

Andrea Veltri's Curriculum vitae

Personal details

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Educations

- Graduate (cum laude) at University of Torino Medical School on July 14, 1987.
- 1987-1991: Residency in Diagnostic Radiology at University of Torino (post-graduate certification in Diagnostic Radiology cum laude on November 5, 1991).
- December 31, 1993: European Diploma of Clinical Ultrasonography (European Association of Radiology - EAR).
- November-December 1994: Fellowship at the Department of Radiology, University of Pittsburgh Medical Center (Pennsylvania, USA).
- June-July 2020: certified attendance at "Teaching EMI (English as a Medium of Instruction)".

Professional experiences and current position

- 09.10.1989 - 30.09.2006. Staff Radiologist at the Institute of Radiology. University of Torino – Ospedale San Giovanni Battista e della Città di Torino (Torino - Italy).
- 01.10.2006 - 08.11.2011. Associate Professor of Radiology at the University of Torino and Staff Radiologist at SCDU Radiodiagnostica. San Luigi Gonzaga University Hospital (Orbassano - Italy).
- 09.11.2011 - present. Chair, Department of Radiology (SCDU Radiodiagnostica e Medicina Nucleare; SSD Radioterapia; Responsible for clinical safety and diagnostic effectiveness of MRI equipment). San Luigi Gonzaga University Hospital (Orbassano - Italy).
- 01.10.2006 - 30.09.2022. Associate Professor of Radiology, Department of Oncology, University of Torino (Italy).
- 01.10.2022 - present. Full Professor of Radiology, Department of Oncology, University of Torino (Italy).
- 2013 – present: Member of the Council of the School of Medicine of the University of Torino (Italy).
- 01.01.2017 - 30.09.2021: President of the Radiographer bachelor's degree Program at University of Torino (Italy).
- 01.07.2019 - 08.01.2023. Vice-Director of the Diagnostic and Interventional Radiology Residency Program, University of Torino (Italy).
- 09.01.2023 - present. Director of the Nuclear Medicine Residency Program, University of Torino (Italy).
- 14.09.2021 – present: Member of the Molecular Tumor Board of the Oncological Network of the Piedmont and Aosta Valley Regions
- Member of the Società Italiana di Radiologia Medica e Interventistica (SIRM).
- Member of the European Society of Radiology (ESR).
- Member and Fellow of the Cardiovascular and Interventional Radiological Society of Europe.
- Very often in the Faculty of the Italian National Congress of Radiology and of the European Congresses of Radiology (ECR, CIRSE and ECIO/Interventional Oncology).
- Member of the Accademia di Medicina of Turin (Italy).

Participation to Directive Boards of Scientific Societies and/or Institutions:

- Certified reviewer for European Radiology and CardioVascular and Interventional Radiology.
- 2017 - 2020: President of the Piedmont and Aosta Valley Regional Group of SIRM.
- 2021 - present: past-President of the Piedmont and Aosta Valley Regional Group of SIRM.
- 2017 - 2021: Member of the Scientific Editorial Board of European Radiology (Oncology section).
- 2022 – present: Coordinator of the Working Group "Hepatocarcinoma: production of consent documents and clinical recommendations" of the Oncology Network of the Piedmont and Aosta Valley Regions

Honors

- Seven national and international awards and recognitions for research activities.

Teaching activity:

- 01.10.2006 - present. Professor of Radiology (lecturer) at the Undergraduate (bachelor's degree and School of Medicine) and Postgraduate (Residency, PhD, and Master) Programs at University of Torino (Italy). Currently:
- Head of Medical Radiology Teaching, International master's degree Course, MedInTO - Medicine and Surgery;
- Lecturer of Clinical Methodology and Semeiotics, Diagnostic imaging module, International master's degree course, MedInTO - Medicine and Surgery;
- Head of Teaching Diagnostic Radiology II and Lecturer of the CT Technique module, bachelor's degree course in Medical Radiology, Imaging and Radiotherapy Techniques (Radiographer);
- Lecturer in the Human Body Functioning Course, Diagnostic imaging and radiation protection module, bachelor's degree course in Nursing - Polo Orbassano;
- Lecturer of Biomedical and Clinical Sciences, Radiology module, bachelor's degree course in Psychiatric Rehabilitation Techniques;
- Lecturer and Tutor of the post-graduate residency in Diagnostic Radiology;
- Lecturer of the post-graduate residency in Nuclear Medicine;
- Lecturer of Radiology in the post-graduate residency in Diseases of the respiratory system, Urology, Medical Oncology, Emergency Medicine, Thoracic Surgery;
- 09 November 2016 – present: member of the Academic Board of the PhD in Experimental Medicine and Therapy;
- Lecturer of the postgraduate masters in Diagnostic and Interventional Ultrasound of the Neck and in Extravascular Interventional Radiology.

Research main topics

Clinical research activities have focused on Diagnostic and Interventional Radiology, especially in Oncology.

In particular, the main current healthcare activities are the characterization of focal lesions by image guided biopsy in all body districts and ablative treatments of liver (HCC and metastases), renal, adrenal and lung tumors (more than 3000 patients treated).

After the first experiences characterized by research activities in the field of Ultrasonography (among the firsts worldwide experimenting US contrast agents, CEUS) and in advanced applications of Ultrasound (also organizing Courses on Eco-Doppler, CEUS, Interventional US and Fusion-Imaging for Navigation Systems), was involved from the beginning in the Liver Transplant Program (OLT) of the Molinette Hospital in Turin, studying the role of Radiology in adult and pediatric OLT, publishing three articles in the main national radiology journal. To perfect himself in this field, in November/December 1994 he attended the Radiology Unit at the University of Pittsburgh (UPMC, Pennsylvania, USA), world reference center for OLT, directed by Prof. Richard Baron, following first studies on multiphasic CT and hepatobiliary contrast agents in MRI.

In the same years he began the activity of Interventional Radiology, developing the ablative treatments of HCC (alcoholization, injection of boiling saline, radiofrequency thermal ablation/RFA, integration of RFA with chemoembolization/TACE, microwave thermal ablation/MWA, cryoablation and irreversible electroporation). The consequent clinical research activity produces multiple publications, including two of his most cited: "Radiofrequency thermal ablation (RFA) after transarterial chemoembolization (TACE) as a combined therapy for unresectable non-early hepatocellular carcinoma (HCC)". *European Radiology* 16:661-669, 2006 (210 citations) and "Radiofrequency ablation versus ethanol injection for early hepatocellular carcinoma: a randomized controlled study". *Scandinavian Journal of Gastroenterology* 43:727-735, 2008, one of the trials used in the meta-analyses aimed at including ablative therapies as standard of care for "early" HCC (212 citations). Also noteworthy are the studies on ablation therapies for metastases, with one of the first articles on RFA for colorectal liver metastases: "Radiofrequency ablation of colorectal liver metastases: small size favorably predicts technique effectiveness and survival". *Cardiovasc Intervention Radiol.* 2008 31:948-56 (95 citations). As for biopsy activities, he is the author of an important study on needle biopsy of renal masses ("Diagnostic accuracy and clinical impact of imaging-guided needle biopsy of renal masses.

Retrospective analysis on 150 cases". Eur Radiol. 2011 21:393-401; 66 citations) and drafter as first author of the current Guidelines of the European Society of Interventional Radiology (CIRSE), with the publication "CIRSE Guidelines on Percutaneous Needle Biopsy (PNB)". CardioVasc Intervent Radiol 40:1501–1513, 2017 (60 citations; most downloads from CVIR in 2017).

Recently his research has turned to radiomics and artificial intelligence in radiology, especially in the field of neoplastic diseases, but also in relation to Covid-19 during the recent pandemic.

Main projects as PI:

He has been involved in over 100 clinical studies in Radiology, Oncology, Hematology, Neurology (Multiple Sclerosis) and other disciplines, 9 as PI.

Bibliometry (1989 - present) (www.scopus.com)

166 documents, 3216 citations, *h*-index 32.

10 best publications

1. Andrea Veltri, Paolo Moretto, Andrea Doriguzzi, Eva Pagano, Giovanna Carrara, Giovanni Gandini. Radiofrequency thermal ablation (RFA) after transarterial chemoembolization (TACE) as a combined therapy for unresectable non-early hepatocellular carcinoma (HCC). Eur Radiol 2006 Mar;16(3):661-9. doi: 10.1007/s00330-005-0029-9. Epub 2005 Oct 14. PMID: 16228211
2. Franco Brunello, Andrea Veltri, Patrizia Carucci, Eva Pagano, Giovannino Ciccone, Paolo Moretto, Paola Sacchetto, Giovanni Gandini, Mario Rizzetto. Radiofrequency ablation versus ethanol injection for early hepatocellular carcinoma: A randomized controlled trial. Scand J Gastroenterol 2008;43(6):727-35. doi: 10.1080/00365520701885481. PMID: 18569991.
3. Andrea Veltri, Paola Sacchetto, Irene Tosetti, Eva Pagano, Cesare Fava, Giovanni Gandini. Radiofrequency ablation of colorectal liver metastases: small size favorably predicts technique effectiveness and survival. Cardiovasc Intervent Radiol 2008. Sep-Oct;31(5):948-56. doi: 10.1007/s00270-008-9362-0. Epub 2008 May 28. PMID: 18506519.
4. Andrea Veltri, Irene Garetto, Irene Tosetti, Marco Busso, Alessandro Volpe, Donatella Pacchioni, Enrico Bollito, Mauro Papotti (2011). Diagnostic accuracy and clinical impact of imaging-guided needle biopsy of renal masses. Retrospective analysis on 150 cases. EUROPEAN RADIOLOGY, vol. 21, p. 393-401, ISSN: 0938-7994, doi: 10.1007/s00330-010-1938-9
5. Giorgia Barbara Piccoli, Valentina Consiglio, Maria Chiara Deagostini, Melania Serra, Marilisa Biolcati, Francesca Ragni, Alberto Biglino, Agostino De Pascale, Mauro Felice Frascisco, Andrea Veltri, Francesco Porpiglia (2011). The clinical and imaging presentation of acute “non complicated” pyelonephritis, A new profile for an ancient disease. BMC NEPHROLOGY, vol. 12, p. 1-10, ISSN: 1471-2369, doi: 10.1186/1471-2369-12-68
6. Peiman Nazerian, Simone Vanni, Giovanni Volpicelli, Chiara Gigli, Maurizio Zanolletti, Maurizio Bartolucci, Antonio Ciavattone, Alessandro Lamorte, Andrea Veltri, Andrea Fabbri, Stefano Grifoni (2014). Accuracy of point-of-care multiorgan ultrasonography for the diagnosis of pulmonary embolism. CHEST, p. 950-957, ISSN: 0012-3692, doi: 10.1378/chest.13-1087
7. Adriano M. Priola, Sandro M. Priola, Giovannino Ciccone, Andrea Evangelista, Aldo Cataldi, Dario Gned, Francesco Pazè, Lorena Ducco, et al. (2015). Differentiation of Rebound and Lymphoid Thymic Hyperplasia from Anterior Mediastinal Tumors with Dual-Echo Chemical-Shift MR Imaging in Adulthood: Reliability of the Chemical-Shift Ratio and Signal Intensity Index. RADIOLOGY, vol. 274, p. 238-249, ISSN: 0033-8419, doi: 10.1148/radiol.14132665
8. Priola, Adriano Massimiliano, Priola, Sandro Massimo, GIRAUDO, Maria Teresa, Gned, Dario, Fornari, Alessandro, Ferrero, Bruno, Ducco, Lorena, VELTRI, Andrea (2016). Diffusion-weighted magnetic resonance imaging of thymoma: ability of the Apparent Diffusion Coefficient in predicting the World Health Organization (WHO) classification and the Masaoka-Koga staging system and its prognostic significance on disease-free survival. EUROPEAN RADIOLOGY, vol. 26, p. 2126-2138, ISSN: 0938-7994, doi: 10.1007/s00330-015-4031-6
9. Veltri, Andrea, Bargellini, Irene, Giorgi, Luigi, Almeida, Paulo Alexandre Matos Silva, Akhan, Okan (2017). CIRSE Guidelines on Percutaneous Needle Biopsy (PNB). CARDIOVASCULAR AND INTERVENTIONAL RADIOLOGY, vol. 40, p. 1501-1513, ISSN: 0174-1551, doi: 10.1007/s00270-017-1658-5
10. Andrea Veltri, Domenico Basile, Marco Calandri, Chiara Bertaggia, Marco Volante, Francesco Porpiglia, Anna Calabrese, Soraya Puglisi, Vittoria Basile, Massimo Terzolo. Oligometastatic

adrenocortical carcinoma: the role of image-guided thermal ablation. *Eur Radiol* 2020 Dec;30(12):6958-6964. doi: 10.1007/s00330-020-07019-w. Epub 2020 Jul 3. PMID: 32621242.

15 more relevant publication in the last 5 yrs (2018-2022)

1: Tricarico D, Calandri M, Barba M, Piatti C, Geninatti C, Basile D, Gatti M, Melis M, Veltri A. Convolutional Neural Network-Based Automatic Analysis of Chest Radiographs for the Detection of COVID-19 Pneumonia: A Prioritizing Tool in the Emergency Department, Phase I Study and Preliminary "Real Life" Results. *Diagnostics (Basel)*. 2022 Feb 23;12(3):570. doi: 10.3390/diagnostics12030570. PMID: 35328122; PMCID: PMC8947382.

2: De Cobelli F, Calandri M, Della Corte A, Sirovich R, Gazzera C, Della Vigna P, Bonomo G, Varano GM, Maiettini D, Mauri G, Camisassi N, Steidler S, Ratti F, Gusmini S, Ronzoni M, Aldrighetti L, Odisio BC, Racca P, Fonio P, Veltri A, Orsi F. Multi-institutional analysis of outcomes for thermosphere microwave ablation treatment of colorectal liver metastases: the SMAC study. *Eur Radiol*. 2022 Jun;32(6):4147-4159. doi: 10.1007/s00330-021-08497-2. Epub 2022 Jan 29. PMID: 35092474; PMCID: PMC9123066.

3: De Filippo O, Bianco M, Tebaldi M, Iannaccone M, Gaido L, Guiducci V, Santarelli A, Zaccaro L, Depaoli A, Vaudano P, Quadri G, Gagnor A, Boccuzzi G, Solitro F, Cortese G, Guarnaccia C, Tore D, Veltri A, Franchin L, Angelini F, Garbo R, Giammaria M, Varbella F, Marchisio F, Fonio P, De Ferrari GM, Cerrato E, Campo G, D'Ascenzo F. Angiographic control versus ischaemia-driven management of patients undergoing percutaneous revascularisation of the unprotected left main coronary artery with second-generation drug-eluting stents: rationale and design of the PULSE trial. *Open Heart*. 2020 Oct;7(2):e001253. doi: 10.1136/openhrt-2020-001253. PMID: 33122421; PMCID: PMC7597506.

4: Iezzi R, Cioni R, Basile D, Tosoratti N, Posa A, Busso M, Cappelli C, Margaritora S, Ambrogio MC, Cassano A, Scandiffio R, Calandri M, Crocetti L, Valentini V, Manfredi R, Veltri A. Standardizing percutaneous Microwave Ablation in the treatment of Lung Tumors: a prospective multicenter trial (MALT study). *Eur Radiol*. 2021 Apr;31(4):2173-2182. doi: 10.1007/s00330-020-07299-2. Epub 2020 Sep 30. PMID: 32997180.

5: Scagliotti G, Novello S, Veltri A, Boccuzzi A, Perboni A, Terzolo M. Patients With Lung Cancer and Coronavirus Disease 2019 Epidemic: An Experience From an Italian University Hospital. *JTO Clin Res Rep*. 2020 Sep;1(3):100067. doi: 10.1016/j.jtocrr.2020.100067. Epub 2020 Jun 5. PMID: 32929417; PMCID: PMC7274095.

6: Gatti M, Calandri M, Barba M, Biondo A, Geninatti C, Gentile S, Greco M, Morrone V, Piatti C, Santonocito A, Varello S, Bergamasco L, Cavallo R, Di Stefano R, Riccardini F, Boccuzzi A, Limerutti G, Veltri A, Fonio P, Faletti R. Baseline chest X-ray in coronavirus disease 19 (COVID-19) patients: association with clinical and laboratory data. *Radiol Med*. 2020 Dec;125(12):1271-1279. doi: 10.1007/s11547-020-01272-1. Epub 2020 Sep 7. PMID: 32894449; PMCID: PMC7475717.

7: Veltri A, Basile D, Calandri M, Bertaggia C, Volante M, Porgipaglia F, Calabrese A, Puglisi S, Basile V, Terzolo M. Oligometastatic adrenocortical carcinoma: the role of image-guided thermal ablation. *Eur Radiol*. 2020 Dec;30(12):6958-6964. doi: 10.1007/s00330-020-07019-w. Epub 2020 Jul 3. PMID: 32621242.

8: Calandri M, Gazzera C, Giurazza F, Yevich S, Strazzarino GA, Brino J, Marra P, Contegiacomo A, Bargellini I, Cariati M, Fonio P, Veltri A. Oligometastatic Colorectal Cancer Management: A Survey of the Italian College of Interventional Radiology. *Cardiovasc Intervent Radiol*. 2020 Oct;43(10):1474-1483. doi: 10.1007/s00270-020-02516-3. Epub 2020 May 24. PMID: 32449016.

9: Polverari G, Ceci F, Bertaglia V, Reale ML, Rampado O, Gallio E, Passera R, Liberini V, Scapoli P, Arena V, Racca M, Veltri A, Novello S, Deandreis D. FDG Pet Parameters and Radiomics Features Analysis in Advanced Nsclc Treated with Immunotherapy as Predictors of Therapy Response and Survival. *Cancers (Basel)*. 2020 May 5;12(5):1163. doi: 10.3390/cancers12051163. PMID: 32380754; PMCID: PMC7281558.

- 10: Calandri M, Siravegna G, Yevich SM, Stranieri G, Gazzera C, Kopetz S, Fonio P, Gupta S, Bardelli A, Veltri A, Odisio BC. Liquid biopsy, a paradigm shift in oncology: what interventional radiologists should know. *Eur Radiol*. 2020 Aug;30(8):4496-4503. doi: 10.1007/s00330-020-06700-4. Epub 2020 Mar 19. PMID: 32193642.
- 11: Veltri A, Calandri M. Thermal ablation and systemic therapies in the metastatic liver: time for a "glocal" approach. *Eur Radiol*. 2019 Sep;29(9):5042-5044. doi: 10.1007/s00330-019-06290-w. Epub 2019 Jun 17. PMID: 31209619.
- 12: Priola AM, Gned D, Veltri A, Priola SM. Case 261: Thymoma Embedded in Thymus with Pleural Implant in Myasthenia Gravis Lambert-Eaton Overlap Syndrome. *Radiology*. 2019 Jan;290(1):264-269. doi: 10.1148/radiol.2018161761. PMID: 30571477.
- 13: Calandri M, Solitro F, Angelino V, Moretti F, Veltri A. The role of radiology in the evaluation of the immunotherapy efficacy. *J Thorac Dis*. 2018 May;10(Suppl 13):S1438-S1446. doi: 10.21037/jtd.2018.05.130. PMID: 29951295; PMCID: PMC5994498.
- 14: Calandri M, Yamashita S, Gazzera C, Fonio P, Veltri A, Bustreo S, Sheth RA, Yevich SM, Vauthey JN, Odisio BC. Ablation of colorectal liver metastasis: Interaction of ablation margins and RAS mutation profiling on local tumour progression-free survival. *Eur Radiol*. 2018 Jul;28(7):2727-2734. doi: 10.1007/s00330-017-5273-2. Epub 2018 Feb 7. PMID: 29417253.
- 15: Priola AM, Priola SM, Gned D, Giraudo MT, Veltri A. Nonsuppressing normal thymus on chemical-shift MR imaging and anterior mediastinal lymphoma: differentiation with diffusion-weighted MR imaging by using the apparent diffusion coefficient. *Eur Radiol*. 2018 Apr;28(4):1427-1437. doi: 10.1007/s00330-017-5142-z. Epub 2017 Nov 15. PMID: 29143106.