

Chaves JBJA, Ucer Yediel Y, Löbe M, Kirsten T, Karim MdR, Decker S, **Beyan O**. Making Data Analytics FAIR: A Metadata Driven Approach for Sharing Phenotyping Algorithms. *Methods of Information in Medicine. Special Issue: Application of FAIR principles in Health Research*. ME19-02-0011. (Submitted)

Karim MdR, Rahman MdA, Jares JB, Decker S, **Beyan O**. A Snapshot Neural Ensemble Method for Cancer Type Prediction Based on Copy Number Variations. *Neural Computing and Applications*. NCAA-D-19-00120-R1. (Under Review, Minor Revision)

Karim MdR, Wicaksono G, Costa IG, Decker S, **Beyan O**. Prognostically Relevant Subtypes and Survival Prediction for Breast Cancer Based on Multimodal Genomics Data. *IEEE Access*. ID Access-2019-31536. (Accepted)

Gleim LC, Karim MdR, Zimmermann L, Kohlbacher O, Stenzhorn H, Decker S, **Beyan O**. Enabling Ad-hoc Reuse of Private Data Repositories through Schema Extraction. *Journal of Biomedical Semantics*. JBMS-D-18-00058. (Accepted)

**Beyan O**, Choudhury A, van Soest J, Zimmermann L, Stenzhorn H, Dumontier M, de Miranda Azevedo R, Decker S, Karim MdR, Bonino da Silva Santos LO, Kohlbacher O, Dekker A. Distributed Analytics on Sensitive Medical Data: The Personal Health Train. *Data Intelligence*. DI-2019-0016. (Accepted)

Winter A, Stäubert S, Ammon D, Aiche S, **Beyan O**, Bischoff V, Daumke P. et al. Smart medical information technology for healthcare (SMITH). *Methods of Information in Medicine*. 57, no. 5 01 (2018): e92-e105.

Karim MdR, Cochez M, **Beyan OD**, Ahmed CF, Decker S. Mining maximal frequent patterns in transactional databases and dynamic data streams: a spark-based approach. *Information Sciences*. 432 (2018): 278-300.

Porter E, La Gioia A, Salahuddin S, Decker S, Shahzad A, Elahi MA, O'Halloran M, **Beyan O**. Minimum information for dielectric measurements of biological tissues (MINDER): A framework for repeatable and reusable data. *International Journal of RF and Microwave Computer-Aided Engineering*. 28, no. 3 (2018): e21201.

Debryne C, **Beyan OD**, Grant R, Collins S, Decker S, Harrower N. A semantic architecture for preserving and interpreting the information contained in Irish historical vital records. *International Journal on Digital Libraries*. 17, no. 3 (2016): 159-174.

Felzmann H, Beyan T, Ryan M, **Beyan O**. Implementing an ethical approach to big data analytics in assistive robotics for elderly with dementia. *ACM SIGCAS Computers and Society*. 45, no. 3 (2016): 280-286.

**Beyan OD**, Baykal N. A knowledge based search tool for performance measures in health care systems. *Journal of Medical Systems*. February 2012; 36(1):201-21. Epub 2010 Apr 14.

**Koçgil OD**, Baykal N. An integrated approach to breast diseases and breast cancer registry and research: BDRS as a web-based multi-institutional model. *Computers in Biology and Medicine*. November 2007; 37(10):1414-25.

**Karaduman OD**, Erkmen AM, Baykal N. Integrated Treatment Planning Using an Intelligent Learning for Clinical Decision Support by Reinforcement Feedback. *WSEAS Transactions on Computers*. July 2006; 5(7), 1541-8.

Saka O, Gülkesen KH, Gülden B, **Koçgil OD**. Evaluation of two search methods in PubMed; the Regular Search and Search by MeSH Terms. *Acta Informatica Medica*. Volume 13, No. 4, Pages 180-1832, December 2005.

## CONFERENCE PAPERS

Karim MdR, Cochez M, Jares JB, Decker S, **Beyan O**. Drug-Drug Interaction Prediction Based on Knowledge Graph Embeddings and Convolutional-LSTM Network. *The 10th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM BCB 2019)*. Niagara Falls, New York, September 7-10, 2019. (Accepted)

Nguyen BP, Reese T, Decker S, Malone DC, Boyce RD, **Beyan O**. Clinical Decision Support Services to Detect Potential Drug-Drug Interaction using Clinical Quality Language. *Medinfo 2019, Health and Wellbeing E-Networks for all*. The 17th World Congress of Medical and Health Informatics. Lyon, France August 25-30, 2019.

Löbe M, **Beyan O**, Stäubert S, Meineke F, Ammon D, Winter A, Decker S, Löffler M, Kirsten T. Design of the SMITH Metadata Services. *Medinfo 2019, Health and Wellbeing E-Networks for all*. The 17th World Congress of Medical and Health Informatics. Lyon, France August 25-30, 2019.

Mietchen D, Schwaiger V, **Beyan O**. FAIR Ethics: Making Ethical Review Processes more Machine Actionable. *Ethics and Social Aspects of Data, RDA 12th Plenary*. Gaborone, Botswana, 7 November 2018.

Karim MdR, Rahman MdA, Decker S, **Beyan O**. Cancer Risk and Type Prediction Based on Copy Number Variations with LSTM and Deep Belief Networks. *Artificial Intelligence International Conference (A2IC2018)*. Barcelona, Spain, 21-23 November 2018.

Karim MdR, Nguyen B-P, Zimmermann L, Kirsten T, Lobe M, Meineke F, Stenzhorn H, Kohlbacher O, Decker S, **Beyan O**. A Distributed Analytics Platform to Execute FHIR-based Phenotyping Algorithms. *11th International Semantic Web Applications and Tools for Healthcare and Life Sciences (SWAT4HCLS 2018)*. Antwerp, Belgium, 3-6 December 2018.

Eibl E, Sakik S, Schneider N, **Beyan O**, Lukas N. Identification of SHACL Constraints from a Knowledge Graph. *11th International Semantic Web Applications and Tools for Healthcare and Life Sciences (SWAT4HCLS 2018)*. Antwerp, Belgium, 3-6 December 2018.

**Beyan O**, Wuchner A, Eisengräber-Pabst D, Quix C, Zschke C, Schumacher O. Research Data in the Fraunhofer Digital Project: Creating a FAIR Research Data Infrastructure and Culture. *Workshop on Research Objects (RO 2018)*. 29 October 2018, Amsterdam, Netherlands.

Gleim LC, Karim MdR, Zimmermann L, Kohlbacher O, Stenzhorn H, Decker S, **Beyan O**. Schema Extraction for Privacy Preserving Processing of Sensitive Data. *15th European Semantic Web Conference (ESWC 2018), SeWeBMeDA 2018*. Heraklion, Crete, Greece, 3-7 June 2018. In: Joint Proceedings of MEPDaW, SeWeBMeDA and SWeTI 2018, Volume 2112, Issue 1, Pages 36-47.

**Beyan O**, Juehne A, LeMay K, Durst L, Uhlmansiek M, Wolski M, Hudson Vitale C, Morley-Fletcher E, McIntosh. Reproducible Health Data Service Workflows Adoption and Training Guide for

Biomedical Service Centers. Göttingen-CODATA RDM Symposium 2018. 18-20 March 2018, Göttingen, Germany.

Könning JW, Velasco CA, Yehya M, Decker S, **Beyan O**. Representing medication guidelines for use in production rule systems in the context of POLYCARE project. International Academy, Research, and Industry Association -IARIA-: *FUTURE COMPUTING 2018, The Tenth International Conference on Future Computational Technologies and Applications*. Barcelona, Spain, 18-22 February 2018. IARIA, 2018. ISBN: 978-1-61208-608-8: S.15-23, p. 15-23. (Best Paper Award)

Karim MdR, Heinrichs M, Gleim LC, Cochez M, Porter E, La Gioia A, Salahuddin S, Decker S, O'Halloran M, **Beyan OD**. Towards a FAIR Sharing of Scientific Experiments: Improving Discoverability and Reusability of Dielectric Measurements of Biological Tissues. *10th International Semantic Web Applications and Tools for Healthcare and Life Sciences (SWAT4HCLS) Conference*. Rome, Italy, 4-7 December 2017.

**Beyan OD**, Handschuh S, Koumpis A, Frigidis G, Decker S. A Framework for Applying Data Integration and Curation Pipelines to Support Integration of Migrants and Refugees in Europe. *17th Working Conference on Virtual Enterprises (PRO-VE)*. October 2016, Porto, Portugal. IFIP Advances in Information and Communication Technology, AICT-480, pp.588-596, 2016, Collaboration in a Hyperconnected World.

**Beyan OD**, Decker S. An RDF Based Semantic Approach to Model Temporal Relations in Health Records. *9th International Conference Semantic Web Applications and Tools for Life Sciences (SWAT4LS)*. Amsterdam, Netherland, 5-8 December 2016.

Felzmann H, Beyan T, Ryan M, **Beyan O**. Implementing an ethical approach to big data analytics in assistive robotics for elderly with dementia. *ETHICOMP2015*. De Montfort University, Leicester, UK. 7–9 September 2015.

**Beyan O**, Mealy PJ, Grant D, Grant R, Harrower N, Breathnach C, Collins S, Decker S. Historical Data Preservation and Interpretation Pipeline for Irish Civil Registration Records. *On the Move (OTM) Confederated International Conferences “On the Move to Meaningful Internet Systems”*. Rhodes, Greece, October 2015. In: Ciuciu I. et al. (eds) *On the Move to Meaningful Internet Systems: OTM 2015 Workshops*. Lecture Notes in Computer Science, vol 9416. Springer, Cham

Debruyne C, **Beyan OD**, Grant R, Collins S, Decker S. On a linked data platform for irish historical vital records. *International Conference on Theory and Practice of Digital Libraries (TPDL)*. Poznań, Poland, 14-18 September 2015. In: Kapidakis S., Mazurek C., Werla M. (eds) *Research and Advanced Technology for Digital Libraries*. TPD 2015. Lecture Notes in Computer Science, vol 9316. Springer, Cham.

Felzmann H, Murphy K, Casey D, **Beyan O**. Robot-assisted care for elderly with dementia: is there a potential for genuine end-user empowerment? *The Emerging Policy and Ethics of Human Robot Interaction*. 2 March 2015, Portland, OR, USA.

Kazemzadeh L, Kamdar MR, **Beyan OD**, Decker S, Barry F. LinkedPPI: Enabling Intuitive, Integrative Protein-Protein Interaction Discovery. *13th International Semantic Web Conference (ISWC)-4th Workshop on Linked Science 2014— Making Sense Out of Data (LISC2014)*. Riva del Garda, Italy, 19 October 2014.

Debruyne C, **Beyan OD**, Decker S, Collins S. Using Semantic Technologies to Create Virtual Families from Historical Vital Records. *European Data Infrastructure, 1st European Ontology Network (EUON) Workshop*. De Meervart Conference Centre, Amsterdam, The Netherlands, 25 September 2014.

**Beyan OD**, Breathnach C, Collins S, Debruyne C, Decker S, Grant D, Grant R, Gurrin B. Towards Linked Vital Registration Data for Reconstituting Families and Creating Longitudinal Health Histories. *Vienna Summer of Logic (VSL) 2014, Knowledge Representation for Health Care (KR4HC)*. Vienna, Austria, July 2014.

Rakhmawati NA, Hasnain A, **Beyan O**, Iqbal A, Decker S. The Cost and Benefit of Exploiting Links in Federated SPARQL Query. *10th International Conference on Web Information Systems and Technologies (WEBIST 2014)*. Barcelona, Spain, April 2014.

**Beyan OD**, Iqbal A, Khan Y, Antoniadis A, Keane J, Hasapis P, Georgousopoulos C, Ioannidi M, Decker S, Sahay R. Querying Phenotype-Genotype Associations across Multiple Knowledge Bases using Semantic Web Technologies. *13th IEEE International Conference on Bioinformatics and BioEngineering (BIBE)*. Chania-Greece; November 2013.

Sahay R, Ntalaperas D, Kamateri E, Hasapis P, **Beyan OD**, Strippoli MPF, Demetriou CA, Gklarou-Stavropoulou T, Brochhausen M, Tarabanis K, Bouras T, Tian D, Aristodimou A, Antoniadis A, Georgousopoulos C, Hauswirth M, Decker S. An Ontology for Clinical Trial Data Integration. *IEEE International Conference on Systems, Man, and Cybernetics (SMC)*. Manchester, UK, October 2013.

Perakis K, Bouras T, Ntalaperas D, Hasapis P, Georgousopoulos C, Sahay R, **Beyan OD**, Potlog C, Usurelu D. Advancing Patient Record Safety and EHR Semantic Interoperability. *IEEE International Conference on Systems, Man, and Cybernetics (SMC)*. Manchester, UK, October 2013.

Hacaloğlu T, **Beyan OD**. Measuring Innovative Characteristics of Students in Higher Education. *2nd International Engineering Education Conference (IEEC2012)*. Antalya, Turkey, October-November 2012.

**Beyan OD**, Tercan B. Sağlık Bakımında Bilgi Yönetimi (Knowledge Management in Health Care). VIII. *Ulusal Tıp Bilişimi Kongresi (TURKMIA'11)*. Antalya, Turkey, November 2011.

Beyan T, **Beyan OD**. Kaliteli Tıbbi Bakım İçin Sağlık Malzemeleri Tedarik Zincirinde Bilişim Teknolojilerine Dayalı Dönüşüm: Genel Bir Çerçeve Önerisi (Transformation of Health Materials Supply Chain Based on Information Technologies For Qualified Healthcare). VIII. *Ulusal Tıp Bilişimi Kongresi (TURKMIA'11)*. Antalya, Turkey, November 2011.

**Beyan OD**, Beyan T, Baykal N. Sağlık Bakımı Performans Ölçümü Ontolojisi ve Bilgi Tabanı (An Ontology and Knowledge Base For Healthcare Performance Measurements). VII. *Ulusal Tıp Bilişimi Kongresi (TURKMIA'10)*. Northern Cyprus, October 2010.

**Koçgil OD**, Beyan T, Baykal N. Sağlık Bakımı Performans Ölçümü İçin Bir Karşılaştırma Aracı Önerisi (A Framework Proposal for Health Care Performance Measurement and its Application to National Health Care System). *The Ministry of Health of Turkey, the International Congress on Quality and Performance in Healthcare*. Antalya, Turkey, March 2009.

**Koçgil OD**, Baykal N, Beyan T. Sağlık ve Sağlık Bakım Sistemlerinde Performans İzleme ve Değerlendirme (Performance Measurement and Assessment in Health Care Systems). *The Ministry of Health of Turkey, the Second e-Health Congress*. Antalya, Turkey, October 2007.

Beyan T, Baykal N, **Koçgil OD**. Kompleks Adaptif Sistem Olarak Sağlık Sistemleri ve Performans (Health Systems as Complex Adaptive Systems and Performance). *The Ministry of Health of Turkey, the Second e-Health Congress*. Antalya, Turkey, October 2007.

**Karaduman OD**, Erkmén AM, Baykal N. Intelligent "Health Restoration System": Reinforcement Learning Feedback to Diagnosis and Treatment Planning. *5th World Scientific and Engineering*



Academy and Society (WSEAS) International Conference on Telecommunications and Informatics. İstanbul, Turkey, 27-29 May 2006.

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ABOUT ME

EXPERIENCE

PROJECTS

TEACHING

PUBLICATIONS