**PERSONAL INFORMATION**     Lorenzo Lasagni

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Sex | Date of birth | Nationality

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**WORK EXPERIENCE** ▬

**December 2019- Actually**     Researcher, Università degli studi di Firenze
Research grant with the title "Techniques borrowed from physical sciences and AI techniques for effective optimization of the CT exams". The first goal of the project is to develop software that utilizes the techniques used in astrophysical studies to permit better detection of signals in low-dose CT. Since Covid-19 has started a second focus was added to develop software to segment ill lungs, using morphological and radiomics information.

**July 2019- November 2019**     Researcher, AUSL Reggio Emilia, IRCCS
Scholarship for study and research activities to be carried out at the Complex Operating Structure "Medical Physics" within the project "Evaluation technique for crystalline dose for workers exposed to ionizing radiation in the medical field, modeling of related biological effects and radio-induced risk reduction strategies.

**April 2018- October 2018**     Researcher, CPT, PSI (Paul Scherrer Institute)
Thesis activity; I have been involved in the commissioning for patching and rescanning for 4D treatments. I have been working on the computational calculation part, to permit changes to the normal configuration of the 4D dose calculation, and also on the experimental part to verify that the delivery corresponds to the analytical calculation.

**September 2015- February 2016**     Data analyst, DIBINEM, Alma Mater Studiorum University of Bologna
"Confronto di dati volumetrici di neuroimaging RM, acquisiti con differenti sonde a radiofrequenza"

Thesis activity; I have made a data analysis about signals acquired with two different coils for magnetic resonance neuroimaging. The final goal of my job was to determine for which type of studies it could be better to use one coil concerning the second one.

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**EDUCATION AND TRAINING** ▬

**2019-2022**     University of Florenze                                                      70/70 cum laude
Graduate school in medical physics
▪ Radiotherapy treatment plan;
▪ Usage of physics in clinical;
▪ Radiobiology.

| 2016-2019 | **Alma Mater Studiorum University of Bologna** | 110/110 |
|---|---|---|

Master's degree in Physics Applied to Medicine

▪ Main uses of physics in the field of medicine and biology;
▪ Data analysis and Complex system studies;
▪ Nuclear and subnuclear physics.

| 2012-2016 | **Alma Mater Studiorum University of Bologna** |
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Physics degree

▪ Introduction to all the modern fields of research in physics;
▪ Detailed studies about math.

## PERSONAL SKILLS

**Mother tongue**     Italian

**Other language(s)**

| UNDERSTANDING | | SPEAKING | | WRITING |
|---|---|---|---|---|
| Listening | Reading | Spoken interaction | Spoken production | |
| English | | | | |
| C1 | C1 | C1 | C1 | B2 |

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

**Communication skills**     Good communication and relational skills acquired with team working activities made during my university studies and my jobs.
Main speaker in some political talks.

**Organisational / managerial skills**     Great managerial skills acquired thanks to:
▪ Co-supervisor of MS thesis
▪ President of AISF (Associazione Italiana Studenti di Fisica, (Italian Association of Physics Student) in Bologna; (2018-2019)
▪ Vice-president of AISF (Associazione Italiana Studenti di Fisica, Italian Association of Physics Students) in Bologna; (2017-2018)
▪ Director of the school's newspaper in my 4$^{th}$ and 5$^{th}$ years;
▪ Representative of the students for my high school institute during my 5$^{th}$ year.

**Digital skills**

Proficient:
- Microsoft Office;
- MATLAB
- Python
- Linux/Ubuntu

I have a strong interest in data science.

Driving license    B

## HONORS AND AWARDS

- 2nd best oral communication in Biophysics and Medical Physics at National Congress of SIF 2022.
- National prize for scientific communication, between high schools, about Guglielmo Marconi.

## SCIENTIFIC PAPERS

**2020**
- Udroiu, I., Sgura, A., Lasagni, . *et al.* DNA damage in lens epithelial cells exposed to occupationally-relevant X-ray doses and role in cataract formation. *Sci Rep* **10,** 21693 (2020). https://doi.org/10.1038/s41598-020-78383-2

**2021**
- Doria S, Valeri F, Lasagni L, et al.  Addressing signal alterations induced in CT images by deep learning processing: A preliminary phantom study,  Physica Medica 83 (2021). https://doi.org/10.1016/j.ejmp.2021.02.022.

**2021**
- Iori M, Isolan L, Piergallini L, Chendi A, Lasagni L, et al. How direct measurements on worker eyes with Scheimpflug camera can affect lens dose conversion coefficients in interventional radiology. J Radiol Prot. 2021. https://doi.org/10.1088/1361-6498/abf56f

## PARTECIPATION IN SEMINARS, CONFERENCES AND CONGRESS AS A TEACHER/ SPEAKER/ ANNOUNCER

**2019**
- ISS, **Valutazione dettagliata degli effetti della dose al cristallino negli IRCCS.** 6 November 2019, Rome

**2022**
- ECMP 2022, **Centroidal Voronoi Tessellation for low contrast detection and super-resolution in phantom CT images.** 18-20 August 2022, Dublin

**2022**
- SIF 2022, **Possibile applicazione della Centroidal Voronoi Tesselation per il rilevamento di lesioni a basso contrasto in immagini TC.** 13 September 2022, Milan