

Curriculum Vitae Professor Daniela Giordano

Full Professor of Information Processing Systems
Department of Industrial Electrical Electronics and Computer Engineering
University of Catania
Cittadella Universitaria, Viale A - Doria 6, 9515
Plesso XIII, stanza 9
Tel: 095-7382371
E-mail: daniela.giordano@unict.it, danigiordan@gmail.com



<https://scholar.google.it/citations?user=BR50mBUAAAAJ&hl=it&oi=ao>

Academic Qualifications and Current Position

Daniela Giordano received her Laurea degree in Electronic Engineering cum laude from the University of Catania in 1990.

In 1995, she obtained a Master's degree in Educational Technology from Concordia University, Montreal, Canada.

In 1998, she was awarded a Ph.D. in Educational Technology from Concordia University, Montreal, Canada.

In 2001, she was appointed Associate Professor in the academic field ING-INF/05 – Information Processing Systems at the University of Catania.

Since 2016, she has been serving as Full Professor of Information Processing Systems (ING-INF/05) at the Department of Electrical, Electronic and Computer Engineering of the University of Catania.

She is the Coordinator of the Catania Node of the CINI National Laboratory on Artificial Intelligence and Intelligent Systems (AIIIS). She is also a co-founder of the Perceive Lab (<http://www.perceivelab.com>), which currently brings together six faculty members and researchers and twelve Ph.D. students.

Teaching Activities

Current Courses

Cognitive Systems and Artificial Intelligence (9 ECTS), Master's Degree Programme in Computer Engineering (LM-32); *Database* (Database module, 6 ECTS), Bachelor's Degree Programme in Computer Engineering (L-8); *Artificial Intelligence* (6 ECTS), Master's Degree Programme in Text Sciences for Digital Professions (LM-43).

In previous years, Daniela Giordano has taught courses in *Computer Systems*, *Information Systems*, *Fundamentals of Computer Science*, *Cognitive Systems*, and *Human-Computer Interaction*.

Teaching Appointments at Foreign Universities

Modeling and Simulation (6 ECTS, Fall 1996), Concordia University, Montreal, Canada.

Other Teaching Appointments

Mental Models and Theories of Mind (4 ECTS, academic year 2007/2008), Caltanissetta branch of LUMSA – Libera Università Maria Ss. Assunta, Rome, Faculty of Education Sciences.

Within the TFA (*Tirocinio Formativo Attivo* – Initial Teacher Training Programme) for teaching qualification classes A42 and A034, she taught *Teaching Methods for Information Systems* (academic years 2012/2013 and 2014/2015).

Within the PAS (*Percorsi Abilitanti Speciali* – Special Teacher Qualification Programme) for teaching qualification class A034, she taught *Teaching Methods and Laboratory Activities for Computer Systems* (3 ECTS, academic year 2013/2014).

As part of the University of Catania programme for the acquisition of the 24 ECTS credits required for admission to the national competition for secondary-school teaching positions, she taught the 3-ECTS module *Teaching Methods for Information Technologies* (academic year 2017/2018).

She also taught *Teaching Methods for Information Systems* for teaching qualification class A41 in the academic year 2024/2025 and 2025/2026.

Research Interests

Prof. Giordano's research is strongly interdisciplinary and focuses on cognitive systems and learning processes in both artificial and natural systems. A substantial part of her research has been devoted to the development of Artificial Intelligence methods for addressing problems in different areas of medicine, through pattern recognition on multimodal data—including images, video, and biosignals—and the automatic extraction of knowledge from text. Her work has also addressed challenges in areas such as environmental monitoring and the development of more effective forms of interaction between humans and artificial systems.

The main research areas developed by Prof. Giordano include:

- Biomedical Informatics
- Advanced e-learning systems
- Information systems for mobility, logistics, and environmental monitoring
- Automatic image and video processing and analysis (computer vision)

Underlying these research activities is the study of learning systems, both artificial and natural, together with the use of Artificial Intelligence technologies—including ontologies and intelligent agents, artificial neural networks, and particularly deep learning architectures—to recognize patterns in heterogeneous data, ranging from biosignals and images to text, and to support diagnostic and decision-making processes.

By investigating the interplay between human and artificial learning and cognition, her long-term scientific objective is to shed light on key aspects of fundamental cognitive processes and computational thinking.

Her current research interests include multimodal learning, hybrid cognitive architectures, LLM-based models for generating explanations and arguments, and emotion recognition from biosignals and text.

Research Projects

Coordinator of the European project *I-TRACE: Interactive Tracing and Graphical Annotation in Pen-based e-Learning* (2005–2007).

Leader of the University of Catania research unit within the European project *mEDUCATOR: Multitype Content Sharing and Repurposing in Medical Education*, funded under the eContentPLUS programme (2009–2012).

Leader of the University of Catania research unit within the FP7 STREP European project *Fish4Knowledge: Supporting Humans in Knowledge Gathering and Question Answering with Respect to Marine and Environmental Monitoring through the Analysis of Multiple Video Streams* (2010–2013).

Scientific Coordinator and Principal Investigator of the project *Computer Science for High School @ Catania*, funded through a highly competitive Google Grant. The project involved an experimental initiative carried out in collaboration with local schools and a CoderDojo, aimed at establishing a community of practice among teachers introducing computational thinking into schools (2015–2016).

Principal Investigator of the FIR 2014 project (*University Research Funding*), awarded through a competitive call: *Eye-Gaze Monitoring through Mobile Devices to Support Large-Scale Screening and the Diagnosis of Visual-System and Neurodegenerative Disorders: New Computational Methods, Tools, and Experimental Protocols* (2015–2017).

Scientific Coordinator of the SELCA project – *Networked Expert System Supporting Clinical Analysis Laboratories for Precision Instrumental Diagnostics and Genomics-Based Predictive Diagnostics* (P.O. FESR Sicilia 2014–2020, Action 1.1.5; 2020–2023).

Scientific Coordinator for the University of Catania of the SINTESI project – *Intelligent and Secure Cyber-Physical Systems for Healthcare, Industry, and Society* (PON RIC 2021–2027, D.D. No. 307 of 18 March 2025, Action 1.1.2).

Scientific Publications

Overall, Prof. Giordano's research activity has resulted in more than 250 scientific publications, including 57 papers published in international journals, 7 book chapters, 21 contributions to volumes in specialist book series, and 2 edited books and conference proceedings.

Bibliometric indicators of overall scientific production (September 2026):

H-index: 33 (Scopus). **Total citations: 4,427** (Scopus)

H-index: 45 (Google Scholar). **Total citations: 7,434** (Google Scholar)

Google Scholar Profile:

<https://scholar.google.it/citations?user=BR50mBUAAAAJ&hl=it&oi=ao>

Academic Appointments and Professional Service

Chair of the Joint Teaching Quality Committee of the Department of Electrical, Electronic and Computer Engineering, University of Catania (2024–present).

Chair of the Master's Degree Programme in Computer Engineering (LM-32), University of Catania (2013–2020).

Co-Director of the educational activities of the Catania Contamination Lab, a University initiative funded by the Italian Ministry of Education, University and Research (MIUR) (2014–2021), <http://clab.unict.it/>.

IEEE Senior Member (since 2020).

Associate Editor of the *IEEE Journal of Biomedical and Health Informatics* (Impact Factor 7.3; Q1 in SJR in Computer Science Applications, Electrical and Electronic Engineering, Health Information Management, and Biotechnology) (2017–2025).

Member of the Joint Teaching Committee of the Department of Electrical, Electronic and Computer Engineering, University of Catania (2020–2024).

Member of the Teaching Quality Committee of the Academic Area Board in Computer Engineering (2001–2012).

Member of the Committee for the Management of the Faculty of Engineering Library (2009–2010).

Member of the University Working Group on the Internationalisation Process (2009).

Member of the Academic Board of the Ph.D. Programme in Computer and Telecommunications Engineering, University of Catania (2009–2012).

Member of the Academic Board of the Ph.D. Programme in Systems, Energy, Computer and Telecommunications Engineering, University of Catania (2013–present).

Founding member of NEWHUMS – Neurocognitive and Humanities Studies, the University of Catania Interdepartmental Research Centre aimed at developing and promoting international transdisciplinary research across fields including neuroscience, cognitive science, linguistics, poetics, and aesthetics, <http://www.neurohumanitiestudies.eu/>.

Member of the design team responsible for establishing the Master's Degree Programme in *Text Sciences for Digital Professions* (LM-43), launched in the 2019/2020 academic year.

Tutor at the Scuola Superiore of the University of Catania.

Supervisor of 12 Ph.D. students since 2005 and scientific supervisor of postdoctoral research fellows for a total of 12 person-years.

Scientific Coordinator of the Learning Object Working Group of the MedBiquitous Consortium and co-Editor of the ANSI *Healthcare LOM (Learning Object Metadata)* standard (2013–2018).

Co-leader and organiser of Working Group 5, *A Repository for High School Computer Science Questions, Visual Assessment Tools and Metadata Annotations*, at ACM ITiCSE 2015, Vilnius, Lithuania (International Conference on Computer Science Education).

Co-Chair, together with A. M. Florea, and organiser of the 1st International Workshop on *Pen-based Learning Technologies* (PLT 2007), held in technical cooperation with the IEEE Computer Society.

Co-organiser, together with P. Bamidis and S. Konstandinidis, of the special track *Technology Enhanced Learning in Medical Education* at IEEE CBMS 2011 – IEEE Conference on Computer-Based Medical Systems, Bristol, UK.

Member of the organising team of the following NeuroHumanities Dialogues: *Third NeuroHumanities Dialogue: Ars et Ingenium – The Process of Imagination*, Catania, 26–28 May 2016; *Fifth NeuroHumanities Dialogue: What is What? Focus on Transdisciplinary Concepts and Terminology in Neuroaesthetics, Cognition and Poetics*, Catania, 31 May–1 June 2018; and *Sixth NeuroHumanities Dialogue: Beauty and Embodiment in the Arts*, Catania, 24–25 May 2019.

Workshops Co-Chair, together with Omer Inan, for BHI 2021 – IEEE International Conference on Biomedical and Health Informatics, virtual conference, 27–30 July 2021.

Since 1995, Daniela Giordano has delivered invited, keynote, and plenary talks at more than forty international scientific conferences.

She has also served as a member of the programme committees of several international conferences.

Awards and Honors

Award from the Order of Engineers of Catania for outstanding young graduates (1990).

Stanley G. French Fellowship, Concordia University, Montreal, Canada (1994–1995).

Concordia University Graduate Fellowship (1995–1997).

Best Full Paper Award at WEBNET'97, World Conference on the WWW, Internet & Intranet, for the paper *"In Search of Web Forms: A Neural Agent for Organizing 'Reusable' Notes Documents."*

CIPTE Prix d'Excellence (Conseil Interinstitutionnel pour le Progrès de la Technologie Éducative), Montreal, Quebec, Canada, awarded for the best Ph.D. dissertation in Educational Technology in Canada for the 1997–1999 period, in recognition of its originality and methodological rigor.

Scientific affiliations and editorial activity

Associate Editor of IEEE JBHI (Journal of Biomedical and Health Informatics)

IEEE Senior Member

Member of the following scientific societies:

IEEE Systems Man and Cybernetics,

ACM SigCHI (Special Interest Group on Human-Computer Interaction)

ACM Knowledge Discovery and Data Mining

ACM SigCSE (Special Interest Group on Computer Science Education);

IEEE Computer Society (dal 1995)

IEEE EMBS - Engineering in Medicine and Biology Society

ACM SigKDD (Special Interest Group on Knowledge Discovery and Data Mining)

AAAI (Association for the Advancement of Artificial Intelligence)

Catania, 27-9-2026



The undersigned hereby declares, pursuant to and for the purposes of Articles 46 and 47 of Presidential Decree No. 445 of 28 December 2000, that the information set out above is true and accurate, and acknowledges that false statements, false declarations and the use of false documents are subject to the penalties provided for under the Italian Criminal Code and the applicable special legislation, pursuant to Article 76 of the aforementioned Presidential Decree.

List of Publications by Prof. D. Giordano for the Five-Year Period 2020–2025

1. Kavasidis I, Sorrenti A, Tomarchio O, **Giordano D**, Milazzo M, G Turco, et al. Training-free fish species population monitoring in unconstrained underwater videos (2025) **Procedia Computer Science** 257, 809-816
2. S Carnemolla, S Calcagno, S Palazzo, **D Giordano** (2025) Back to Supervision: Boosting Word Boundary Detection Through Frame Classification. International Conference on Pattern Recognition, 126-140
3. S Calcagno, S Carnemolla, I Kavasidis, S Palazzo, **D Giordano**, C Spampinato (2025) Eeg-music emotion recognition: Challenge overview. ICASSP 2025-2025 IEEE International Conference on ..., 2025
4. Mineo R, Bellitto G, Salanitri FP, Hendrix R, Bagci U, **Giordano D**, Spampinato C, Palazzo S., Conditional Visuo-Textual Prompt Learning for Medical Image Analysis, 2025 IEEE 22nd International Symposium on Biomedical Imaging (ISBI), 1-5
5. R Mineo, I Kavasidis, F P Salanitri, L Passarello, G Piccininno, V Masciale, A Anselmo, C Convertino, D Rotondi, N Laurieri, S Palazzo, C Spampinato, M Pennisi, **D Giordano**, Automated MoCA Score Estimation Using Eye-Gaze Data and Vision Transformers, 2025 IEEE 38th International Symposium on Computer-Based Medical Systems.
6. Mineo R, Salanitri FP, Bellitto G, Kavasidis I, Filippo OD, Millesimo M, Ferrari GMD, Aldinucci M, **Giordano D**, Palazzo S, D'Ascenzo F, Spampinato C. A Convolutional-Transformer Model for FFR and iFR Assessment from Coronary Angiography. **IEEE Transactions on Medical Imaging**. 2024; 43(8):2866-2877. <https://doi.org/10.1109/TMI.2024.3383283>
7. Palazzo S, Spampinato C, Kavasidis I, Giordano D, Schmidt J, Shah M. Rebuttal to 'Comments on 'Decoding Brain Representations by Multimodal Learning of Neural Activity and Visual Features''. **IEEE Transactions on Pattern Analysis and Machine Intelligence**. 2024; 46(12):11540-11542. <https://doi.org/10.1109/TPAMI.2024.3426296>

8. Curto C, **Giordano D**, Indelicato DG, Patatu V. Can a Llama Be a Watchdog? Exploring Llama 3 and Code Llama for Static Application Security Testing. *Proceedings of the 2024 IEEE International Conference on Cyber Security and Resilience, CSR 2024*. 2024; pp. 395-400.
9. Spitaleri A, Kavasidis I, Cartelli V, Mineo R, Rundo F, Palazzo S, Spampinato C, **Giordano D**. BioTrak: A Blockchain-based Platform for Food Chain Logistics Traceability. *2023 International Conference on Intelligent Computing, Communication, Networking and Services, ICCNS 2023*. 2023; pp. 105-110. <https://doi.org/10.1109/ICCNS58795.2023.10193341>
10. Curto C, **Giordano D**, Palazzo S, Indelicato DG. MultiVD: A Transformer-based Multitask Approach for Software Vulnerability Detection. *Proceedings of the International Conference on Security and Cryptography*. 2024; pp. 416-423. <https://doi.org/10.5220/0012719400003767>
11. Caneva G, Calcagno S, **Giordano D**. SOCRATIC ARTIFICIAL MIND (SAM); Lessons from the evaluation of a GPT-3 based chatbot for Socratic dialogue. *Sistemi Intelligenti*. 2023; 35(2):413-434. <https://doi.org/10.1422/108138>
12. Vecchio G, Palazzo S, Guastella DC, **Giordano D**, Muscato G, Spampinato C. Terrain traversability prediction through self-supervised learning and unsupervised domain adaptation on synthetic data. *Autonomous Robots*. 2024; 48(2):art. no. 4.
13. Castagnolo G, Spampinato C, Rundo F, **Giordano D**, Palazzo S. A Baseline on Continual Learning Methods for Video Action Recognition. *Proceedings - International Conference on Image Processing, ICIP*. 2023; pp. 3240-3244.
14. Salanitri FP, Bellitto G, Mineo R, Pennisi M, Sorrenti A, Calcagno S, **Giordano D**, Palazzo S, Spampinato C. Dynamic Graph Attention: Unraveling Spatio-Temporal Synchrony in EEG Data. *Proceedings - 2023 IEEE International Conference on Bioinformatics and Biomedicine, BIBM 2023*. 2023; pp. 2201-2206. <https://doi.org/10.1109/BIBM58861.2023.10385384>
15. Mineo R, Salanitri FP, Passarello L, Sardella A, Messina L, Pennisi M, **Giordano D**, Palazzo S, Spampinato C. Magnifying Facial Micro-movements for Cognitive Evaluation. *Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society, EMBS*. 2024. <https://doi.org/10.1109/EMBC53108.2024.10782235>
16. Calcagno S, Mineo R, **Giordano D**, Spampinato C. Ensemble and Personalized Transformer Models for Subject Identification and Relapse Detection in E-Prevention Challenge. *ICASSP, IEEE International Conference on Acoustics, Speech and Signal Processing - Proceedings*. 2023; June. <https://doi.org/10.1109/ICASSP49357.2023.10095438>
17. Kavasidis I, Pennisi M, Spitaleri A, Spampinato C, Pennisi M, Lanza G, Bella R, **Giordano D**. REHASTART: Cognitive Tele-Rehabilitation Empowered by Vision Transformers. *IFMBE Proceedings*. 2024; 108:135-142. https://doi.org/10.1007/978-3-031-59216-4_14
18. Chiacchio F, D'Urso D, Oliveri LM, Spitaleri A, Spampinato C, **Giordano D**. A Non-Fungible Token Solution for the Track and Trace of Pharmaceutical Supply Chain. *Applied Sciences*. 2022; 12(8):4019. <https://doi.org/10.3390/app12084019>
19. Pennisi, M., Proietto Salanitri, F., Palazzo, S., (...), **Giordano, D.**, Spampinato, C.. (2022). GAN Latent Space Manipulation and Aggregation for Federated Learning in Medical Imaging. In: , et al. *Distributed, Collaborative, and Federated Learning, and Affordable AI and Healthcare for Resource Diverse Global Health. DeCaF FAIR 2022*. **Lecture Notes in Computer Science**, vol 13573. Springer, Cham. https://doi.org/10.1007/978-3-031-18523-6_
20. Proietto Salanitri, F., Bellitto, G., Palazzo, S., (...), **Giordano, D.**, Spampinato, C. "Neural Transformers for Intraductal Papillary Mucosal Neoplasms (IPMN) Classification in MRI images," *2022 44th Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)*, Glasgow, Scotland, United Kingdom, 2022, pp. 475-479,
21. Bellitto, G., Proietto Salanitri, F., Palazzo, S. (...), **Giordano, D.**, Spampinato, C. Hierarchical Domain-Adapted Feature Learning for Video Saliency Prediction. *Int J Comput Vis* 129, 3216–3232 (2021). <https://doi.org/10.1007/s11263-021-01519-y>
22. S. Palazzo, F. Murabito, C. Pino, F. Rundo, **D. Giordano**, M. Shah, C. Spampinato, Exploiting structured high-level knowledge for domain-specific visual classification, *Pattern Recognition*, vol. 112, available online, DOI: 10.1016/j.patcog.2020.107806, April, 2021.
23. S. Palazzo, C. Spampinato, I. Kavasidis, D. Giordano, J. Schmidt and M. Shah, "Decoding Brain Representations by Multimodal Learning of Neural Activity and Visual Features," in *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 43, no. 11, pp. 3833-3849, 1 Nov. 2021, doi: 10.1109/TPAMI.2020.2995909.

24. F. Murabito, S. Palazzo, F. Proietto Salanitri, F. Rundo, U. Bagçi, **D. Giordano**, R. Leonardi, C. Spampinato, Deep Recurrent-Convolutional Model for Automated Segmentation of Craniomaxillofacial CT Scans, International Conference on Pattern Recognition (ICPR), held virtually, January 10-15, 2021.
25. S. Palazzo, G. Bellitto, L. Prezzavento, F. Rundo, U. Bagçi, **D. Giordano**, R. Leonardi, C. Spampinato, Deep Multi-stage Model for Automated Landmarking of Craniomaxillofacial CT Scans, International Conference on Pattern Recognition (ICPR), held virtually, January 10-15, 2021.
26. C. Pino, S. Palazzo, F. Trenta, F. Cordero, U. Bagçi, F. Rundo, S. Battiato, **D. Giordano**, M. Aldinucci, C. Spampinato, Interpretable deep model for predicting gene-addicted non-small-cell lung cancer in CT scans, accepted at the 2021 IEEE International Symposium on Biomedical Imaging (ISBI), held virtually, April 13-16, 2021.
27. Faro, A., **Giordano, D.**, Prognostics and Management of Mental Stress by AIoT monitoring and Schlegel Diagrams. 2021 IEEE International Smart Cities Conference, ISC2 2021, 2021
28. Faro, A., **Giordano, D.**, Venticinque M, Wireless Programmable Body Sensor Networks and Situated Healthcare, 2021 9th International Conference on Information and Communication Technology, ICoICT 2021, 2021, pp. 269–274
29. Faro, A., **Giordano, D.**, Venticinque M, Internetworked wrist sensing devices for pervasive and M-Connected Eldercare, LifeTech 2021 - 2021 IEEE 3rd Global Conference on Life Sciences and Technologies, 2021, pp. 454–456, 9391828
30. G. Vecchio, S. Palazzo, **D. Giordano**, F. Rundo, C. Spampinato (2020) MASK-RL: Multi-Agent video object Segmentation framework through Reinforcement Learning, **IEEE TRANSACTIONS ON NEURAL NETWORKS AND LEARNING SYSTEMS**, 31(12),8967004, pp. 5103-5115
31. C. Spampinato, S. Palazzo, P. D'Oro, D. **Giordano**, M. Shah, Adversarial Framework for Unsupervised Learning of Motion Dynamics in Videos, **International Journal of Computer Vision**, vol. 128, n. 5, pp. 1378-1397, May, 2020.
32. Prjibelski, A.D., Puglia, G.D., Antipov, D., E. Bushmanova, **D. Giordano**, A. Mikheenko, D. Vitale, A. Lapidus, Extending rnaSPAdes functionality for hybrid transcriptome assembly. **BMC Bioinformatics** 21, 302 (2020). <https://doi.org/10.1186/s12859-020-03614-2>
33. S. Palazzo, F. Rundo, S. Battiato, **D. Giordano**, C. Spampinato, Visual saliency detection guided by neural signals, IEEE International Conference on Automatic Face and Gesture Recognition (FG), held virtually, November 16-20, 2020.
34. S. Palazzo, D. C. Guastella, L. Cantelli, P. Spadaro, F. Rundo, G. Muscato, **D. Giordano**, C. Spampinato, Domain Adaptation for Outdoor Robot Traversability Estimation from RGB data with Safety-Preserving Loss, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), October 25-29, 2020.
35. Faro, A., **Giordano, D.**, Venticinque M, Edge Devices Internetworking to Pervasive Monitor and Control People in the Covid Age, 2020 IEEE Recent Advances in Intelligent Computational Systems, RAICS 2020, 2020, pp. 184–189, 9332487
36. Faro, A., **Giordano, D.**, Venticinque M, Finding the Proper Mental Stress Model Depending on Context using Edge Devices and Machine Learning, IoTaIS 2020 - Proceedings: 2020 IEEE International Conference on Internet of Things and Intelligence Systems, 2021, pp. 161–166,
37. Faro, A., **Giordano, D.**, Venticinque M, Deploying Wifi, RF and BLE sensors for pervasive monitoring and control, 2020 IEEE International Workshop on Metrology for Industry 4.0 and IoT, MetroInd 4.0 and IoT 2020 - Proceedings, 2020, pp. 605–610, 9138187
38. Faro, A., **Giordano, D.**, Venticinque M, ESP32 based edge devices to bridge smart devices to MQTT broker for healthcare purposes in the COVID scenario, PECCS 2020 - Proceedings of the 10th International Conference on Pervasive and Parallel Computing, Communication and Sensors, 2020, pp. 30–41