

Pasquale De Meo

PERSONAL AND CONTACT INFORMATION:

Work Address: *University of Messina, Messina, Italy, Piazza Pugliatti 1*

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RESEARCH INTERESTS:

Machine Learning on Graphs, Graph Neural Networks, Knowledge Graphs, Network Centrality, Community Detection in Graphs

EDUCATION

- 2006 PhD in Computer Science, School of Engineering, Department of Computer Engineering, University of Calabria, Italy. PhD Thesis Title "*Semantic Approaches for Accessing Distributed Information*", advisors Prof. Luigi Palopoli and Prof. Domenico Ursino
- 2002 MSc in Electrical Engineering, *magna cum laude*, School of Engineering, Department of Computer Engineering, University of Reggio Calabria, Italy

CURRENT POSITIONS

- 2021 Scientific Consultant, nPlan LTD, London, UK
- 2015 – Today Associate Professor in Computer Science.
- 2015-2021 Director of the MSc course in Digital Journalism, University of Messina, Italy

PREVIOUS POSITIONS

- 2012 – 2015 Tenure Track Assistant Professor in Computer Science, University of Messina, Italy
- 2011– 2012 Non-Tenure Track Assistant Professor in Computer Science, University of Messina, Italy

FELLOWSHIPS

- 2017 – Today External Member, Birbeck Institute for Data Analytics (BIDA), London, United Kingdom.
- 2016 – 2019 Fellow, Data Science Institute, Bournemouth University, United Kingdom.
- 2010 – 2011 Marie Curie Fellowship, Department of Computer Science, VU University, Amsterdam, The Netherlands
- 2009 – 2010 Postdoc, Department of Computer Engineering, University of Reggio Calabria, Italy
- 2008 – 2009 Postdoc, National Research Council (CNR), Institute of High Performance Computing and Networking, Palermo, Italy
- 2007 – 2008 Postdoc, School of Engineering, Department of Computer Engineering, University of Calabria, Italy

EDITORSHIP

- 2018 Associate Editor – *IEEE Transactions on Cybernetics*
- 2018 Associate Editor, *SOCIAL SCIENCE COMPUTER REVIEW*
- 2017 Associate Editor – *IEEE Access*
- 2017 Lead Guest Editor, Special issue on “*Algorithms in Online Social Networks*”, Algorithms Journal (with J. Yao).
- 2016 Associate Editor – *CAAI Transactions on Intelligence Technology*
- 2016 Guest Editor, Special Issue on "*Analysis and Applications of Complex Social Networks*" Complexity Journal, (with K. Musyal-Gabrys and P. Brodka)
- 2016 Associate Editor – *KES Journal: Innovation in Knowledge-Based and Intelligent Engineering Systems* (IOS Press)

PATENTS

2019 P. De Meo, G. Fiumara, S. Agreste, S. Catanese. P20549IT-01. *Methods to Predict the Structures of Criminal Networks*.

MAIN GRANTS

2019-2023 Local PI, ***Dynamics and Control of Complex Social Networks*** (ID190101087- RES18/1529) financed by ARC (Australian Research Council) Discovery Project, 600, 000 AUD (Principal Investigator: Prof. K. Musyal-Gabrys, UTS Sidney).

2018-2022 Local PI, ***DigForAsp (Digital forensics: evidence analysis via intelligent systems and practices)*** – CA17124 , funded by the European Cooperation in Science and Technology (COST) (Principal Investigators: Prof. J. Medina and Prof. S. Costantini).

2017 ***Microsoft Azure Research Grant*** (40, 000 USD). ***Community Detection in Directed Graphs***. Role: Principal Investigator.

2017 ***Italian Ministry of Research*** (3, 000 Euros). Research Grant to Best Italian Researchers for Basic Research Activities.

2013 ***Advanced Database Technologies in the field of Digital Humanities*** (financed by Italian Ministry of University, 110, 000 Euros). Role: Workpackage Leader.

2015 ***EASE: Entity Aware Search Engines*** (financed by Italian Ministry of University, 70, 000 Euros). Role: Workpackage Leader.

2009 ***TruSIS - Trust in Social Internetworking Systems*** (Marie Curie Individual Fellowship, financed by European Union FP7 programme, 82, 000 Euros). Role: Principal Investigator.

2006-2007 ***Quadrantis: Quality of service, Diagnosis, Reaction, Assessment Techniques in Information Systems*** (financed by Italian Ministry of University, 50, 000 Euros). Role: Workpackage Leader.

MAJOR COLLABORATIONS

1. *University of Technology at Sidney, Sidney, Australia*: Data Science, Web 2.0, Social Network Analysis (collaboration with Prof. Katarzyna Musial-Gabrys).
2. *VU University of Amsterdam, Department of Computer Science, Amsterdam, The Netherlands*: Data Science, Social Network Analysis, Web 2.0. (collaboration with Prof. Lora Aroyo)
3. *Delft University of Technology, Department of Computer Science, Delft, The Netherlands*: Folksonomies, User Modelling, Social Web (collaboration with Prof. Geert-Jan Houben).
4. *Birbeck University of London, London, UK*: Centrality Metrics on Graphs, Social Network Analysis (collaboration with Prof. Mark Levene and Prof. Alessandro Provetti).
5. *University of Southern California, Viterbi School of Engineering, Information Sciences Institute, Los Angeles, USA*: Social Network Analysis, Criminal Networks (collaboration with Prof. Emilio Ferrara)
6. *University College of London (UCL), Department of Computer Science, London, UK*: Social and Urban Computing, Folksonomies (collaboration with Prof. Licia Capra).
7. *Lixto Software GmbH, Wien, Austria*: Web Data Extraction (collaboration with Dr. R. Baumgartner).

MAIN ACHIEVEMENTS

- I have been named in the world's top 2% of Scientists List compiled by Prof. Ioannidis at Stanford University in 2021 and 2022.
- Best Italian PhD Thesis in Artificial Intelligence. The prize was awarded by AI*IA (Italian Association for Artificial Intelligence), 2006.
- Press coverage: *MIT Technology Review, Engadget, Fast Company, The Washington Post, Communications of the ACM, The Daily Dot, Business Standard, FreePress Journal*.
- Four of my conference papers have been recognized among the best papers. An extended version was invited for journal publications. The conferences were *IEEE/ACM Intelligent Agent Technology 2003 and 2005, Cooperative Information Systems 2003 and 2005*.

PC MEMBERSHIP IN CONFERENCES

ACM International Joint Conference on Autonomous Agents & Multiagent Systems AAMAS (2021, 2022), ACM

SIGKDD (2019, 2020), IJCAI - International Joint Conference on Artificial Intelligence (2020), ACM Conference on World Wide Web (Web Science Track, 2015, 2016, 2023), ACM Web Science Conference (WeBSci 2014, 2015, 2018, 2020, 2021, 2022, 2023), ACM International Conference on User Modeling, Adaptation and Personalization (2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023), ACM International Conference on User Modeling, Adaptation and Personalization-Doctoral Consortium (2016, 2017, 2018, 2019, 2020, 2021), Complex Networks (2017, 2019, 2020, 2021, 2022), European Network Intelligence Conference (ENIC 2016, 2017), International Workshop on Applications of Social Network Analysis (SNAA 2014, 2016, 2017, 2018, 2019, 2020), International Workshop on Machine Learning for Large-Scale Networks (2017), IEEE International Conference on Enabling Technologies: Infrastructure for Collaborative Enterprises (WETICE 2016, 2017), IEEE International Conference on Networking, Sensing and Control (ICNSC 2017), International Conference on Signal Image Technology & Internet Based Systems (SITIS 2016), International Workshop on Social Media for Personalization And Search (SoMePeAS 2017), International Conference on Signal Processing and Intelligence Systems (ICSPIS 2017), International Workshop on Usage Analysis and the Web of Data (USEWOOD 2015, 2016), IEEE Symposium on Big Data Management and Analytics (BIDMA 2016, 2017), International Conference on Social Informatics (2016), International School and Conference on Network Science (NetSci-X 2016), International Workshop on Criminal Network Analysis and Mining (CrimeNet 2014), International Workshop on Connecting Online & Offline Life (COOL 2014), International Workshop on Usage Analysis and the Web of Data (UseWOOD 2014, 2015, 2016), International Conference on Electronics, Communications and Computers (CONIELECOMP 2012, 2103, 2014, 2015, 2016, 2017), Italian Information Retrieval Workshop (IIR 2012, 2013, 2014), International Workshop on Computational Social Science: Social Contagion, Collective Behaviour, and Networks (CSS 2014), International Workshop on Collective Behaviors and Networks (COVENANT 2013), ACM International Conference on Knowledge and Information Management (CIKM 2011), International Conference on Computational Aspects of Social Networks (CASoN 2011, 2012, 2013), International Conference on Digital Information Processing and Communications (ICDIPC 2011), IEEE International Conference on the Applications of Digital Information and Web Technologies (ICDIWT 2011), International Conference on Innovative Computing Technology (INCT 2011), Simposio su Sistemi Evoluti per le Basi di Dati (SEBD 2011), Workshop on User Profile Data on the Social Semantic Web (UWeb 2011), Workshop on Augmenting User Models with Real World Experiences to Enhance Personalization and Adaptation (AUM 2011, 2012), International Conference on Software Engineering and Computer Systems (ICSECS2011), IEEE International Workshop on Security and Privacy in Telecommunications and Information Systems (SePTIS 2009), International Symposium on Social and Organizational Informatics and Cybernetics (SOIC 2005, 2006), International Joint Conference on Declarative Programming (AGP-2003).

REVIEWER

Journals

IEEE Transactions on Knowledge and Data Engineering, IEEE Transactions on Big Data, IEEE Access, IEEE Transactions on Fuzzy Systems, IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Systems, Man and Cybernetics - Part A, IEEE Transactions on Systems, Man and Cybernetics - Part C, IEEE Transactions on Cybernetics, ACM Transactions on Internet Technologies, ACM Transactions on Information Systems, ACM Transactions on Interactive Intelligent Systems, ACM Transactions on Intelligent Systems and Technology, Annual Reviews in Control, Applied Network Science, Advances in Human Computer Interaction, Algorithms, Artificial Intelligence Communications, Electronic Commerce, Research and Applications, Computational and Mathematical Organization Theory, Computational Statistics, Computer Journal, Data and Knowledge Engineering, Behaviour and Information Technology, International Journal of Grid and Utility Computing, International Journal of Data Mining, Modeling and Management, Educational Technology and Society Journal, Entropy, Expert Systems with Applications, Europhysics Letters, Information, International Journal of Data Science and Analytics, International Journal of GeoInformation, International Journal of Human-Computer Studies, Information Sciences, Information Systems, International Journal of Information Technology & Decision Making, International Journal on Intelligent Systems, Knowledge-Based Systems, Knowledge and Information Systems, Mathematical Problems in Engineering, International Journal of Modern Physics B, Journal of Artificial Intelligence and Data Mining, Physica A, Social Network Analysis and Mining, Sustainability, Future Internet, Remote Sensing, Transactions on Emerging Telecommunications Technologies, User Modelling and User Adapted Interactions, Journal of Web Science, Journal on Web Semantics, Sensors.

Conferences

ACM UMAP (2015, 2016, 2017), ACM Web Science (2016, 2017), ACM UMAP Doctoral Consortium (2016, 2017), IEEE ICNSC (2017), IJCAI (2016, 2003), IEEE ENIC (2015, 2016, 2017), IEEE SITIS (2016), ACM WIMS (2011, 2012, 2015, 2016), EDBT (2012), IEEE SOLI (2017), ACM WeBScience (2014, 2015), ACM CIKM (2011), VLDB (2011), NetSciX (2016), IEEE WETICE (2004, 2014, 2015, 2016, 2017), IC2S2 (2016), ASONAM (2011, 2015), PKDD (2011, 2014), IEEE SocInfo (2016), IDC (2014), EKAW (2010), ACM WWW (2014, 2015, 2016), IEEE ISDA (2011), ICSC (2013, 2014, 2015, 2016), IEEE Conielcomp (2012, 2013, 2014, 2015, 2016, 2017), IEEE ICALT (2010, 2011, 2012),

IEEE COMPSAC (2011), ACM HYPERTEXT 2011, IEEE DEST (2010), CSS (2014), DataWiz (2014), IEEE IDEAS (2008, 2014), SEBD (2003, 2004, 2005, 2006, 2007, 2008, 2010, 2011), DAWAK (2008), PAMS (2010), CILC (2014, 2015), CASON (2011, 2012, 2013).

COMMISSIONS OF TRUST

2015 Project Evaluator, Finnish Academy of Science, Finland.
2013 Project Evaluator, Italian Ministry for Scientific Research and University, Italy.
2009, 2010,
2011, 2017 Project Evaluator for Qatar National Research Fund, Qatar.

BIBLIOGRAPHIC DATA: h-index : 35 (Scholar), 27 (Scopus)

Top 20 Publications (for a full list: <https://scholar.google.it/citations?user=PX15CIgAAAAJ&hl=it&oi=ao>):

1. Jia Zhu, Changqin Huang, Pasquale De Meo. DFMKE: A dual fusion multi-modal knowledge graph embedding framework for entity alignment. *Information Fusion*, 90: 111-119 (2023)
2. Pasquale De Meo, Mark Levene, Fabrizio Messina, Alessandro Provetti. A General Centrality Framework-Based on Node Navigability. *IEEE Transactions on Knowledge and Data Engineering* 32(11): 2088-2100 (2020).
3. Lucia Cavallaro, Annamaria Ficara, Pasquale De Meo, Giacomo Fiumara, Salvatore Catanese, Ovidiu Bagdasar, Wei Song, Antonio Liotta “Disrupting Resilient Criminal Networks through Data Analysis: The Case of Sicilian Mafia.”, *PLOS ONE*, vol. 15, no. 8, 2020, pp. 1–22.
4. Pasquale De Meo. Trust Prediction via Matrix Factorisation. *ACM Transactions on Internet Technology* 19(4): 44:1-44:20 (2019)
5. Pasquale De Meo, Fabrizio Messina, Domenico Rosaci, Giuseppe M. L. Sarnè, Athanasios V. Vasilakos. Estimating Graph Robustness Through the Randic Index. *IEEE Transactions on Cybernetics* 48(11): 3232-3242 (2018)
6. Pasquale De Meo, Katarzyna Musial-Gabrys, Domenico Rosaci, Giuseppe Sarnè, Lora Aroyo: Computing User Reputation in Large Online Social Networks by Means of Different Centrality Indices. *ACM Transactions on Internet Technology*, 17(1), Article 8, 2017.
7. Pasquale De Meo, Santa Agreste, Giacomo Fiumara, Giuseppe Piccione, Sebastiano Piccolo, Domenico Rosaci, Giuseppe Sarnè, Athanosios Vasilakos: An empirical comparison of algorithms to find communities in directed graphs and their application in Web Data Analytics. *IEEE Transactions on Big Data*, 3(3): 289-306 (2017).
8. Santa Agreste, Salvatore Catanese, Pasquale De Meo, Emilio Ferrara, Giacomo Fiumara: Network structure and resilience of Mafia syndicates. *Information Sciences*, 351: 30-47 (2016)
9. Santa Agreste, Pasquale De Meo, Emilio Ferrara, Sebastiano Piccolo, Alessandro Provetti: Trust Networks: Topology, Dynamics, and Measurements. *IEEE Internet Computing*, 19(6), 2015.
10. Santa Agreste, Pasquale De Meo, Emilio Ferrara, Sebastiano Piccolo, Alessandro Provetti: Analysis of a Heterogeneous Social Network of Humans and Cultural Objects. *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, 45(4): 559-570 (2015).
11. Pasquale De Meo, Emilio Ferrara, Domenico Rosaci, Giuseppe M. L. Sarnè: Trust and Compactness in Social Network Groups. *IEEE Transactions on Cybernetics*, 45(2): 205-216 (2015).
12. Giovanni Quattrone, Licia Capra, Pasquale De Meo: There's No Such Thing as the Perfect Map: Quantifying Bias in Spatial Crowd-sourcing Datasets. *Proc. of the ACM Conference on Computer Supported Cooperative Work & Social Computing (CSCW 2015)*, 1021-1032, Vancouver, British Columbia, Canada

13. Pasquale De Meo, Emilio Ferrara, Giacomo Fiumara, Alessandro Proveti: On Facebook, most ties are weak. *Communications of the ACM* 57(11): 78-84 (2014)
14. Pasquale De Meo, Emilio Ferrara, Giacomo Fiumara, Alessandro Proveti: Mixing local and global information for community detection in large networks. *Journal of Computer and Systems Sciences* 80(1): 72-87 (2014)
15. Emilio Ferrara, Pasquale De Meo, Giacomo Fiumara, Robert Baumgartner: Web data extraction, applications and techniques: A survey. *Knowledge-Based Systems* 70: 301-323 (2014)
16. Santa Agreste, Pasquale De Meo, Emilio Ferrara, Domenico Ursino: XML Matchers: approaches and challenges. *Knowledge-Based Systems*, 66: 190-209 (2014).
17. Pasquale De Meo, Emilio Ferrara, Giacomo Fiumara, Alessandro Proveti: Enhancing community detection using a network weighting strategy. *Information Sciences* 222: 648-668 (2013)
18. Emilio Ferrara, Pasquale De Meo, Salvatore Catanese, Giacomo Fiumara: Detecting criminal organizations in mobile phone networks. *Expert System with Applications*, 41(13): 5733-5750 (2014)
19. Pasquale De Meo, Emilio Ferrara, Fabian Abel, Lora Aroyo, Geert-Jan Houben: Analyzing user behavior across social sharing environments. *ACM Transactions on Intelligent Systems Technology* 5(1): 14 (2013)
20. Pasquale De Meo, Emilio Ferrara, Giacomo Fiumara, Angela Ricciardello: A novel measure of edge centrality in social networks. *Knowledge Based Systems* 30: 136-150 (2012)