

Giulia Raffaella De Luca

University of Bologna, Cesena Campus
Via dell'Università 50
Cesena, 47522 (FC), Italy

Email: giulia.deluca19@unibo.it
URL: <https://giurdeluca.github.io/>
ORCID: [0009-0002-8156-4221](https://orcid.org/0009-0002-8156-4221)

Current position

PhD Student, Health and Technology PhD Programme, University of Bologna, Italy
Since November 1, 2023 (Expected completion: October 2026)
Research project: "A deep clustering framework for personalized, post-test risk prediction in lung cancer screening"

Areas of specialisation

Biomedical Engineering; Artificial Intelligence; Big Data; Lung Cancer Screening; Diagnostic Support Systems; Medical Imaging

Visiting positions

2026 Visiting PhD Researcher, Diagnostic Image Analysis Group (DIAG),
Radboud University Medical Center, Nijmegen, The Netherlands
January – June 2026
Host: Prof. Colin Jacobs
Project: "A Population-Atlas-Based AI Framework for Personalized Risk Stratification in Lung Cancer Screening"
Funded by the Marco Polo Programme, University of Bologna.

Appointments held

2023 Post-graduate research scholarship, "Archive of CT Images and Evaluation of Diagnostic Support Systems for Lung Cancer Screening,"
University of Bologna, Department of Electrical, Electronic, and Information Engineering "Guglielmo Marconi"
Supervisor: Prof. Stefano Diciotti.

Teaching and Training Activities

Lecturer

- 2026
- Seminar: *"HPC for Precision Medicine: reproducible workflows and template-based CT Imaging for lung cancer screening,"* part of the EURO-BIOIMAGING virtual pub, online, June 19, 2026.
 - Seminar: *"A deep clustering framework for personalized post-test risk stratification in lung cancer screening,"* B5224 - ARTIFICIAL INTELLIGENCE FOR MEDICINE M course, A.A. 2025/2026, May 29, 2026
 - Seminar: *"Inside the lung with artificial intelligence,"* RARE LUNG DISEASES IN CHILDHOOD AND PRECISION MEDICINE – SIMRI Webinar, April 13, 2026
- 2025
- Course: *"Progetto 2 - Interrogare l'intelligenza artificiale: strumenti e tecniche,"* (24-hour adult education course, held in italian), in collaboration with [TECHNE - Società consortile a responsabilità limitata, Forlì](#)
 - Course: *Corso di formazione permanente "Intelligenza Artificiale: i tools di innovazione tecnologica,"* (40-hour adult education course, held in italian), in collaboration with [TECHNE - Società consortile a responsabilità limitata, Forlì](#)
 - Seminar: *"AI in lung cancer screening: emerging applications,"* B5224 - ARTIFICIAL INTELLIGENCE FOR MEDICINE M course, A.A. 2024/2025, May 23, 2025
- 2024
- Seminar: *"Data standards and AI in lung cancer screening: updates from a PhD's logbook,"* Advanced ML for Medicine, PhD course, A.A. 2023/2024
 - Seminar: *"Data standard: a reuse case,"* Research data management and Open Science principles, PhD course, A.A. 2023/2024
 - Seminar: *"AI in lung cancer screening: emerging applications,"*, CNAF Bologna, Viale Berti, Pichat 6/2, Bologna, February 2024

Thesis supervision

- 2026
- Christian Di Buò, Second Cycle Degree/Two Year Master in Electronic engineering, University of Bologna
- Elena Merelli, Second Cycle Degree/Two Year Master in Biomedical engineering, University of Bologna
- 2025
- Farhad Bayrami, Second Cycle Degree/Two Year Master in Electronic engineering, University of Bologna
- 2024
- Armand Violle, Master Degree Thesis in M2 Apprentissage and Algorithmes, Sorbonne Université

Workshop facilitator

- 2024-2025
- In collaboration with [OSSIGENO SOCIETA' COOPERATIVA SOCIALE](#), Via Ferrarese 3, 40128, Bologna (BO):
- *"Kids-Lab, BASF Italia,"* hands-on labs for middle school students (BASF Italia, Cesano Maderno, May 2025 and November 2025)
 - *"Costruisci la fabbrica del futuro,"* tinkering lab for kids (Interpump Hydraulics, Sala Bolognese, September 2025)
 - *"AI unplugged,"* hands-on labs for kids (SACMI IMOLA S.C, November 2024)

Education

- 2023 Master's degree in Biomedical Engineering - Innovative Technologies in Diagnostics and Therapy,
Alma Mater Studiorum, University of Bologna
Thesis: "Patient Stratification in Lung Cancer Screening using SmileGAN"
Supervisor: Prof. Stefano Diciotti
- 2020 Bachelor's degree in Biomedical Engineering,
Alma Mater Studiorum, University of Bologna
Thesis: "Dosimetry and Radioprotection: Innovations introduced by Directive 2013/59/EURATOM
and its implementation in Italy
Supervisor: Prof. Cristiana Corsi

Post-Graduate Education

SUMMER AND WINTER SCHOOLS

- 2025 Oxford Mathematical Institute, University of Oxford, 02-05/08/2025
MLx HEALTH and BIO Summer school
- 2024 University of Pavia, 19-23/02/2024
Data-Driven Healthcare Transformation Winter School — Learning Health Systems
(Erasmus+ Blended Intensive Programme)
- 2023 Cambridge Centre for AI in Medicine, University of Cambridge, 11-15/09/2023
AI and Machine Learning for Healthcare Summer School
- 2023 Advanced School in Artificial Intelligence — Emilia-Romagna (ASAI-ER),
Alma Mater Studiorum, University of Bologna, July 2023

CERTIFICATIONS AND PROFESSIONAL TRAINING

- 2026 [Code in Place 2026](#),
Stanford University, May 2026
- 2025 [Reproducible Research II: Practices and Tools for Managing Computations and Data](#),
Inria / France Université Numérique, September 2025
- 2025 [Personal Data Protection](#), Alma Mater Studiorum, University of Bologna, May 2025
- 2024 [Research Data Management and Open Science Principles](#),
Alma Mater Studiorum, University of Bologna, March 2024

2024 [Textual Forms and Styles of Science Communication in Italian](#),
Alma Mater Studiorum, University of Bologna, May 2024

Publications

JOURNAL ARTICLES

- 2026 **De Luca G. R.**, Marzi C., Cavigli E., Mascalchi M. and Diciotti S., "Deep learning prediction of lung cancer: effects of reconstruction kernel and radiological presentation of malignant nodules." *European Radiology Experimental* (accepted).
- 2025 **De Luca G. R.**, Diciotti S., and Mascalchi M. "The pivotal role of baseline LDCT for lung cancer screening in the era of artificial intelligence." *Archivos de Bronconeumología*. DOI: [10.1016/j.arbres.2024.11.001](#).
- 2024 Mascalchi M., Cavigli E., Picozzi G., Cozzi D., **De Luca G. R.**, and Diciotti S. "The Azygos Esophageal Recess Is Not to Be Missed in Screening Lung Cancer With LDCT." *Journal of Thoracic Imaging*. DOI: [10.1097/RTI.0000000000000813](#).
- 2024 Mascalchi M., Puliti D., Cavigli E., Cortés-Ibáñez F. O., Picozzi G., Carrozzi L., Gorini G., Delorme S., Zompatori M., **De Luca G. R.**, Diciotti S., Comin C. E., Ali G., and Kaaks R. "Large cell carcinoma of the lung: LDCT features and survival in screen-detected cases." *European Journal of Radiology*, 179. DOI: [10.1016/j.ejrad.2024.111679](#).

BOOK CHAPTERS

- 2026 **De Luca G. R.** and Diciotti S., "Reproducibility in the age of generative AI: crisis or opportunity?," in: "Generative Artificial Intelligence for Bioengineering," Bologna: Pàtron; in press. (Gruppo Nazionale di Bioingegneria; 41).
- De Luca G. R.** and Mascalchi M., "Generative AI in Clinics," in: "Generative Artificial Intelligence for Bioengineering," Bologna: Pàtron; in press. (Gruppo Nazionale di Bioingegneria; 41).

Conferences and Seminars

- 2026 **De Luca G. R.**, "Beyond the single scan: neuroimaging-inspired standardization and population references in lung cancer screening," 29th INTERNATIONAL CONFERENCE ON MEDICAL IMAGE COMPUTING AND COMPUTER ASSISTED INTERVENTION (MICCAI), Strasbourg, France, September 27-October 1st, 2026 (Poster presentation, presenter).
- De Luca G. R.**, Di Buò C., Marzi C., Cavigli E., Mascalchi M. and Diciotti S., "Designing and validating AI pipelines for lung cancer screening: challenges and pitfalls," XVII Mediterranean Conference on Medical and Biological Engineering and Computing (MEDICON), Siena, Italy, September 14-17, 2026 (Oral presentation, co-author).
- De Luca G. R.**, "Data and anatomy standardization in lung cancer screening: drawing from neuroimaging*," XVII Mediterranean Conference on Medical and Biological Engineering and Com-

puting (MEDICON), Siena, Italy, September 14-17, 2026 (Oral presentation, presenter).

2025 **De Luca G. R.**, Diciotti S., Mascali M., "Development of a 3-D standardized lung template from low-dose CT scans," 2025 IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI '25), Atlanta, Georgia, October 26-29, 2025 (Poster presentation, presenter); [related paper](#)

De Luca G. R., Boniface H., Diciotti S., "Standardizing CT data with BIDS: Applications in Lung and Brain Imaging," 47th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Copenhagen, Denmark, July 14-17, 2025 (Oral presentation, presenter) [related paper](#)

De Luca G. R., Diciotti S., "AI for lung cancer imaging: a FAIRness story," AI for Health and Well-being @UNIBO: innovation in PNRR and PNC projects, Bologna, February 5, 2025 (Poster presentation, presenter)

2024 RDA-VP24, Plenary Session: "Data for AI – Impact, Reproducibility and Trust," (Title: "Beyond the Algorithm: Data's Role for Trustworthy AI in Healthcare" - Author: Giulia Raffaella De Luca; Moderator: Lee Wilson) URL: [Session available here \(Youtube\)](#)

RDA (online), "AI in Action: How Researchers Leverage AI," (Title: "Health data for AI: insights from a PhD's logbook," – Author: Giulia Raffaella De Luca; Moderator: Shalini Kurapathy). URL: [Session available here \(Youtube\)](#)

"Extending BIDS to lung CT imaging: right here, right now," (Authors: Giulia Raffaella De Luca, Armand Violle, Stefano Diciotti) - ITRN Annual Meeting, 3rd edition, Bologna, February 23, 2024 (Oral presentation, presenter)

Awards

2026 Winner of the [Coimbra Group - 3-Minute-Thesis Competition - Unibo edition](#) with the pitch "A GPS for lung cancer," Bologna, February 25, 2026.

Winner of the Marco Polo Program - 1st Call 2026, University of Bologna
Mobility grant for the project "A Population-Atlas-Based AI Framework for Personalized Risk Stratification in Lung Cancer Screening," conducted at Radboudumc (Netherlands), January – June 2026.

2025 [NSF-EMBS-Google Sponsored Young Professional NextGen Scholar Recognition](#) for the 2025 IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI '25), Atlanta, Georgia, October 26-29, 2025

3rd place for Best Paper in the Poster Track at the 2025 IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI '25), Atlanta, Georgia, October 26-29, 2025

Languages

2023 IELTS Certification: 7.5 (C1 level)

Service to the profession

2025-present Member, Minerva – Scientific Dissemination Association, giving talks about AI's opportunities in everyday life and medicine. YouTube playlist available URL: [here \(in italian\)](#)

Last updated: September 2, 2026