GIUSEPPE FERRAUTO, PHD

Associate Professor of "General and Inorganic Chemistry"
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• 15 years of Basic and Translational research with excellent track record in the field of Supramolecular & Bioinorganic Chemistry, Molecular Imaging and Magnetic Resonance Imaging.

• Strong interdisciplinary background, with expertise in both chemical and biotechnological sciences.

PROFESSIONAL EXPERIENCE

2022-present: **Associate Professor in General and inorganic chemistry**- Department of Molecular Biotechnologies and Health Sciences- University of Torino (IT)- SSD: CHIM/03

2019-2022: **Assistant Professor in general and inorganic chemistry (Rtd-B)** - Department of Molecular Biotechnologies and Health Sciences- University of Torino (IT)- SSD: CHIM/03

2018-2021: **Teacher of inorganic chemistry at I.T.S. (Istituto Tecnico Superiore) Biotecnologie Piemonte** – Colleretto Giacosa (Ivrea).

2018-2019: **Contract professor of General and Inorganic Chemistry at university of Eastern Piedmont and University of Torino.**

2016-2018: **Post-doctoral fellow FIRC (Fondazione Italiana Ricerca sul cancro) fellow** at Department of Molecular Biotechnologies & Health Sciences (Univ. of Torino)

2014-2016: **Visiting fellow at Clinatec, CEA Grenoble (Fr).** Clinatec, INSERM-CEA, Grenoble (Fr)- Dott.ssa Hana Lahrech. Research area: multiparametric MRI of glioblastoma and assessment of pH in tumor microenvironment.

Fee 2016: **Visiting fellow at Univ. of Erlangen (De).** Supervisor: Dott. *Andreas Hess.* Research area: Application of Gd-labelled RBC for assessment of hypoxia and for functional MRI.

2014-2016: **Post-doctoral fellow at Molecular Imaging Center**, Department of Molecular Biotechnologies & Health Sciences (Univ. of Torino).

EDUCATION

2021-2022: **Master in Eu projects design and coordination 2021-2027**. Europa Business School (45 hours + 6 months project work).

2019-2021: **Master Degree in Forensic Chemistry and Doping Control**, Univ. of Torino, 110/110. Supervisor: Prof. ssa Simonetta Geninatti Crich.

2014-2018: **Postdoctoral scientific exchange experience at Clinatec, CEA Grenoble (Fr).** Clinatec,

INSERM-CEA, Grenoble (Fr)- Dott.ssa Hana Lahrech. Training about multiparametric MRI, tumor microenvironment, glioblastoma murine models.

2011-2014: **PhD in Pharmaceutical and Biomolecular Science at Molecular Imaging Center**, Department of Molecular Biotechnologies & Health Sciences (Univ. of Torino)- Supervisor Prof. Silvio Aime and Enzo Terreno. Training about pharmaceutical and biomolecular sciences.

Sept 2012: **NMR School** – **Advanced Course**- NMR, MRI - University of Torino, Italy. Advanced training about NMR and MRI.

Jan 2012: **XVI School of Pure and Applied Biophysics on Multimodal Methods for Cell Imaging and tracking** – Cell labeling, Molecular imaging –Venezia-Italy. Advanced training about techniques for cell labeling.

Sept 2011: **NMR school- Basis Course** -NMR, MRI. University of Torino Italy. Training about NMR/ MRI.

Dec 2009: **EMMI Intensive Programme in "Molecular imaging: industrial context, state of the art, multimodal imaging"** –University of Paris Sud-Orsay.

Sept 2009: **EMMI Intensive Programme in "Design, synthesis and Validation of Imaging Probe -** University of Torino Italy.

Jul 2009: **EMMI Intensive Programme in "Optical Imaging",** Crete- Greece.

2008-2010: **M.Sc. in Molecular Biotechnologies**, 110/110 cum laude with mention. –Curriculum Molecular Imaging- University of Torino, Italy

2008-2010: **European Master in Molecular Imaging (EMMI)**- European training on molecular imaging techniques. Paris Sud University- University of Torino (IT).

2003-2008: **Bachelor Degree in Biomedical Biotechnologies**- 110/110 cum laude, University of Palermo, Italy. Supervisors Prof.ssa Stefania Grimaudo and Dr. Antonino Giambona.

LANGUAGE SKILLS

Italian, mother tongue; **English**, full professional proficiency.

SCIENTIFIC AWARDS

- **ESMI (European Society for Molecular Imaging) Award for Excellent PhD thesis 2014**, European Molecular Imaging Society, ESMI). References: http://www.e-smi eu/index.php?id=winners-2014;
- **Winner of the GIDRM Under 35 Award for the year 2017** - by the Italian Group Magnetic Resonance Discussion (GIDRM). Reference: http://www.gidrm.org/index.php/activities/under-35-gidrm-award ;
- **Vevo Young Investigator Award 2019;**
- **Vevo Young Investigator Award 2018-EMIM**.
- **Vevo Young Investigator Award (YIA) 2015 - Cancer category**
- Award for Young Investigator for the scientific journal of Magnetochemistry, 2019
- Fondazione Italiana Ricerca sul Cancro (FIRC)-AIRC Triennal Fellowship 2016-2018;
- Fondazione Veronesi Fellowship 2016 (fellowship not accepted).

SELECTED PUBLICATIONS

TOTAL #:50 (23 AS FIRST AUTHOR + 12 AS LAST/CORRESPONDING AUTHOR); SCOPUS: H-INDEX: 18; CITATIONS: 880.

1) Gréa T, (…) **Ferrauto G**, et al. Subcutaneous Administration of a Zwitterionic Chitosan-Based Hydrogel for Controlled Spatiotemporal Release of Monoclonal Antibodies. Adv Mater. 2024 :e2308738. I.F.: 29.4.
2) Di Gregorio E, Papi C, Conti L, Di Lorenzo A, Cavallari E, Salvatore M, Cavaliere C, **Ferrauto G*,** Aime S. A MRI-Chemical Exchange Saturation Transfer (MRI-CEST) Method for the Detection of Water Cycling across Cellular Membranes. Angew Chem Int Ed Engl. 2024 Feb 5;63(6):e202313485 . I.F. 16.6. (*last).
3) Di Gregorio E, Boccalon M, Furlan C, Gianolio E, Bényei A, Aime S, Baranyai Z, **Ferrauto G*.** Spectroscopic, structural and in vivo studies of the hydrophobic interaction between the pyrene - containing HPTS dye and the tetra-aza macrocycle-based Gd(HP-DO3A) complex. Inorganic Chemistry Frontiers, 2022, I.F.: 6.569.
4) **Ferrauto G*,** Tripepi M., Di Gregorio E., Bitonto V., Aime S., Delli Castelli D. Detection of U-87 Tumour Cells by RGD-Functionalized / Gd-Containing Giant Unilamellar Vesicles (Gd-GUVs)in Magnetization Transfer Contrast (MTC) MR Images. Invest Radiol. 2021 May 1;56(5):301-312. I.F. 6.016. (*corresponding author).
5) Di Gregorio E, Lattuada L, Maiocchi A, Aime S, **Ferrauto G*,** Gianolio E. Supramolecular adducts between macrocyclic Gd(iii) complexes and polyaromatic systems: a route to enhance the relaxivity through the formation of hydrophobic interactions. Chem Science,2021, I.F. 9.825.(*corresponding author).
6) **Ferrauto G**, Carniato F, Di Gregorio E, Botta M, Tei L. Photoacoustic ratiometric assessment of mitoxantrone release from theranostic ICG-conjugated mesoporous silica nanoparticles. Nanoscale 2019, Oct 10;11(39):18031-18036. I.F=6.86.
7) **Ferrauto G,** * Di Gregorio E. Auboiroux V, Petit M, Berger F, Aime S, Lahrech H. CEST MRI for glioma pH quantification in mouse model: validation by immunohistochemistry. NMR in biomed. 2018;e4005. I.F=3.031 (*Corresponding author).
8) **Ferrauto G*,** Di Gregorio E, Lanzardo S, Ciolli L, Iezzi M, Aime S. Generation of multiparametric MRI maps by using Gd-labelled- RBCs reveals phenotypes and stages of murine prostate cancer. Sci Rep. 2018 Jul 12;8(1):10567. I.F=4.6 (*Corresponding author).
9) **Ferrauto G,** Di Gregorio E, Ruzza M, Catanzaro V, Padovan S, Aime S. Enzyme-Responsive LipoCEST Agents: Assessment of MMP-2 Activity by Measuring the Intra-liposomal Water 1 H NMR Shift. Angew Chem Int Ed Engl. 2017 Sep 25;56(40):12170-12173. I.F.= 11.994.
10) **Ferrauto G,** Carniato F, Di Gregorio E, Tei L, Botta M, Aime S. Large photoacoustic effect enhancement for ICG confined inside MCM-41 mesoporous silica nanoparticles. Nanoscale. 2017 Jan 7;9(1):99-103. I.F.= 7.76.
11) **Ferrauto G,** Delli Castelli D, Di Gregorio E, Terreno E, Aime S. LipoCEST and cellCEST imaging agents: opportunities and challenges. Wiley Interdiscip Rev Nanomed Nanobio 2016 Jul;8(4):602-18. I.F.= 4.239.
12) Di Gregorio E, **Ferrauto G*,** Gianolio E, Lanzardo S, Carrera C, Fedeli F, Aime S. An MRI Method To Map Tumor Hypoxia Using Red Blood Cells Loaded with a pO2-Responsive Gd-Agent. ACS Nano. 2015 Aug 25;9(8):8239-48. I.F.=13.334 (*Co-First author).
13) **Ferrauto G,** Di Gregorio E, Dastrù W, Lanzardo S, Aime S. Gd-loaded-RBCs for the assessment of tumor

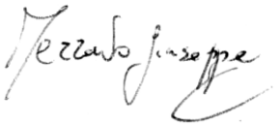
vascular volume by contrast-enhanced-MRI. Biomaterials. 2015 Jul;58:82-92. I.F.=8.387.

14) **Ferrauto G**, Di Gregorio E, Baroni S, Aime S. Frequency-encoded MRI-CEST agents based on paramagnetic liposomes/RBC aggregates. Nano Lett. 2014 Dec 10;14(12):6857-62. I.F.=13.779.
15) **Ferrauto G**, Delli Castelli D, Di Gregorio E, Langereis S, Burdinski D, Grüll H, Terreno E, Aime S. Lanthanide-loaded erythrocytes as highly sensitive chemical exchange saturation transfer MRI contrast agents. J Am Chem Soc. 2014 Jan 15;136(2):638-41. I.F.=13.038.
16) Delli Castelli D*., **Ferrauto G*.,** Cutrin J.C., Terreno E., Aime S. In vivo maps of extracellular pH in murine melanoma by MRI-CEST. Magn Reson Med. 2014 Jan;71(1):326-32. (*Co-First author). I.F= 3.782.

PATENTS

- Aime S, **Ferrauto G,** Di Gregorio E, Tei L, Carniato F, Botta M. Patent n° 102016000023103 intitolato "Agente di contrasto per diagnostica fotoacustica" 11/3/2016;
- Aime S, Gianolio E, **Ferrauto G**, Lattuada L, Maiocchi A. Patent n° EP18213354.6 intitolato “Pharmaceutical Compositions Comprising Gd-Complexes and Polyarylene Additives” 18/12/2018;
- Aime S, Delli Castelli D, **Ferrauto G**, Tripepi M. Intitolato Patent n° 102019000007222 intitolato “Composizione di liposomi e metodo di dosaggio basato sull’uso degli stessi. 24/05/2019.
- **Ferrauto G**., Di Gregorio E., Papi C., Cavallari E., Aime S. patent n° PA101356IT01- “Metodo di Imaging a risonanza magnetica e macchina di Imaging a risonanza magnetica”.

Torino, May 6, 2024



Giuseppe Ferrauto, PhD

Autorizzo il trattamento dei miei dati personali ai sensi del Dlgs 196 del 30 giugno 2003 e dell’art. 13 GDPR

Giuseppe Ferrauto, PhD