

PERSONAL INFORMATION

Davide Moroni

PERSONAL STATEMENT

His research activities are focused on image analysis, computer vision and artificial intelligence. In particular:

- Image segmentation
- Object and event detection
- Object recognition
- Shape modeling and deformation analysis
- 3D modeling and scene analysis
- Real time image processing
- Edge & pervasive computing and computing continuum
- Algebraic topology and combinatorics applied to computer imagery
- Biomedical signal processing
- Decision support systems and Intelligent systems

With a solid foundation in mathematics, he has developed expertise in computer vision and artificial intelligence over the years, with research activities applied across various industrial scenarios. These include monitoring systems based on Autonomous Underwater Vehicles (AUVs), plant monitoring systems, predictive maintenance in industrial production, and the sustainability of production processes (including waste management). His work has also extended to health and well-being (medical imaging, telehealth, and teleassistance), mobility (smart cameras for Intelligent Transport Systems and smart cities), cultural heritage (monitoring systems and augmented reality), and sustainable precision agriculture (AI for image recognition in both close-range and remote sensing contexts). Recently, he initiated a research line on Topological Data Analysis (TDA), which has shown excellent results in various applications, including Raman analysis for health and sea surface temperature analysis in relation to blue growth and climate change.

He is currently the Head of the Signals and Images Lab, ISTI. He is the Chair of the MUSCLE working group (<https://wiki.ercim.eu/wg/MUSCLE>) of the European Consortium for Informatics and Mathematics. Since 2018, he serves as the Chair of the Technical Committee 16 on Algebraic and Discrete Mathematical Techniques in Pattern Recognition and Image Analysis of the International Association for Pattern Recognition (IAPR). He is an Associate Editor of IET Image Processing.

WORK EXPERIENCE

15/12/2010–Present

Researcher (Permanent position)

Institute of Information Science and Technologies - National Research Council of Italy (CNR)

via Moruzzi 1, 56124 Pisa (Italy)

www.isti.cnr.it

- Research activities in the fields of image processing and computer vision
- Study, design and implementation of numerical algorithms for computer vision
- Tutoring of students and fellows

- Participation to the research projects, both national and international, since the initial drafting steps to the actual implementation of project activities

Since April 2018 he is the head of the Signals and Images Lab at CNR-ISTI. See <http://si.isti.cnr.it>. Since 2021 he is Senior Researcher.

28/04/2008–14/12/2010

Contract Researcher

Institute of Information Science and Technologies - National Research Council of Italy (CNR), Pisa (Italy)

2005–2010

Graduate Fellow

Institute of Information Science and Technologies - National Research Council of Italy (CNR), Pisa (Italy)

EDUCATION AND TRAINING

2002–2006

PhD in Mathematics

University of Rome I "Sapienza", Rome (Italy)

Algebraic geometry, topology and combinatorics; hyperplane arrangements; Coxeter groups; Braid groups

PhD achieved on December 15th, 2006 with a dissertation on "Finite and Infinite Type Artin Groups: Topological Aspects and Cohomological Computations" directed by Prof. Mario Salvetti (University of Pisa)

1996–2001

Classe di Scienze - Scuola Normale Superiore

Scuola Normale Superiore, Pisa (Italy)

Mathematics and physics program with emphasis on algebra, algebraic geometry and topology

"Diploma di Licenza" achieved on November 28th, 2001 with a dissertation on "Linearity of braids groups" directed by Prof. Mario Salvetti (University of Pisa)

70/70 cum Laude

1996–2001

Laurea in Matematica (Vecchio ordinamento)

Mathematics Department, University of Pisa, Pisa (Italy)

110/110 cum Laude

PERSONAL SKILLS

Mother tongue(s)

Italian

Foreign language(s)

English

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
B2	C1	B2	B2	C1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages - Self-assessment grid

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem-solving
Proficient user	Proficient user	Proficient user	Independent user	Independent user

Digital skills - Self-assessment grid

Projects

He has collaborated to several regional, national and international projects, among which:

- **Italian Space Agency (ASI) RTOD: Real-Time Object Detection mediante Machine Learning basato su tecnologia Low-Power GPU** (2021-2023). The RTOD project was born with the aim of developing a HW and SW platform based on Machine Learning techniques for the recognition and classification of objects in video streams for use in space systems. This platform is proposed as a basic element for object detection and can be used in multiple contexts. In order to meet the requirements that the market requires today, the following elements will be introduced into the project: (a) High performance computational platform based on Low Power GPU; (b) Real-time execution of recognition algorithms; (c) General purpose object detection system; (d) Possibility of reconfiguring the system; (e) Innovative Machine Learning techniques; (f) Innovative validation techniques for Machine Learning algorithms. He has been responsible for the management of the project.
- **POR CREO Toscana 2020 MedicalWasteTreating4.0: Innovative automated system for the treatment and refinement of healthcare waste in an End of Waste perspective** (2020-2022). The project aims to develop an innovative system that will allow for a radical revolution in healthcare waste management processes. In fact, in full coherence with the principles of Industry 4.0 and through the convergence of advanced automation solutions, ICT and innovative materials, the intention is to make it possible to treat and ennoble healthcare waste in an End of Waste perspective: what today represents waste, and therefore a cost, will be transformed into new raw material, realizing the principles of the circular economy. He has drafted the proposal as responsible for the Signals and Images Lab of ISTI-CNR. He is carrying out research activities on the use of Artificial Intelligence, Computer Vision and Digital Twins for assisted waste sorting and process monitoring.
- **POR CREO Toscana 2020 Smart Converting 4.0 Artificial intelligence at the service of advanced automation, integration and advanced safety of tissue and nonwoven converting lines: smart converting 4.0** (2020-2022). Converting represents a very important segment within the paper sector. The raw materials treated include tissue paper and the wide range of nonwoven materials. For several years, the converting business area has been characterized by a high degree of technological and competitive turbulence, depending on the evolution of international markets and the technologies incorporated into the plants. Also in relation to these dynamics, in recent years the converting lines have been progressively equipped with automation elements to optimize the processes, acting mainly at the individual machine level. However, the potential for using Industry 4.0 philosophy and technologies in the converting sector is still largely unexplored and, therefore, unexploited. This research and development project aims to fill this gap by developing disruptive technological innovations aimed at developing innovative tissue and nonwoven converting lines that are more "intelligent", automated, integrated, reliable and safe compared to state-of-the-art ones. national and international. The main lever envisaged within the project to achieve this objective is the introduction of Artificial Intelligence as a ubiquitous methodology to allow the development of innovative solutions based on advanced automation and collaborative robotics and aimed at maximizing the capacity for self-regulation, the interaction and advanced safety of the lines, as well as optimizing the predictive maintenance systems of the lines themselves. He has drafted the proposal as responsible for the Signals and Images Lab of ISTI-CNR. He is carrying out research activities on the use of Artificial Intelligence, Computer Vision and Digital Twins for assisted waste sorting and process monitoring.
- **H2020-IOT-2016-2017 Actvage: ACTivating InnoVative IoT smart living environments for AGEing well** (2017-2020). The overall goal of ACTIVAGE is to demonstrate through objective indicators that standard-secure-intraoperative IoT ecosystems enable new sustainable business models and solutions for active and healthy ageing of European Senior Citizens, providing benefits on quality of life and autonomy to users, contribute to the sustainability of the health and social care systems, and strengthen European industry competitiveness through innovation. SI-Lab involvement in the project mainly concerned two fronts: the development of an audio / video communication system capable of connecting healthcare professionals with "patients" directly from their homes (WP9) and the participation in the research activities committed to defining the rules of interoperability and safety of the solutions proposed by the different deployment sites (WP3). He has been responsible for the activities of the lab.
- **POR-FESR IRIDE: Development of a smart line for tissue converting: ICT technologies in favor of Advanced Automation** (2017-2020). He has drafted the proposal as responsible for the Signals and Images Lab of ISTI-CNR. He is carrying out research activities on the use of Artificial Intelligence, Computer Vision and Augmented Reality for the Factory of the Future.
- **FAR-FAS SCIADRO: Sciame di droni** (2016-2019). He has drafted the proposal as responsible for the Signals and Images Lab of ISTI-CNR. He is carrying out research activities on imaging and sensing on Unmanned Aerial Vehicles, studying computer vision methods for image classification.

- **FAR-FAS MOSCARDO: Tecnologie ICT per il Monitoraggio Strutturale di Costruzioni Antiche basato su Reti di Sensori Wireless e Droni** (2016-2018). He has drafted the proposal as responsible for the Signals and Images Lab of ISTI-CNR. Current research activities regard 3D reconstruction from optical images and detection and quantitative assessment of cracks in historical buildings.
- **SmartPark@Lucca** (2016-2018). In this project funded by the Cassa di Risparmio di Lucca, a smart camera system for parking lot monitoring will be designed, tested and demonstrated in a real urban scenario.
- **FP7-ICT ICSI: Intelligent Cooperative Sensing for Improved Traffic Efficiency** - www.ict-icsi.eu/ (2013-2016). After having drafted the proposal for partner CNR, he has been work package leader for WP4 "Sensors". He has contributed to the design and development of embedded sensor prototype for applications in Intelligent Transportation Systems.
- **FP7-CIP MobiWallet: Mobility and Transport Digital Wallet** - www.mobiwallet-project.eu (2014-2016). The project aims to validate new mobility technologies by implementing pilots in four different European areas. CNR is involved in the realization of a pilot in the lower Val d'Arno and is responsible for the work package dedicated to dissemination and exploitation. Davide Moroni, technical responsible for CNR team, has taken care of i) pilot implementation and execution in the Pisa area, ii) evaluation activities (as local evaluation leader of Italian pilot), and iii) dissemination and exploitation activities (as WP6 leader).
- **POR CREO SIMPLE: Sicurezza ferroviaria e Infrastruttura per la Mobilità applicate ai Passaggi a Livello** - <http://simple.tuscany.it/> (2012-2014). He has been technical responsible for CNR team and has contributed to the design and setup of a camera sensor network for monitoring vehicular traffic and achieving more sustainable and efficient mobility in urban areas around railway crossings.
- **FP7-ENV ARROWS: ARchaeological RObot systems for the World's Seas** - <http://www.arrowsproject.eu/> (2012-2015). The project proposed to adapt and develop low cost autonomous underwater vehicle technologies to significantly reduce the cost of archaeological operations, covering the full extent of archaeological campaign. Davide Moroni, who oversaw the drafting of the proposal for CNR partner and is part of the key personnel, has been responsible for the on-board sensors and intelligent algorithms for the recognition of underwater scenes. He also contributed to the creation of a geographic information system for the integration of heterogeneous data collected during archaeological missions and the related metadata.
- **PAR FAS THESAURUS: Techniques for Submarine Archaeological Exploration by Using Robot autonomous in Swarm** - <http://thesaurus.isti.cnr.it> (2010-2012). THESAURUS project aimed at the development of multidisciplinary scientific methodologies and technologies useful for identifying, reviewing and documenting artifacts and underwater wrecks of archaeological, historical, artistic and ethno-anthropological. Davide Moroni, who oversaw the drafting of the proposal for CNR, has collaborated on autonomous underwater vehicles taking care of the sensors and on-board instrumentation (side scan sonar, cameras and suitable illuminators). Furthermore he has been involved in the development of algorithms for data processing both in real time on board the vehicle and offline, for the realization of a 3D interactive environment for the virtual exploration of submerged archaeological sites.
- **FP7-TRANSPORT ARGOMARINE: Automatic Oil-Spill Recognition and Geopositioning integrated in a Marine Monitoring Network** - <http://www.argomarine.eu/> (2009-2013). Davide Moroni has contributed to the design and development of Marine Information System for maritime traffic monitoring, water quality assessment and oil spill detection by means of a networked system of in situ sensors and remote sensing.
- **FP7-ICT SEMEOTICONS: SEMEiotic Oriented Technology for Individual's CardioMetabolic risk self-assessment and Self-monitoring** - <http://www.semeoticons.eu/> (2013-2016). The project aims to develop semiotics models and methods for application in the prevention of cardio- metabolic risk. Davide Moroni, who has contributed to the drafting of the proposal, is part of the key personnel in the submitted proposal.

Memberships, editorial boards,
reviewing and evaluation activities

ERCIM Working Group on "Computational Intelligence for Multimedia Understanding (MUSCLE)

Since 2015 he is chair of the MUSCLE working group (<https://wiki.ercim.eu/wg/MUSCLE>) of the

European Consortium for Informatics and Mathematics.

IAPR Technical Committee 16 on "Algebraic and Discrete Mathematical Techniques in Pattern Recognition & Image Analysis"

Since 2018 he is chair of the TC 16 of the International Association for Pattern Recognition (IAPR).

Editorial boards and program committees

Since 2016, he is associate editor of IET Image Processing.

He is co-chair of the workshop AITA "Advanced Infrared Technologies and Applications", whose last edition has been held in Quebec City, Canada, 2017 (<http://aita2017.gel.ulaval.ca/>).

He is Technical Program Chair of the International Workshop on Cooperative Sensing for Smart Mobility (COSSMO), co-located with IEEE GLOBECOM 2018.

He also joined the following program committee: VISAPP (International Conference on Computer Vision Theory and Applications), SITIS (IEEE International Conference on Signal-Image Technology & Internet-based Systems), International Workshop on Cooperative Sensing for Smart Mobility (COSSMO) (co-located with IEEE ISC2 2017 and IEEE ITSC in 2015).

Reviewing

He has collaborated as reviewer for the following journals and conferences:

- Pattern Recognition Letters
- Sensors, Remote Sensing, Symmetry, Entropy, Applied Sciences, Journal of Imaging, Information, Future Internet, Mathematics, Computers, Sustainability, Energies (MDPI)
- Algebraic and Geometric Topology
- IEEE Access
- IEEE Sensors Letters
- Pattern Recognition and Image Analysis, MAIK
- Transactions on GIS
- ISPRS International Journal of Geo-Information
- Ocean Modelling
- Microvascular Research
- Digital Signal Processing
- EURASIP Journal on Embedded Systems
- Journal of Healthcare Engineering
- IEEE Transaction on Image Processing
- IEEE Transactions on Industrial Informatics
- IEEE Transactions on Neural Systems and Rehabilitation Engineering
- OSA Applied Optics
- International Conference on Computer Vision Theory and Applications (VISAPP)
- IEEE International Conference on Signal-Image Technology & Internet-based Systems (IEEE SITIS)
- IEEE International Smart Cities Conference
- IEEE International Symposium on Signal Processing and Information Technology (IEEE ISSPIT)
- IEEE International Conference on Intelligent Transportation Systems (IEEE ITSC)
- International Workshop on Computational Intelligence for Multimedia Understanding (IWCIM)

Project evaluator

He has carried out activities as evaluator for the Italian Ministry of Education during the "Scientific Independence of Young Researchers" SIR 2014 and PRIN 2015.

In 2017, he worked as an evaluator for the "Blue Sky Research" contest promoted by the University of

Pavia, taking care of the selection of proposals as referee. In 2023, he evaluated projects for the UNIMORE call "FAR".

In 2016, he was selected as scientific evaluator for research projects at the Universidad de La Frontera, Chile

Starting from 2015 he joined the Information and Communication Technologies panel established by the CNR for the performance of the secondary service within the agreement between the CNR and the MISE consisting in the evaluation and monitoring from the ex ante to the ex post phases of research and development projects promoted by the ministry. He has therefore continuously provided the activity of technical-scientific evaluator on 8 tenders with the evaluation of 9 projects making key use of information and communication technologies and connected with artificial intelligence, video surveillance, sustainable transport, airport security systems, seismic micro-zoning systems, cloud and web services for SMEs, industrial automation, precision agriculture, also on behalf of large companies (Almaviva). The total decreed costs of the projects assessed amount to over 31,000 kEuro.

He has participated to the tutoring of ARTES projects for the call COVID19. He is evaluator for the ARTES Call BIT INAIL-ARTES taking care of 4 projects. He is evaluator for projects presented under the cascade funding mechanism in PNRR RAISE, MUSA and RNA.

Publications International Journal papers

- Conti, F., Banchelli, M., Bessi, V., Cecchi, C., Chiti, F., Colantonio, S., Moroni D. ... & Matteini, P. (2024). Harnessing topological machine learning in Raman spectroscopy: Perspectives for Alzheimer's disease detection via cerebrospinal fluid analysis. *Journal of the Franklin Institute*, 361(18), 107249.
- Omrani, A. R., & Moroni, D. (2024). High Dynamic Range Imaging via Visual Attention Modules. *IEEE Access*.
- Conti, F., D'Acunto, M., Caudai, C., Colantonio, S., Gaeta, R., Moroni, D., & Pascali, M. A. (2023). Raman spectroscopy and topological machine learning for cancer grading. *Scientific Reports*, 13(1), 7282.
- Bruno, A., Ignesti, G., Salvetti, O., Moroni, D., & Martinelli, M. (2023). Efficient Lung Ultrasound Classification. *Bioengineering*, 10(5), 555.
- Antonio, B., Moroni, D., & Martinelli, M. (2023). Efficient adaptive ensembling for image classification. *Expert Systems*.
- Leone, G. R., Righi, M., Moroni, D., Baiamonte, A., Bulotta, D., & Paolucci, F. (2023, November). AI-RIDE: A Multi-Camera System for the Evaluation of Motorcycle Driving Test. In *2023 17th International Conference on Signal-Image Technology & Internet-Based Systems (SITIS)* (pp. 422-428). IEEE.
- Bruno, A., Caudai, C., Leone, G. R., Martinelli, M., Moroni, D., & Crotti, F. (2023, June). Medical Waste Sorting: a computer vision approach for assisted primary sorting. In *2023 IEEE International Conference on Acoustics, Speech, and Signal Processing Workshops (ICASSPW)* (pp. 1-5). IEEE.
- Righi, M., Magrini, M., Dolciotti, C., & Moroni, D. (2022). A case study of upper limb robotic-assisted therapy using the track-hold device. *Sensors*, 22(3), 1009.
- Magrini, M., Matarese, F., & Moroni, D. (2022). Test and validation of a multi-block solution for improved tracking in outdoor scenarios: A case study in the pinocchio park. *Information*, 13(10), 449.
- Bruno, A., Moroni, D., Dainelli, R., Rocchi, L., Morelli, S., Ferrari, E., ... & Martinelli, M. (2022). Improving plant disease classification by adaptive minimal ensembling. *Frontiers in Artificial Intelligence*, 5, 868926.
- Bruno, A., Moroni, D., & Martinelli, M. (2022). Efficient adaptive ensembling for image classification. *arXiv preprint arXiv:2206.07394*. Accepted in *Expert Systems*
- Conti, F., Moroni, D., & Pascali, M. A. (2022). A topological machine learning pipeline for classification. *Mathematics*, 10(17), 3086.
- Magrini, M., Curzio, O., Tampucci, M., Donzelli, G., Cori, L., Imiotti, M. C., ... & Moroni, D. (2022). Anorexia nervosa, body image perception and virtual reality therapeutic applications: State of the art and operational proposal. *International Journal of Environmental Research and Public Health*, 19(5), 2533.
- Martinelli, M., Moroni, D., Bastiani, L., Mrakic-Spota, S., Giardini, G., & Pratali, L. (2022). High-altitude mountain telemedicine. *Journal of telemedicine and telecare*, 28(2), 135-145.
- Reggiannini, Marco, and Davide Moroni. "The Use of Saliency in Underwater Computer

Vision: A Review." Remote Sensing 13, no. 1 (2021): 22.

- Biyik, Can, Zaheer Allam, Gabriele Pieri, Davide Moroni, Muftah O'fraifer, Eoin O'connell, Stephan Olariu, and Muhammad Khalid. "Smart Parking Systems: Reviewing the Literature, Architecture and Ways Forward." Smart Cities 4, no. 2 (2021): 623-642.
- Righi, Marco, Massimo Magrini, Cristina Dolciotti, and Davide Moroni. "A System for Neuromotor Based Rehabilitation on a Passive Robotic Aid." Sensors 21, no. 9 (2021): 3130.
- Bacco, M., Barsocchi, P., Cassará, P., Germanese, D., Gotta, A., Leone, G.R., Moroni, D., Pascali, M.A. and Tampucci, M., 2020. Monitoring ancient buildings: real deployment of an IoT system enhanced by UAVs and virtual reality. IEEE Access, 8, pp.50131-50148.
- D'Acunto, M., Moroni, D., Puntoni, A. and Salvetti, O., 2020. Optimized Dislocation of Mobile Sensor Networks on Large Marine Environments Using Voronoi Partitions. Journal of Marine Science and Engineering, 8(2), p.132.
- Hussain, B., Jalil, B., Pascali, M.A., Imran, M., Serafino, G., Moroni, D. and Ghelfi, P., 2020. Thermal vulnerability detection in integrated electronic and photonic circuits using infrared thermography. Applied Optics, 59(17), pp.E97-E106.
- Jalil, B., Hartwig, V., Moroni, D., Salvetti, O., Benassi, A., Jalil, Z., ... & L'abbate, A. (2019). A Pilot Study of Infrared Thermography Based Assessment of Local Skin Temperature Response in Overweight and Lean Women during Oral Glucose Tolerance Test. Journal of clinical medicine, 8(2), 260.
- Magrini, Massimo, Olivia Curzio, Andrea Carboni, Davide Moroni, Ovidio Salvetti, and Alessandra Melani. "Augmented Interaction Systems for Supporting Autistic Children. Evolution of a Multichannel Expressive Tool: The SEMI Project Feasibility Study." Applied Sciences 9, no. 15 (2019): 3081.
- D'Acunto, Mario, Massimo Martinelli, and Davide Moroni. "From human mesenchymal stromal cells to osteosarcoma cells classification by deep learning." Journal of Intelligent & Fuzzy Systems (2019): 1-8
- Jalil, B., Leone, G.R., Martinelli, M., Moroni, D., Pascali, M.A. and Berton, A., 2019. Fault detection in power equipment via an unmanned aerial system using multi modal data. Sensors, 19(13), p.3014.
- Moroni, D., Pieri, G. and Tampucci, M., 2019. Environmental decision support systems for monitoring small scale oil spills: Existing solutions, best practices and current challenges. Journal of Marine Science and Engineering, 7(1), p.19.
- Martinelli, Massimo, and Davide Moroni. "Volunteered Geographic Information for Enhanced Marine Environment Monitoring." Applied Sciences 8.10 (2018): 1743.
- Germanese, D., Leone, G., Moroni, D., Pascali, M., & Tampucci, M. (2018). Long-Term Monitoring of Crack Patterns in Historic Structures Using UAVs and Planar Markers: A Preliminary Study. Journal of Imaging, 4(8), 99.
- Alam, M., Moroni, D., Pieri, G., Tampucci, M., Gomes, M., Fonseca, J., & Ferreira, J. (2018). Real-Time Smart Parking Systems Integration in Distributed ITS for Smart Cities. Journal of Advanced Transportation, 2018.
- Leone G. R., Moroni D., Pieri G., Petracca M., Salvetti O., Azzarà A., Marino F. An intelligent cooperative visual sensor network for urban mobility. In: Sensors, vol. 17 (11) article n. 2588. MDPI, 2017
- Pieri G., Moroni D., Tampucci M., Salvetti O. A proactive system for maritime environment monitoring. In: Marine Pollution Bulletin, vol. 102 (2) pp. 316 - 322. Special issue: Integrated Coastal Management: Lessons Learned to Address New Challenges. Jean-Paul Ducrottoy, Keita Furukawa (eds.). Elsevier, 2016.
- D'Acunto M., Cricenti A., Danti S., Dinarelli S., Luce M., Moroni D., Salvetti O. Detection and localization of gold nanoshells inside cells: near-field approximation. In: Applied Optics, vol. 55 (34) pp. D11 - D16. Special issue: Advances in Infrared Technology and Applications. Marija Strojnik, Antoni Rogalski, Mario D'Acunto (eds.). Optical Society of America, 2016.
- Moroni D., Trocan M., Prochazka A. International Workshop on Computational Intelligence for Multimedia Understanding. In: Ercim News, vol. 104 pp. 4 - 4. Special theme Tackling Big Data in the Life Sciences. Roeland Merks, Marie-France Sagot (eds.). ERCIM, 2016.
- Moroni D., Pieri G., Salvetti O., Tampucci M., Domenici C., Tonacci A. Sensorized buoy for oil spill early detection. In: Methods in Oceanography, vol. 17 pp. 221 - 231. Elsevier, 2016. [Online First 05 November 2016]
- Allotta B., Costanzi R., Ridolfi A., Colombo C., Bellavia F., Fanfani M., Pazzaglia F., Salvetti O., Moroni D., Pascali M. A., Reggiannini M., Kruusmaa M., Salumae T., Frost G., Tsiogkas N., Lane D. M., Cocco M., Gualdesi L., Roig D., G?ndogdu H. T., Tekdemir E. I., Can Dede M. I., Baines S.,

- Agneto F., Selvaggio P., Tusa S., Zangara S., Dresen U., Latti P., Saar T., Daviddi W. The ARROWS project: adapting and developing robotics technologies for underwater archaeology. In: IFAC-PapersOnLine, vol. 48 (2) pp. 194 - 199. Elsevier, 2015.
- D'Acunto M., Cricenti A., Luce M., Moroni D., Salvetti O. Ultra small clusters of gold nanoshells detected by SNOM. In: Optoelectronics Review, vol. 23 (1) pp. 39 - 45. De Gruyter, 2015.
 - D'Acunto M., Benassi A., Moroni D., Salvetti O. 3D image reconstruction using Radon transform. In: Signal, Image and Video Processing, vol. 10 (1) pp. 1 - 8. Springer, 2016. [Online First September 2014]
 - Moroni D., Salvetti M., Villa A. Topology - The genus of the configuration spaces for Artin groups of affine type. In: RENDICONTI LINCEI - MATEMATICA E APPLICAZIONI, vol. 25 (3) pp. 233 - 248. European Mathematical Society Publishing House, 2014.
 - Moroni D., Pascali M. A., Reggiannini M., Salvetti O. Underwater manmade and archaeological object detection in optical and acoustic data. In: Pattern Recognition and Image Analysis, vol. 24 (2) pp. 310 - 317. Springer, 2014.
 - Martinelli M., Moroni D., Salvetti O. ARGO Sentinel: the mobile App for reporting oil spillages at sea. In: ERCIM News, vol. 93 pp. 43 - 44. ERCIM, 2013.
 - Moroni D., Pascali M. A., Reggiannini M., Salvetti O. Underwater scene understanding by optical and acoustic data integration. In: Proceedings of Meetings on Acoustics (POMA), vol. 17 (1) article n. 070085. Acoustical Society of America through the American Institute of Physics, 2013.
 - D'Acunto M., Moroni D., Salvetti O. Nanoscale biomolecular detection limit for gold nanoparticles based on near-infrared response. In: Advances in Optical Technologies, vol. 2012 article n. 278194. Hindawi, 2012.
 - Magrini M., Moroni D., Nastasi C., Pagano P., Petracca M., Pieri G., Salvadori C., Salvetti O. Visual sensor networks for infomobility. In: Pattern Recognition and Image Analysis, vol. 21 (1) pp. 20 - 29. Special issue: Proceedings of IMTA-3-2010. Springer, 2011.
 - Martinelli M., Moroni D., Salvetti O., Tampucci M. A knowledge-based infrastructure for the management of diagnostic imaging procedures in the heart failure domain. In: Transactions on Mass-Data Analysis of Images and Signals, vol. 2 (1) pp. 3 - 18. Ibai Publishing, 2010.
 - Chiarugi F., Colantonio S., Emmanouilidou D., Martinelli M., Moroni D., Salvetti O. Decision support in heart failure through processing of electro- and echocardiograms. In: Artificial Intelligence in Medicine, vol. 50 pp. 95 - 104. Elsevier, 2010.
 - D'Acunto M., Colantonio S., Moroni D., Salvetti O. Detection limit of biomarkers using the near-infrared band-gap fluorescence of single-walled carbon nanotubes. In: Journal of Modern Optics, vol. 57 (18) pp. 1695 - 1699. Special issue: Advanced Infrared Technology and Applications. Selected papers from the 10th International Workshop, 8-11 September 2009. L. Abbozzo Ronchi et al. (eds.). Taylor & Francis Group, 2010.
 - Coppini G., Favilla R., Marraccini P., Moroni D., Pieri G. Quantification of epicardial fat by cardiac CT imaging. In: The Open Medical Informatics Journal, vol. 4 pp. 126 - 135. Special Issue: Intelligent Signal and Image Processing in eHealth. Ovidio Salvetti, Sara Colantonio (eds.). Bentham Open, 2010.
 - Moroni D., Salvetti M., Salvetti O. Shape analysis, semantic annotation and context modelling for the retrieval of 3D anatomical structures. In: Pattern Recognition and Image Analysis, vol. 20 (1) pp. 86 - 93. Springer-MAIK Nauka/Interperiodica, 2010.
 - Callegaro F., Moroni D., Salvetti M. The $K(\pi, 1)$ problem for the affine Artin group of type $(B)_{\text{over-tilde}(n)}$ and its cohomology. In: Journal of the European Mathematical Society, vol. 12 (1) pp. 1 - 22. EUROPEAN MATHEMATICAL SOC, 2010.
 - Moroni D., Colantonio S., Salvetti O., Salvetti M. Heart deformation pattern analysis through shape modelling. In: Pattern Recognition and Image Analysis, vol. 19 (2) pp. 262 - 270. MAIK Nauka/Interperiodica, 2009.
 - Moroni D., Pieri G. Object tracking in video-surveillance. In: Pattern Recognition and Image Analysis, vol. 19 (2) pp. 271 - 276. MAIK Nauka/Interperiodica, 2009.
 - Coppini G., Favilla R., Lami E., Marraccini P., Moroni D., Salvetti O. Regional epicardial fat measurement: computational methods for cardiac CT imaging. In: Transactions on Mass-Data Analysis of Images and Signals, vol. 1 (1) pp. 101 - 110. IBAI Publishing, 2009.
 - Pieri G., Moroni D. Active video surveillance based on stereo and infrared imaging. In: Eurasip Journal on Advances in Signal Processing, Human-Activity Analysis in Multimedia Data. Enis Ahmet Cetin, Eric Pauwels, and Ovidio Salvetti (eds.). Hindawi Publishing Corporation, 2008.
 - Barcaro U., Moroni D., Salvetti O. Automatic computation of left ventricle ejection fraction from dynamic ultrasound images. In: Pattern Recognition and Image Analysis, vol. 18 (2) pp. 351 - 358. Pleiades Publishing, 2008.
 - Callegaro F., Moroni D., Salvetti M. Cohomology of affine artin groups and applications. In: Transactions of the American Mathematical Society, vol. 360 (8) pp. 4169 - 4188. American

Mathematical Society, 2008.

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Contributions to International Books/Monographs

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Autorizzo il trattamento dei miei dati personali presenti nel cv ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali" e del GDPR (Regolamento UE 2016/679).