

## PERSONAL INFORMATION

### Francesco Padelli

📍 Fondazione IRCCS Istituto Neurologico Carlo Besta  
Neuroradiology Unit

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## WORK EXPERIENCE

From 15 June 2020

### Italian NHS Researcher

Fondazione I.R.C.C.S. Istituto Neurologico Carlo Besta Via Celoria, 11 — 20133 Milano (MI)  
7 T Magnetic Resonance laboratory of the Neuroradiology Unit

15 July 2016 – 14 June 2020

### Contract Researcher

Fondazione I.R.C.C.S. Istituto Neurologico Carlo Besta Via Celoria, 11 — 20133 Milano (MI)  
7 T Magnetic Resonance laboratory of the Neuroradiology Unit

## EDUCATION AND TRAINING

12 November 2019

### Specialization in Medical Physics

Università degli Studi di Milano

Via Festa del Perdono, 7 — 20122 Milano (MI)

Thesis A new diodes pattern in an anthropomorphic phantom for intracranial robotic stereotactic radiosurgery patient dosimetry: a feasibility study.

21 March 2016

### Applied Physics MSc

Università degli Studi di Milano-Bicocca

Piazza dell'Ateneo Nuovo, 1 — 20126 Milano (MI)

Thesis Optimization of a 19F MRI – MRS protocol with new fluorinated contrast agents: applications in preclinical neurological research.

25 March 2013

### Physics BSc

Università degli Studi di Milano-Bicocca

Piazza dell'Ateneo Nuovo, 1 — 20126 Milano (MI)

Thesis Ipertermia cellulare indotta da irraggiamento infrarosso di nanoparticelle d'oro.

## PUBLICATIONS AND PRESENTATIONS

### Oral presentations

1. IBA myQA® SRS for Accuray CyberKnife® quality assurance @ Istituto Besta 15th International Stereotactic Radiosurgery Society Congress 19–23 Giugno 2022 Milano
2. An image registration protocol to integrate electrophysiology, MRI and neuropathology data in epileptic patients explored with intracerebral electrodes  
Discussione di argomenti in tema di Epilessie Focali Farmacoresistenti 12 Dicembre 2017 Fondazione I.R.C.C.S. Istituto Neurologico Carlo Besta — Milano
3. Co-registrazione tra RM in vivo e sezioni istopatologiche mediante RM ad alto campo su campioni di pazienti sottoposti a chirurgia dell'epilessia dopo registrazione SEEG  
29° Congresso Nazionale AINR 27–30 Settembre 2017 Milano

### Papers published on peer-reviewed international journals

1. Francesco Padelli, Federica Mazzi, Alessandra Erbetta, Luisa Chiapparini, Fabio M. Doniselli, Sara Palermo, Domenico Aquino, Maria Grazia Bruzzone, Valeria Cuccharini In vivo brain MR spectroscopy in gliomas: clinical and pre-clinical chances Clinical and Translational Imaging (2022)
2. Isabella Giachetti, Francesco Padelli, Domenico Aquino, Rita Garbelli, Dalia De Santis, Laura Rossini, Francesco Deleo, Riccardo Pascuzzo, Roland Coras, Gianluca Marucci, Giovanni Tringali, Carmelo Maccagnano, Marco De Curtis, Maria Grazia Bruzzone, Giuseppe Didato Role of NODDI in

- the MRI Characterization of Hippocampal Abnormalities in Temporal Lobe Epilepsy: Clinico-histopathologic Correlations *Neurology* 2022 Apr 26;98(17): e1771–e1782
3. Domenico Aquino, Rita Garbelli, Laura Rossini, Dalia De Santis, Roberto Spreafico, Piergiorgio d'Orto, Laura Tassi, Francesco Padelli A semi-automatic registration protocol to match ex-vivo high-field 7T MR images and histological slices in surgical samples from patients with drug-resistant epilepsy *Journal of Neuroscience Methods* 367 (2022) 109439
  4. Elena De Martin, Sultan Alhujaili, Maria Luisa Fumagalli, Francesco Ghielmetti, Marcello Marchetti, Pasqualina Gallo, Domenico Aquino, Francesco Padelli, Jeremy Davis, Saree Alnaghy, Mauro Carrara, Laura Fariselli, Anatoly B. Rosenfeld, Marco Petasecca On the evaluation of edgeless diode detectors for patient-specific QA in high-dose stereotactic radiosurgery *Physica Medica* 89 (2021) 20–28
  5. Elisa Legnani, Pasqualina Gallo, Federico Pezzotta, Francesco Padelli, Giuseppe Faragò, Andrea Gioppo, Lorenzo Gentili, Elena De Martin, Maria Luisa Fumagalli, Francesco Cavaliere, Maria Grazia Bruzzone, Paolo Milani, Tommaso Santaniello Additive Fabrication of a Vascular 3D Phantom for Stereotactic Radiosurgery of Arteriovenous Malformations 3D Printing and Additive Manufacturing *Aug 2021:217–226*
  6. Elisa Landoni, Giovanni Fucá, Jian Wang, Venkat R. Chirasani, Zhiyuan Yao, Elena Dukhovlina, Soldano Ferrone, Barbara Savoldo, Lee Kyung Hong, Peishun Shou, Silvia Musio, Francesco Padelli, Gaetano Finocchiaro, Miriam Droste, Brian Kuhlman, Abdijapar Shamshiev, Serena Pellegatta, Nikolay V. Dokholyan, Gianpietro Dotti Modifications to the Framework Regions Eliminate Chimeric Antigen Receptor Tonic Signaling *Cancer Immunology Research* 2021 Apr;9(4):441–453
  7. Simone Beretta, Alessandro Versace, Beatrice Martini, Martina Viganò, Susanna Diamanti, Cristiano Pini, Giovanni Paternò, Davide Carone, Jacopo Mariani, Laura Monza, Matteo Riva, Giada Padovano, Emanuela Rossi, Giuseppe Citerio, Giovanna Castoldi, Francesco Padelli, Isabella Giachetti, Domenico Aquino, Carlo Giussani, Erik P. Sganzerla, Carlo Ferrarese Head down tilt 15° in experimental intracerebral hemorrhage: a randomized non-inferiority safety trial *European Journal of Neurology* 2021 Feb;28(2):525–531
  8. Emilio Ciusani, Chiara Vasco, Ambra Rizzo, Vita Girgenti, Francesco Padelli, Serena Pellegatta, Laura Fariselli, Maria Grazia Bruzzone, Andrea Salmaggi MR-Spectroscopy and Survival in Mice with High Grade Glioma Undergoing Unrestricted Ketogenic Diet *Nutrition and Cancer* 2021;73(11-12):2315–2322
  9. Stefania Rizzo, Francesco Padelli, Elena Rinaldi, Daniela Gioeni, Domenico Aquino, Stefano Brizzola, Fabio Acocella, Lorenzo Spaggiari, Fulvio Baggi, Massimo Bellomi, Maria Grazia Bruzzone, Francesco Petrella 7-T MRI tracking of mesenchymal stromal cells after lung injection in a rat model *European Radiology Experimental* 2020 Oct 8;4(1):54
  10. Dalia De Santis, Laura Rossini, Laura Tassi, Giuseppe Didato, Giovanni Tringali, Massimo Cossu, Manuela Brammerio, Francesco Padelli, Maria Cristina Regondi, Francesca Colciaghi, Eleonora Aronica, Roberto Spreafico, Rita Garbelli pCREB expression in human tissues from epilepsy surgery *Epilepsia* 2020 Jun;61(6):1240–1252
  11. Maria S. Logan, Francesco Padelli, Isabella Giachetti, Domenico Aquino, Mariangela Boccalon, Gianpiero Adami, Paolo Pengo, Lucia Pasquato Functionalized Gold Nanoparticles as Contrast Agents for Proton and Dual Proton/Fluorine MRI *Nanomaterials* 2019 Jun 13;9(6):879
  12. Ileana Zucca, Gloria Milesi, Francesco Padelli, Laura Rossini, Francesca Gozzo, Matteo Figini, Andrea Barbaglia, Francesco Cardinale, Laura Tassi, Maria Grazia Bruzzone, Roberto Spreafico, Rita Garbelli An image registration protocol to integrate electrophysiology, MRI and neuropathology data in epileptic patients explored with intracerebral electrodes *Journal of Neuroscience Methods* 2018 Jun 1;303:159–168
  13. Stefania Rizzo, Francesco Petrella, Ileana Zucca, Elena Rinaldi, Andrea Barbaglia, Francesco Padelli, Fulvio Baggi, Lorenzo Spaggiari, Massimo Bellomi, Maria Grazia Bruzzone In vitro labelling and detection of mesenchymal stromal cells: a comparison between magnetic resonance imaging of iron-labelled cells and magnetic resonance spectroscopy of fluorine-labelled cells *European Radiology Experimental* 2017;1(1):6
  14. Matteo Figini, Alessandro Scotti, Stefania Marcuzzo, Silvia Bonanno, Francesco Padelli, Victoria Moreno-Manzano, José Manuel García-Verdugo, Pia Bernasconi, Renato Mantegazza, Maria Grazia Bruzzone, Ileana Zucca Comparison of Diffusion MRI Acquisition Protocols for the In Vivo Characterization of the Mouse Spinal Cord: Variability Analysis and Application to an Amyotrophic Lateral Sclerosis Model *PLOS ONE* 2016 Aug 25;11(8):e0161646

#### Posters

1. Francesco Padelli, Pasqualina Gallo, Maria Grazia Bruzzone, Tommaso Santaniello, Federico Pezzotta, Francesco Cavaliere, Paolo Milani, Elena De Martin A comprehensive approach to select CT tissue-equivalent 3D printable materials.  
3rd European Congress of Medical Physics 16–19 Giugno 2021
2. Pasqualina Gallo, Maria Luisa Fumagalli, Francesco Padelli, Riccardo Pascuzzo, Elena De Martin,

Giuseppe Faragò, Andrea Gioppo, Tommaso Santaniello, Elisa Legnani, Federico Pezzotta, Francesco Cavaliere, Maria Grazia Bruzzone Manufacturing process of a 3D printed model of an arteriovenous malformation.  
3rd European Congress of Medical Physics 16–19 Giugno 2021

3. Pasqualina Gallo, Maria Luisa Fumagalli, Francesco Ghielmetti, Francesco Padelli, Riccardo Pascuzzo, Elena De Martin, Maria Grazia Bruzzone Potential role of Dual-Energy CT in brain imaging. Accuracy of iodine concentrations.  
3rd European Congress of Medical Physics 16–19 Giugno 2021

4. Isabella Giachetti, Francesco Padelli, Domenico Aquino, Rita Garbelli, Dalia De Santis, Roberto Spreafico, Francesco Deleo, Maria Grazia Bruzzone, Giuseppe Didato Hippocampal characterization in TLE patients with advanced DWI techniques.  
Virtual annual meeting Rete IRCCS delle Neuroscienze e della Riabilitazione (RIN) 8–9 Luglio 2020

5. Chiara Pinardi, Daniela Gioeni, Francesco Padelli, Domenico Aquino, Donatella De Zani, Giuliano Ravasio, Isabella Giachetti, Stefania Ferraro, Anna Nigri, Maria Grazia Bruzzone Difference in Guinea Pigs resting state functional connectivity under isoflurane and dexmedetomidine anesthesia  
Virtual annual meeting Rete IRCCS delle Neuroscienze e della Riabilitazione (RIN) 8–9 Luglio 2020

6. Francesco Padelli, Elena De Martin, Yael Mardor, David Last, Valentina Pinzi, Maria Grazia Bruzzone, Laura Fariselli, Valeria Cuccarini, Domenico Aquino Introducing contrast-delayed magnetic resonance imaging in the radiosurgery retreatment of glioblastoma.  
ESTRO 38 26–30 Aprile 2019 Milano

7. Pasqualina Gallo, Andrea D'Alessio, Francesco Padelli, Riccardo Pascuzzo, Maria Luisa Fumagalli, Eduardo D'Ippolito, Tommaso Giandini, Chiara Tenconi, Claudia Cavatorta, Emanuele Pignoli, Elena De Martin, Maria Grazia Bruzzone Potential role of dualenergy CT imaging modality in the neoadjuvant radiotherapy: a phantom study  
ESTRO 38 26–30 Aprile 2019 Milano

8. Francesco Padelli, Ileana Zucca, Carolina Frassoni, Cristina Regondi, Valentina Caldiera, Claudio Lombardi, Elisa F. M. Ciceri Microtomografia computerizzata ( $\mu$ TC) con mezzo di contrasto iodato (soluzione di Lugol) su cervello di ratto fissato: ottimizzazione del protocollo per future applicazioni su tessuto cerebrale chirurgico o post-mortem  
29° Congresso Nazionale AINR 27–30 Settembre 2017 Milano

## TECHNICAL SKILLS

### IT skills

Operating systems:

- \* Windows
- \* GNU/Linux (Ubuntu and Debian)

Office suite:

- \* Microsoft Office
- \* LibreOffice

Data analysis software:

- \* MATLAB
- \* OriginLab and QtiPlot
- \* ROOT

MR data acquisition and analysis:

- \* Bruker ParaVision and TopSpin
- \* ImageJ
- \* ITK-SNAP
- \* 3D Slicer
- \* FSL
- \* FreeSurfer

External beam radiotherapy and radiosurgery treatment planning systems:

- \* Accuray MultiPlan and Precision
- \* Elekta XiO
- \* Elekta Monaco

Record & Verify: Elekta MOSAIQ

Software for radiology and external beam radiotherapy quality assurance:

- \* RIT Radia Diagnostic, TC Catphan and MRI ACR phantoms
- \* RIT Ocean
- \* IBA myQA Patients

\* IBA myQA Accept

\* IQWorks

\* OmniPro l'mRT

Programming languages:

\* C e C++

\* Fortran

\* Bash scripting

LaTeX.